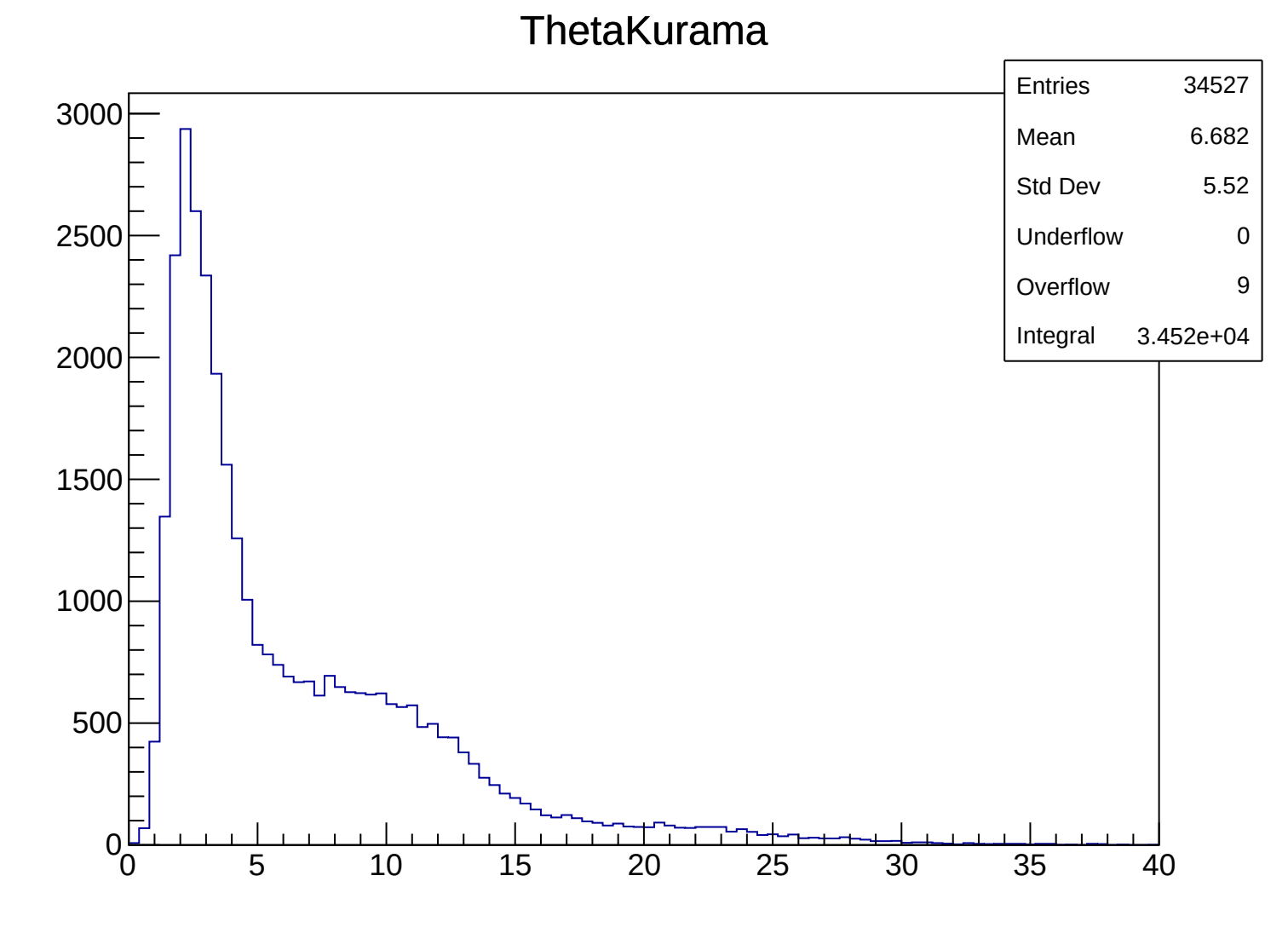
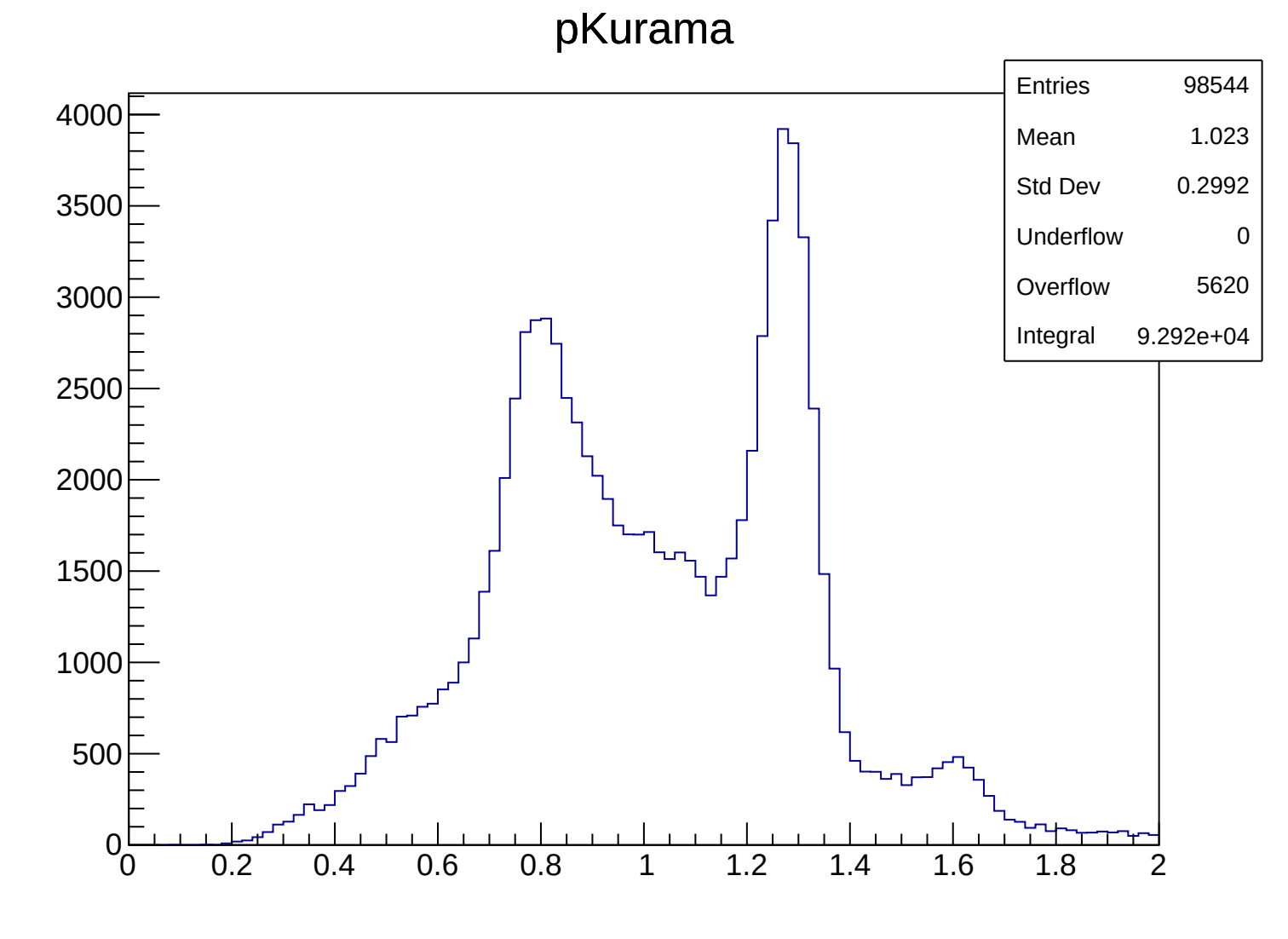
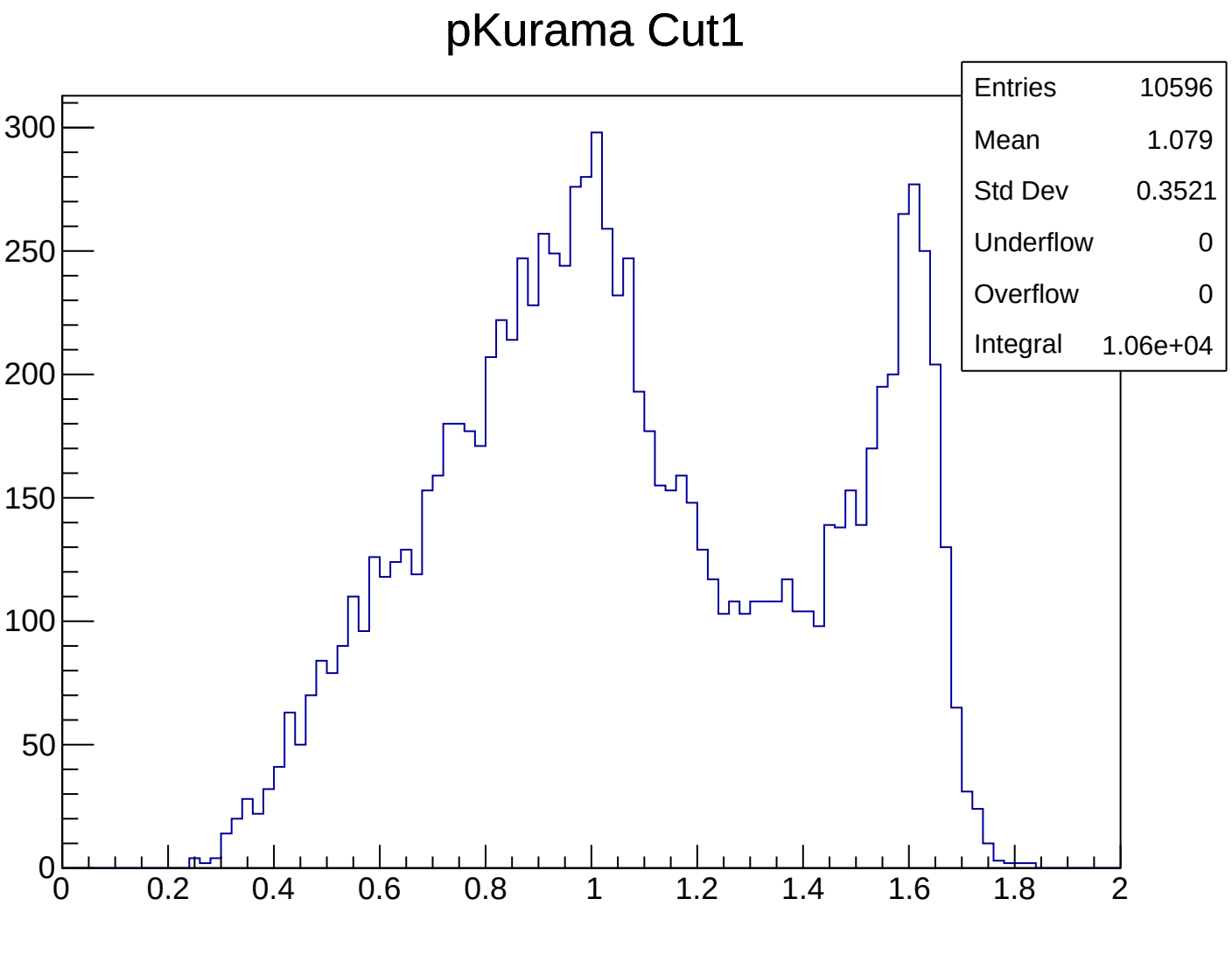
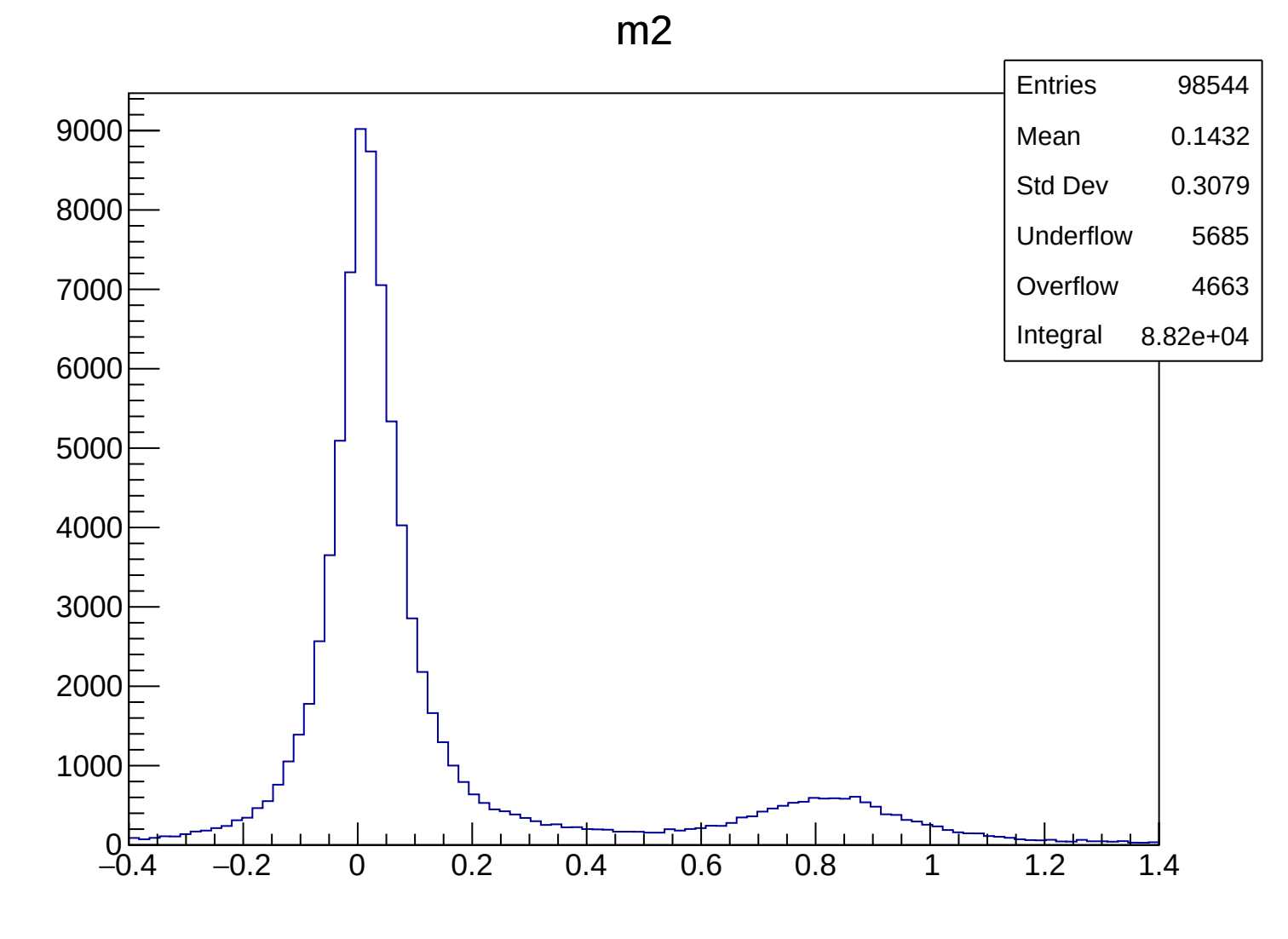
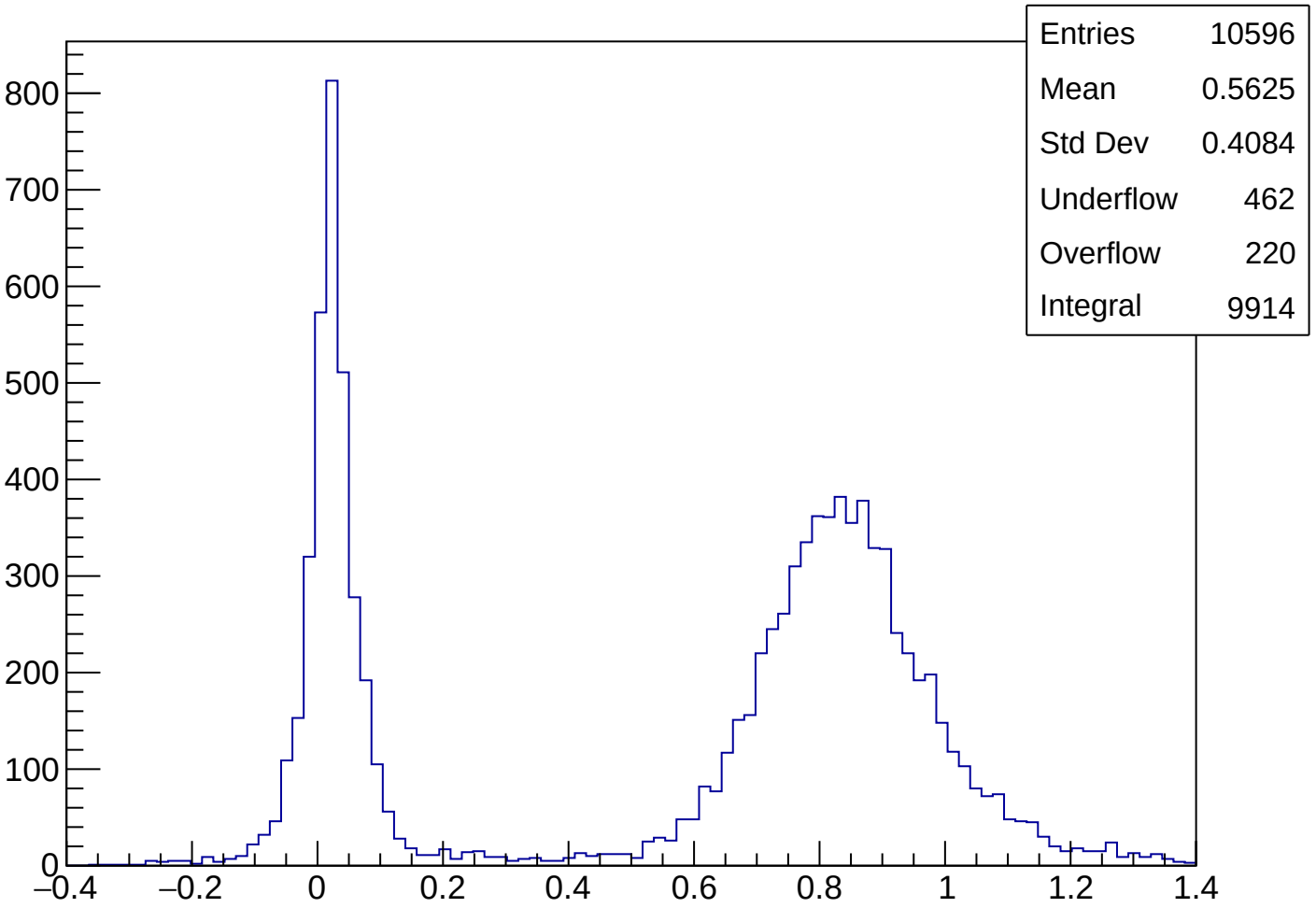
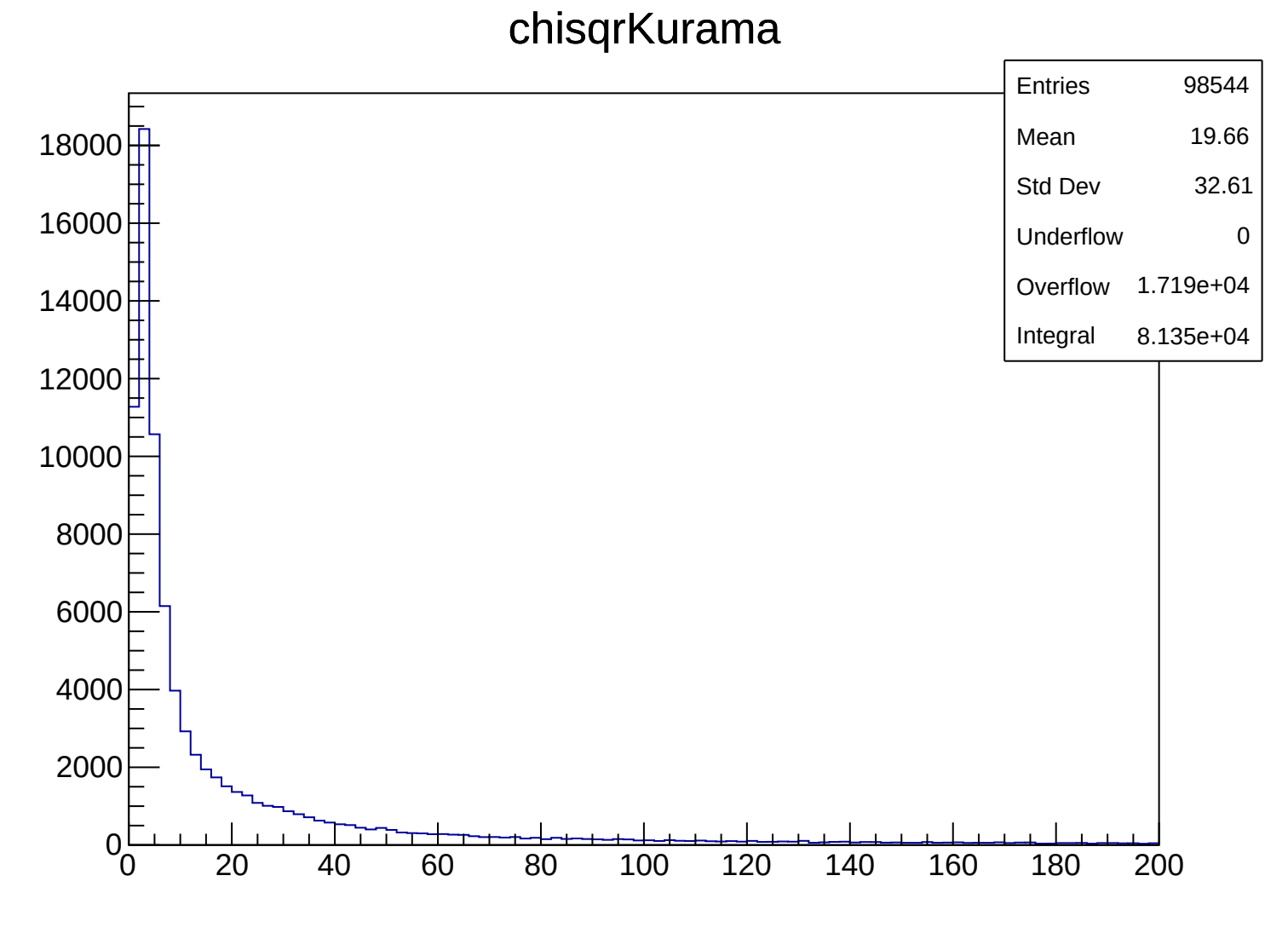

ThetaKurama
Entries 34527
Mean 6.682
Std Dev 5.52
Underflow 0
Overflow 9
Integral 3.452e+04
3000
2500
2000
1500
1000
500
0
0
5
10
15
20
25
30
35
40

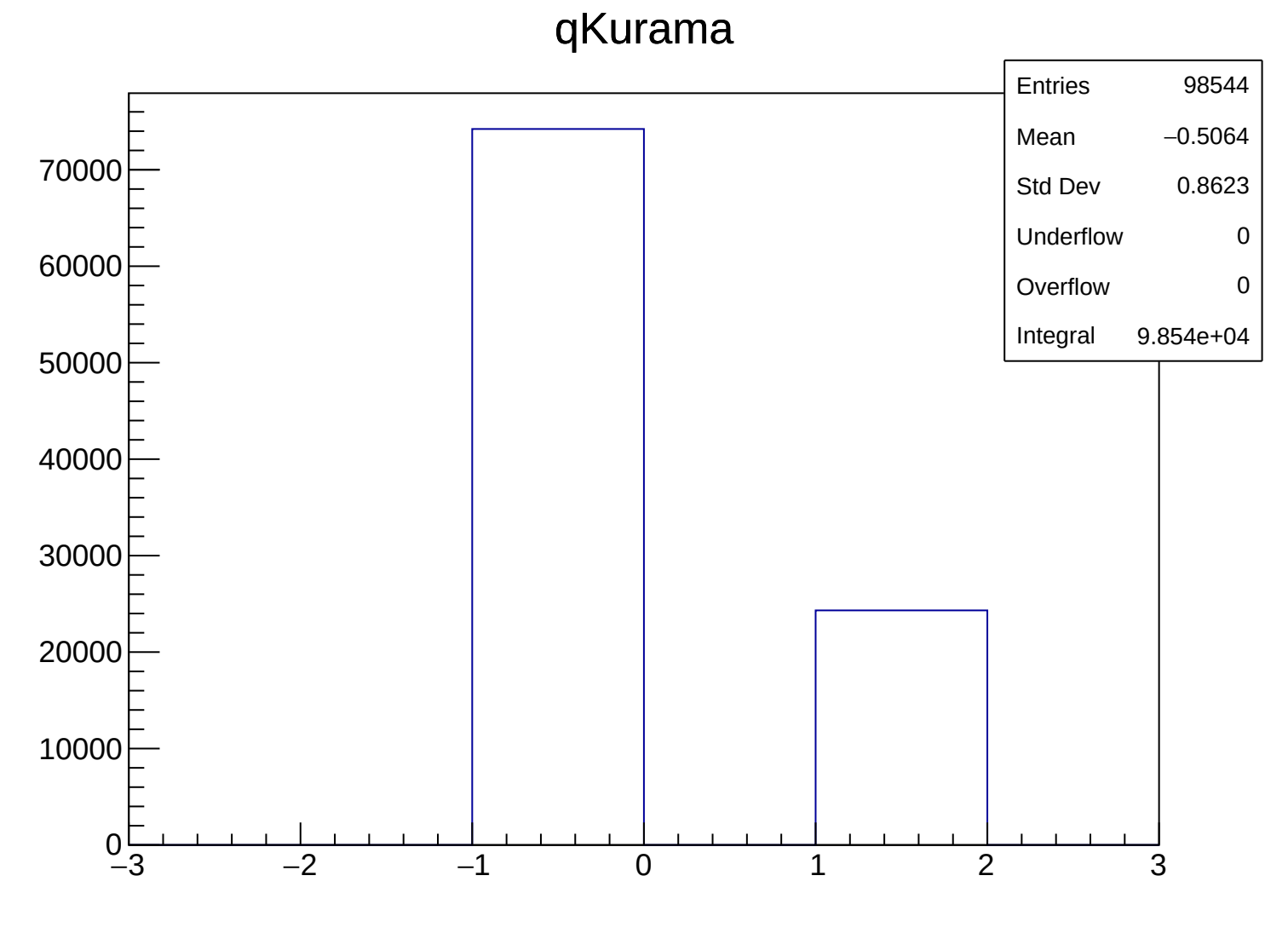

pKurama
Entries 98544
Mean 1.023
Std Dev 0.2992
Underflow 0
Overflow 5620
Integral 9.292e+04
4000
3500
3000
2500
2000
1500
1000
500
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

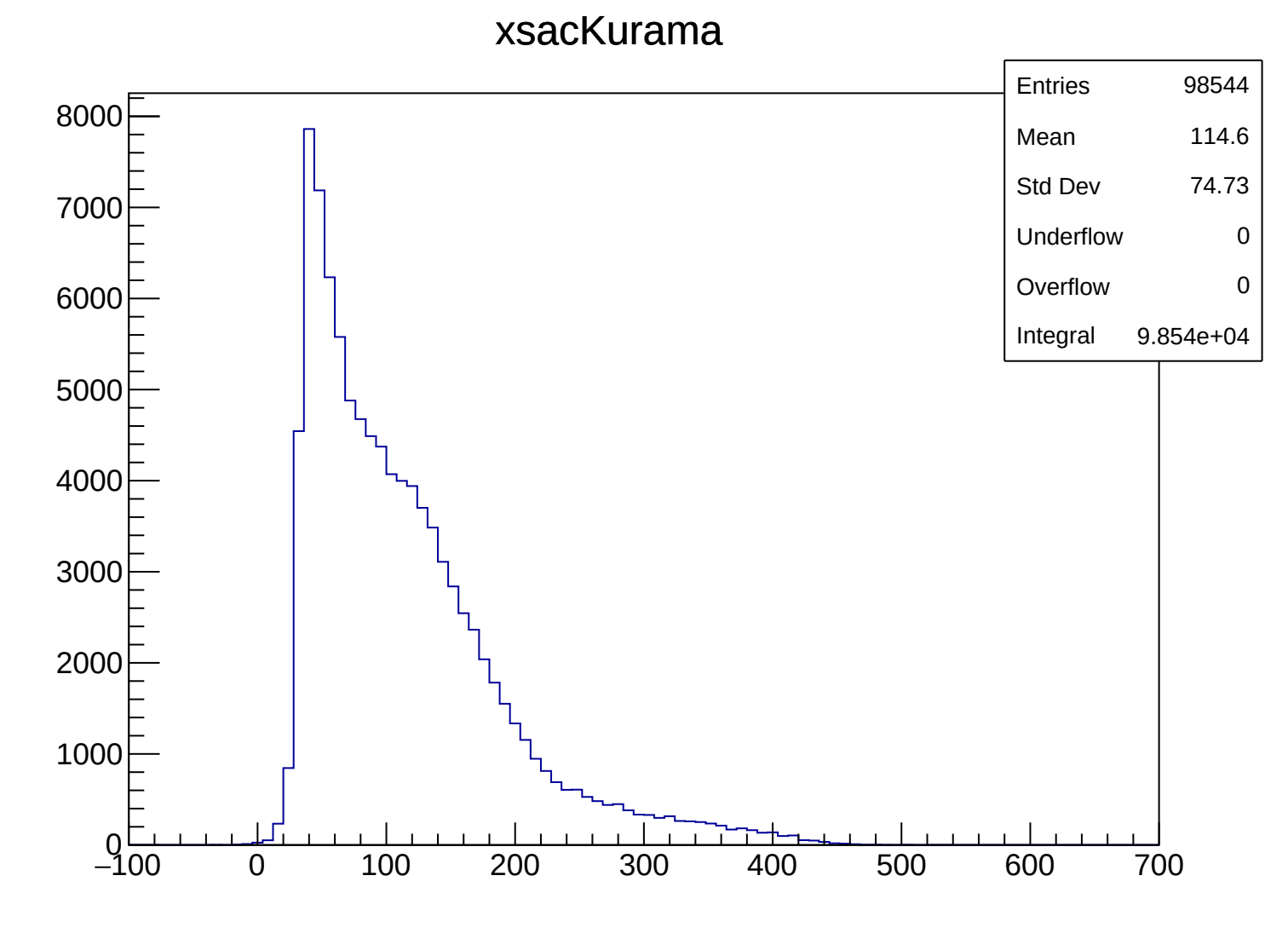

pKurama Cut1
Entries 10596
Mean 1.079
Std Dev 0.3521
Underflow 0
Overflow 0
Integral 1.06e+04
300
250
200
150
100
50
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

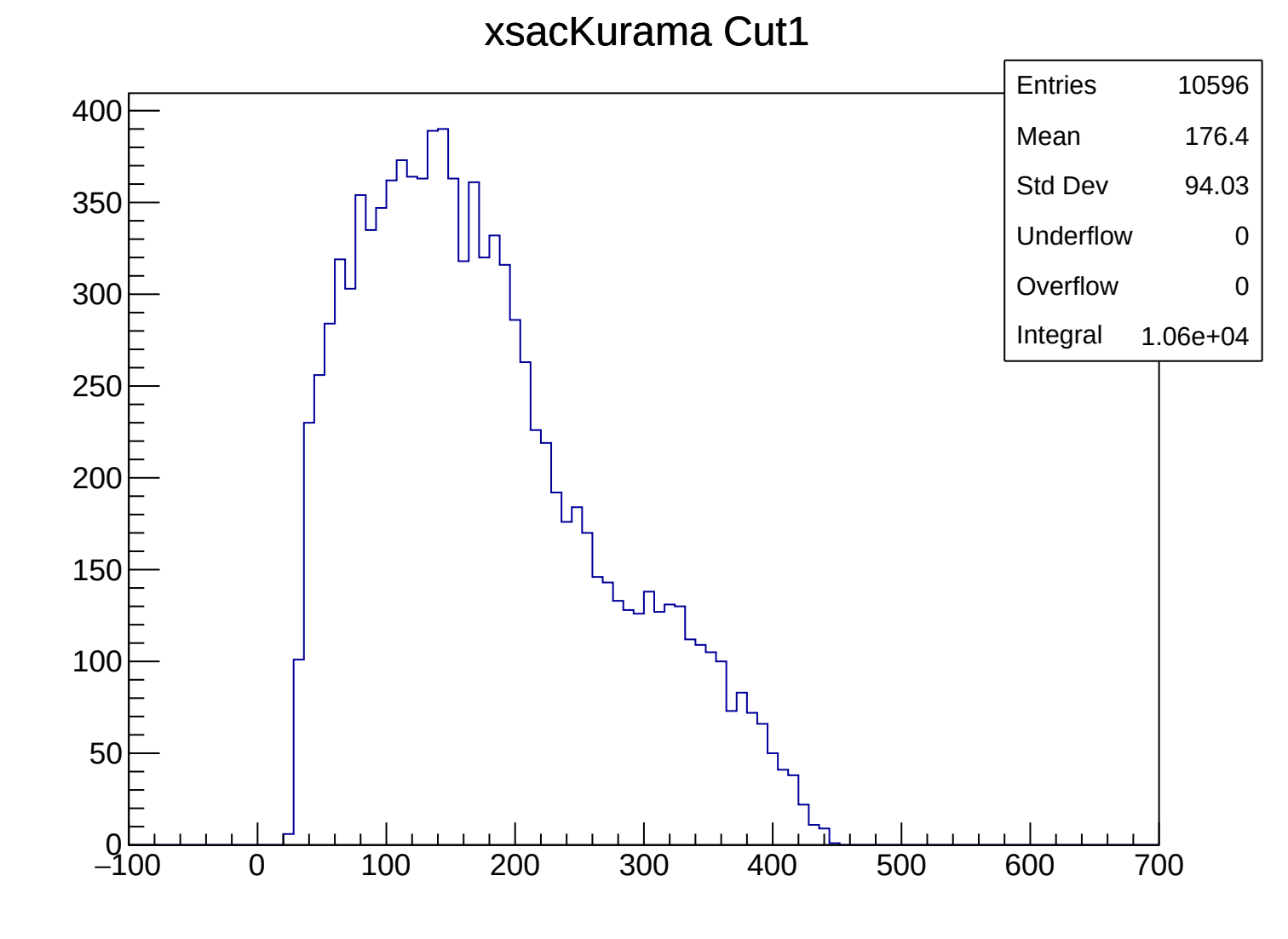

m2
Entries 98544
Mean 0.1432
Std Dev 0.3079
Underflow 5685
Overflow 4663
Integral 8.82e+04
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

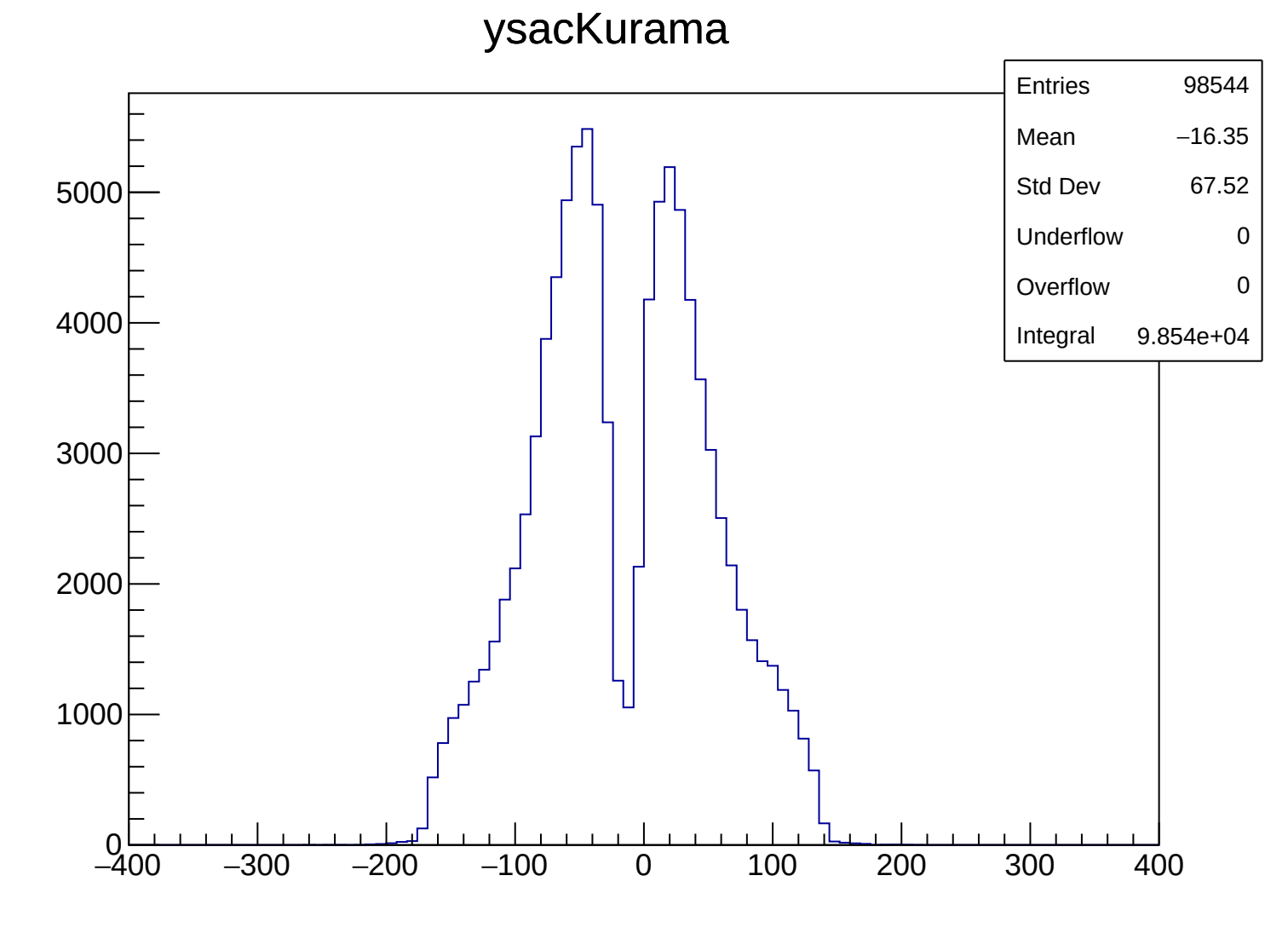

m2 Cut1
Entries 10596
Mean 0.5625
Std Dev 0.4084
Underflow 462
Overflow 220
Integral 9914
800
700
600
500
400
300
200
100
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

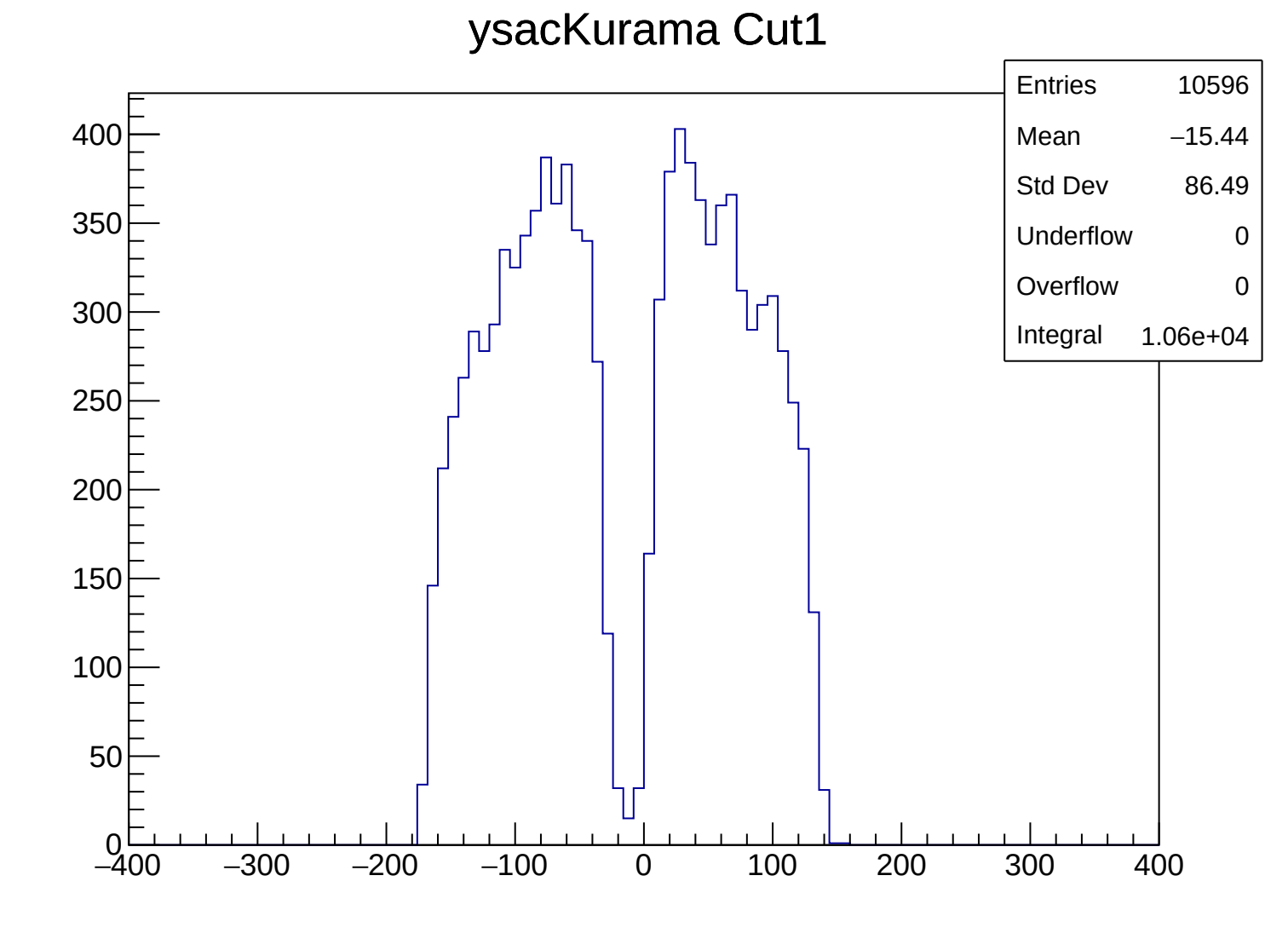

chisqrKurama
Entries 98544
Mean 19.66
Std Dev 32.61
Underflow 0
Overflow 1.719e+04
Integral 8.135e+04
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
20
40
60
80
100
120
140
160
180
200

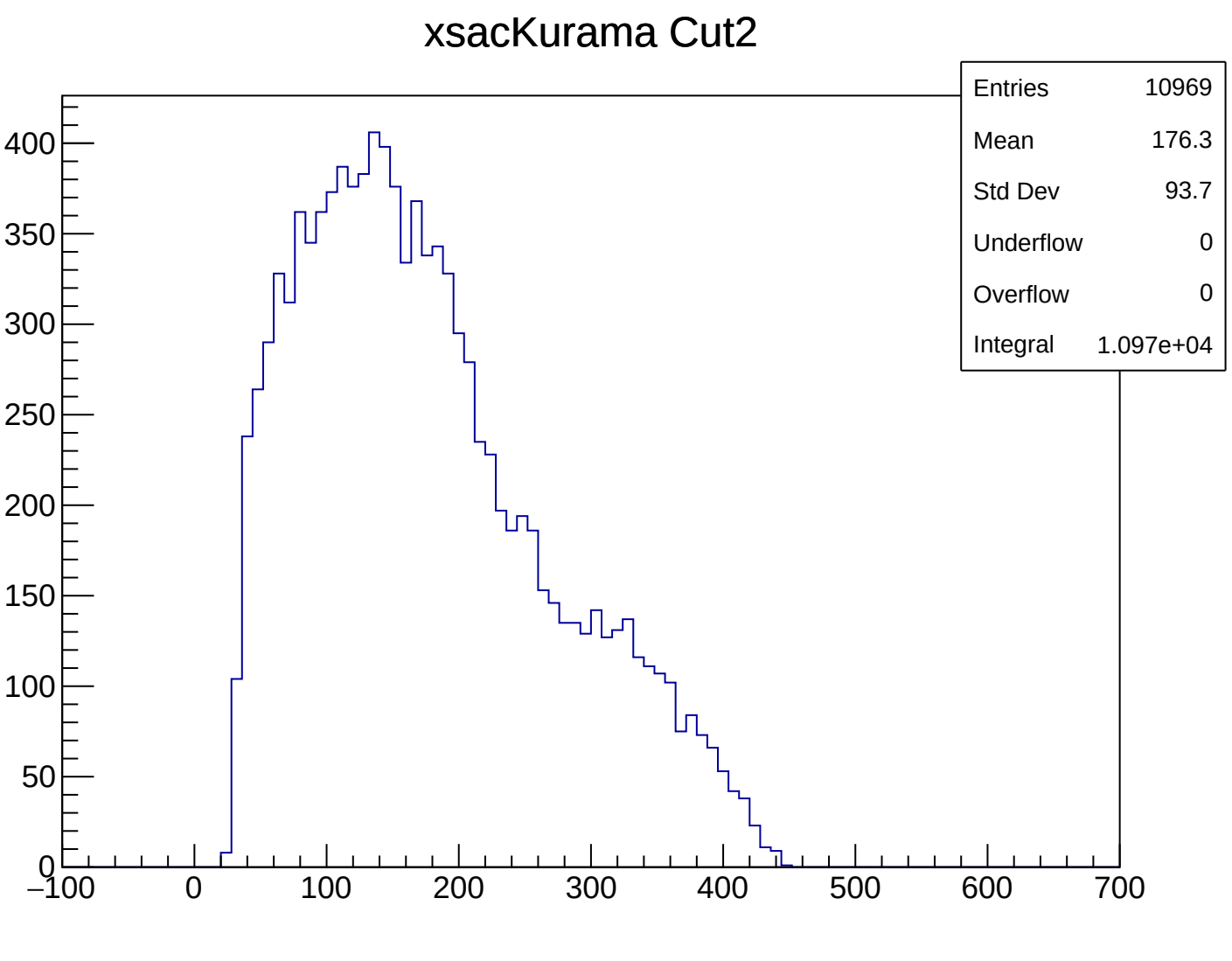

qKurama
Entries 98544
Mean −0.5064
Std Dev 0.8623
Underflow 0
Overflow 0
Integral 9.854e+04
70000
60000
50000
40000
30000
20000
10000
0
−3
−2
−1
0
1
2
3

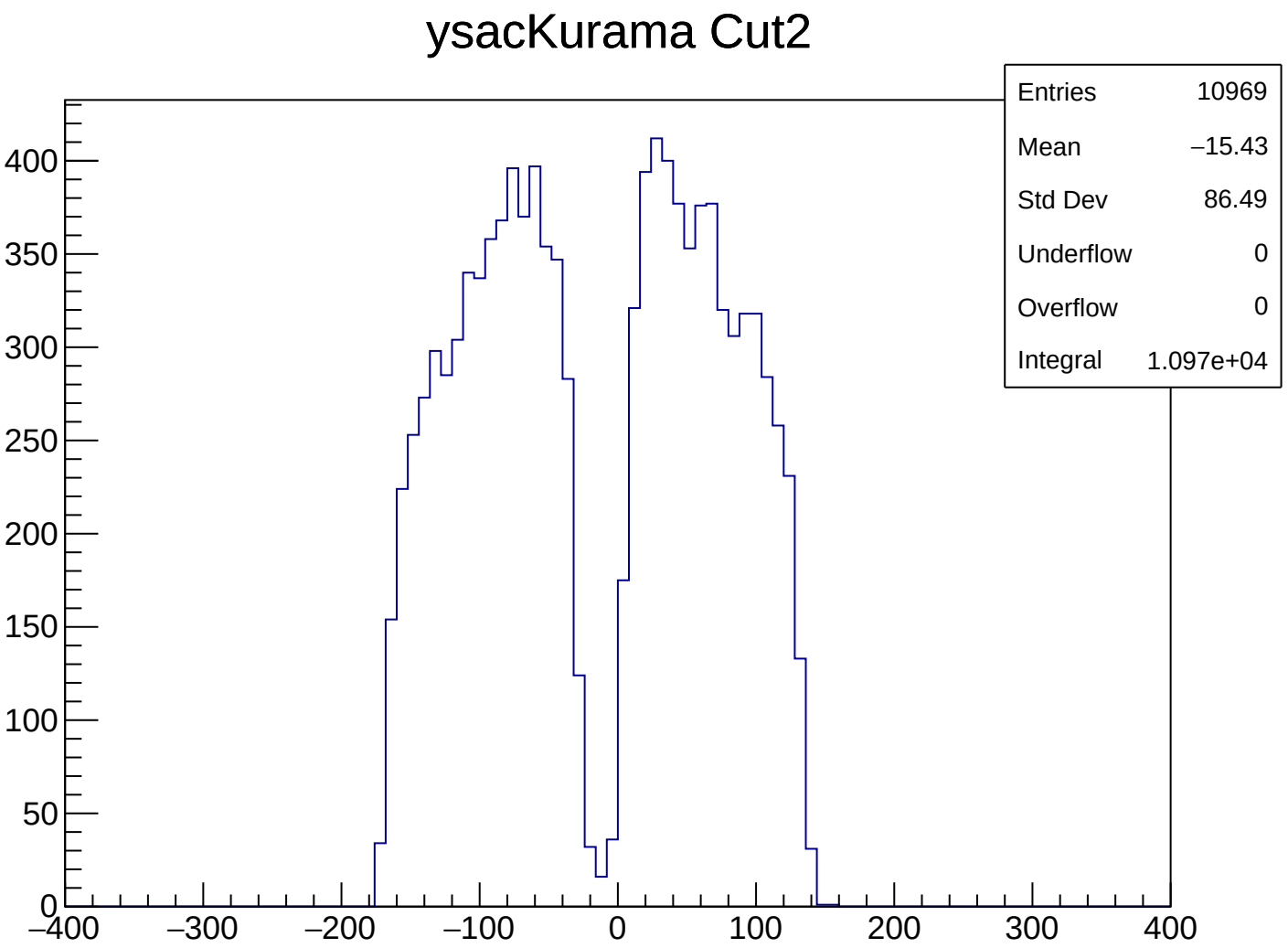

xsacKurama
Entries 98544
Mean 114.6
Std Dev 74.73
Underflow 0
Overflow 0
Integral 9.854e+04
8000
7000
6000
5000
4000
3000
2000
1000
0
–100
0
100
200
300
400
500
600
700

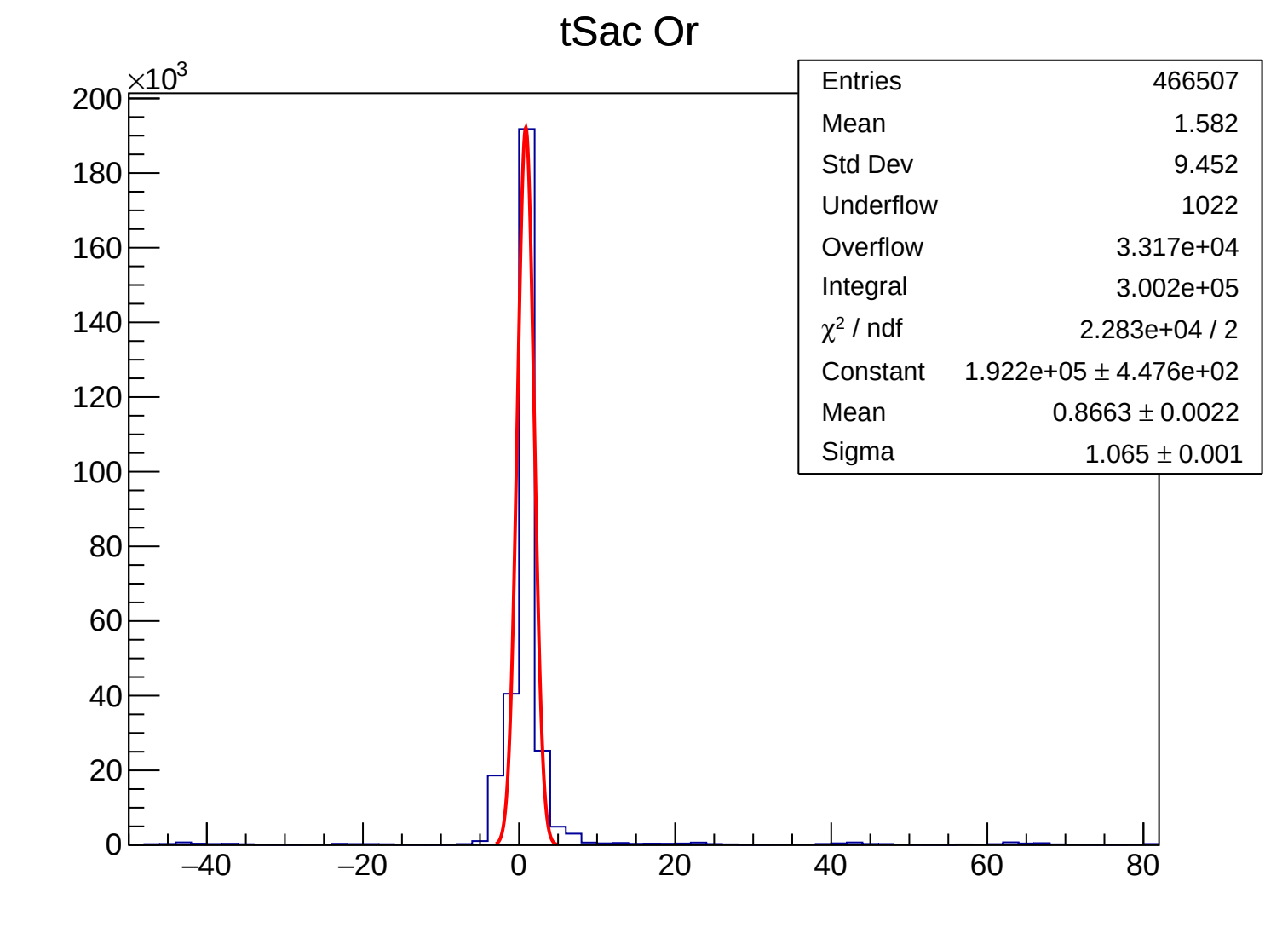

xsacKurama Cut1
Entries 10596
Mean 176.4
Std Dev 94.03
Underflow 0
Overflow 0
Integral 1.06e+04
400
350
300
250
200
150
100
50
0
–100
0
100
200
300
400
500
600
700

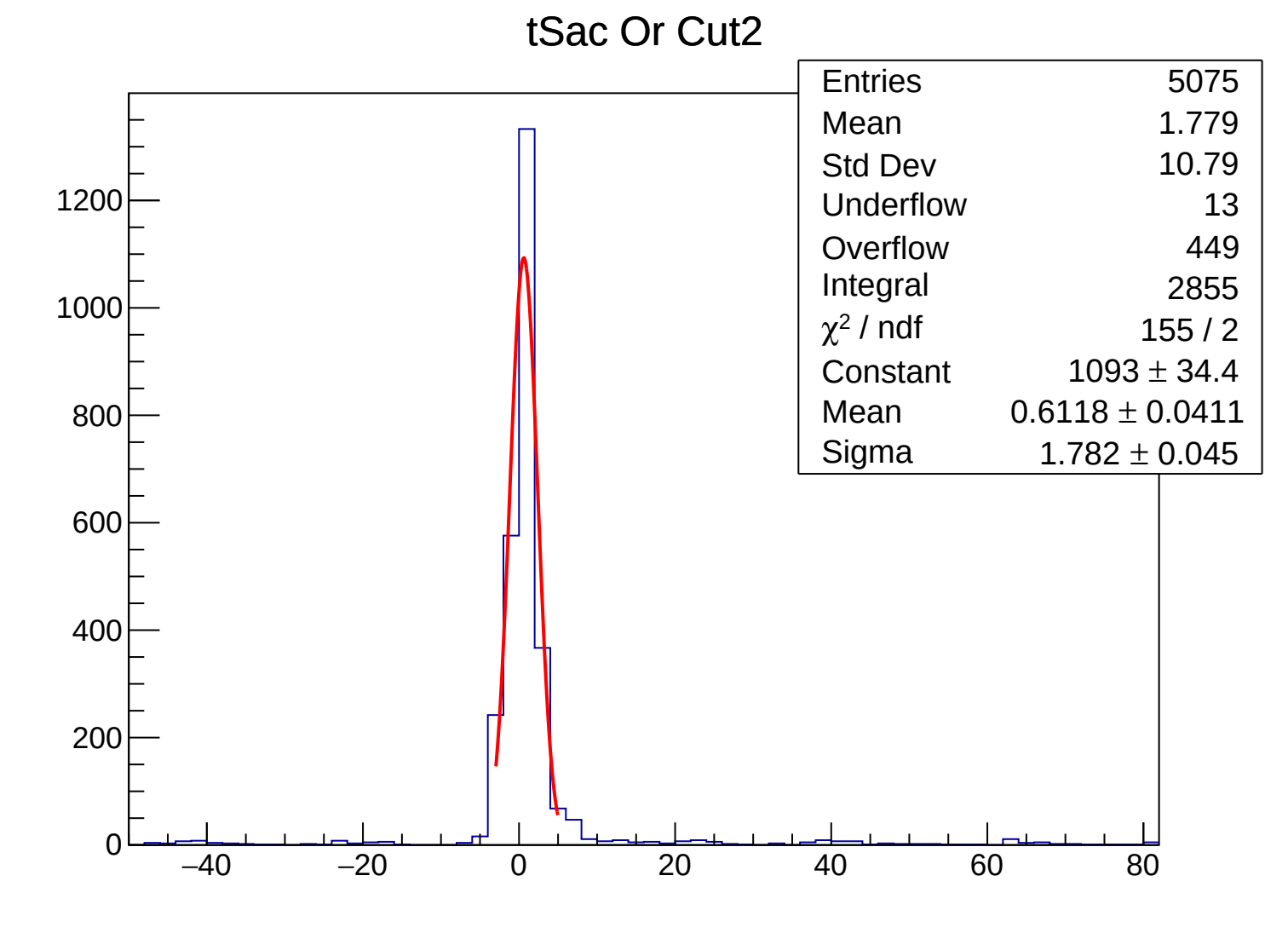

ysacKurama
Entries 98544
Mean −16.35
Std Dev 67.52
Underflow 0
Overflow 0
Integral 9.854e+04
5000
4000
3000
2000
1000
0
−400
−300
−200
−100
0
100
200
300
400

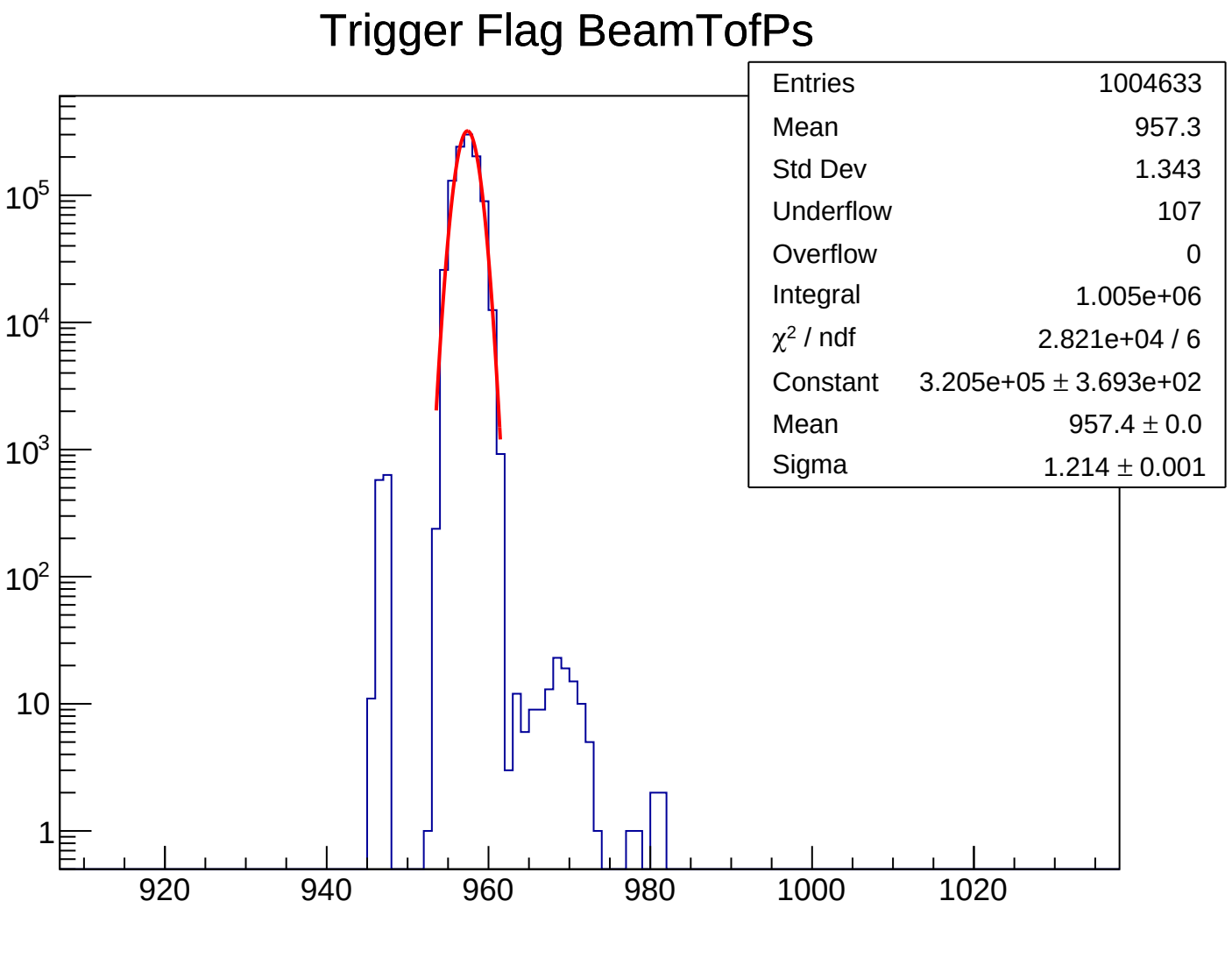

ysacKurama Cut1
Entries 10596
Mean −15.44
Std Dev 86.49
Underflow 0
Overflow 0
Integral 1.06e+04
400
350
300
250
200
150
100
50
0
−400
−300
−200
−100
0
100
200
300
400

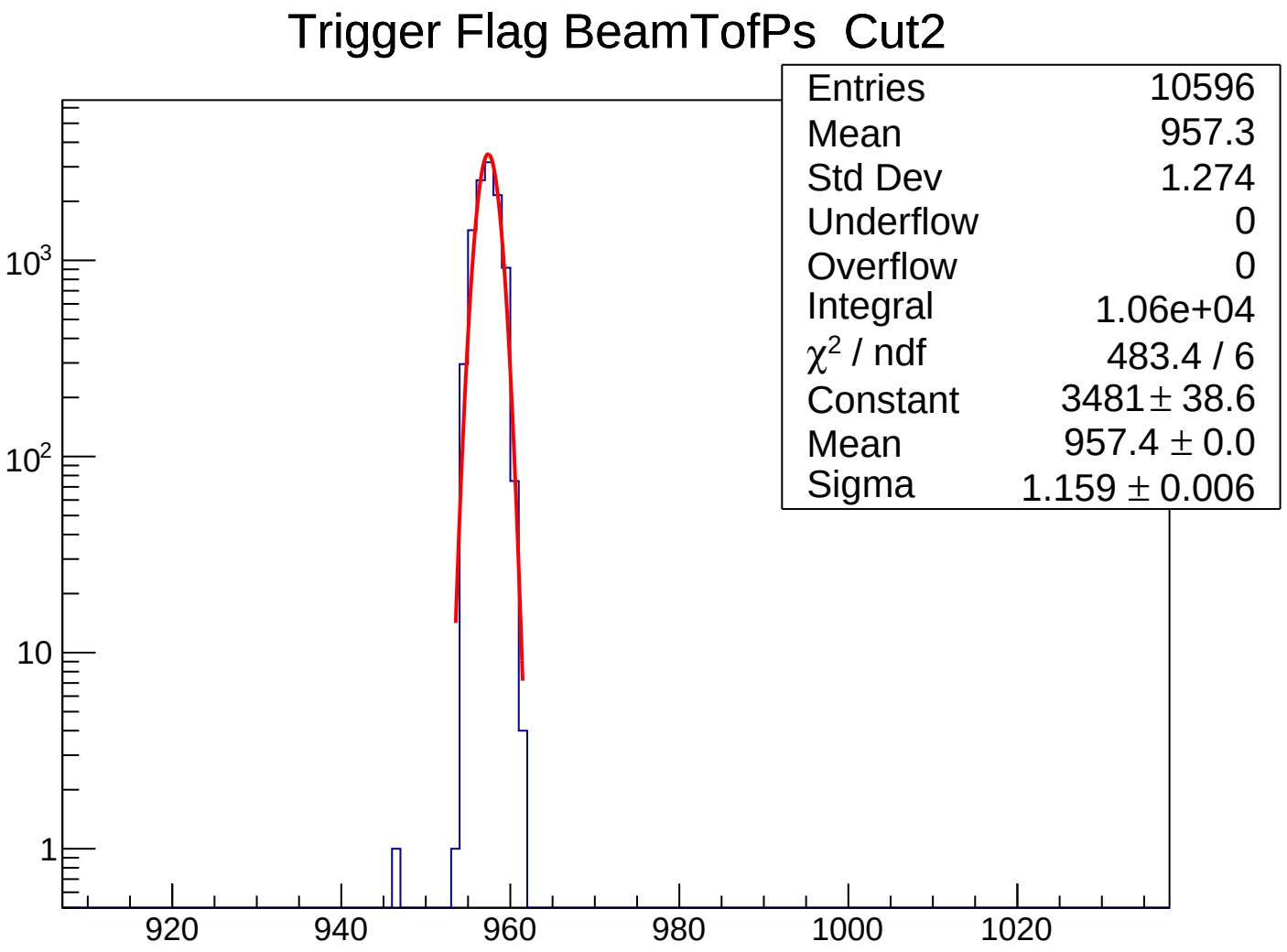

xsacKurama Cut2
Entries 10969
Mean 176.3
Std Dev 93.7
Underflow 0
Overflow 0
Integral 1.097e+04
400
350
300
250
200
150
100
50
0
–100
0
100
200
300
400
500
600
700

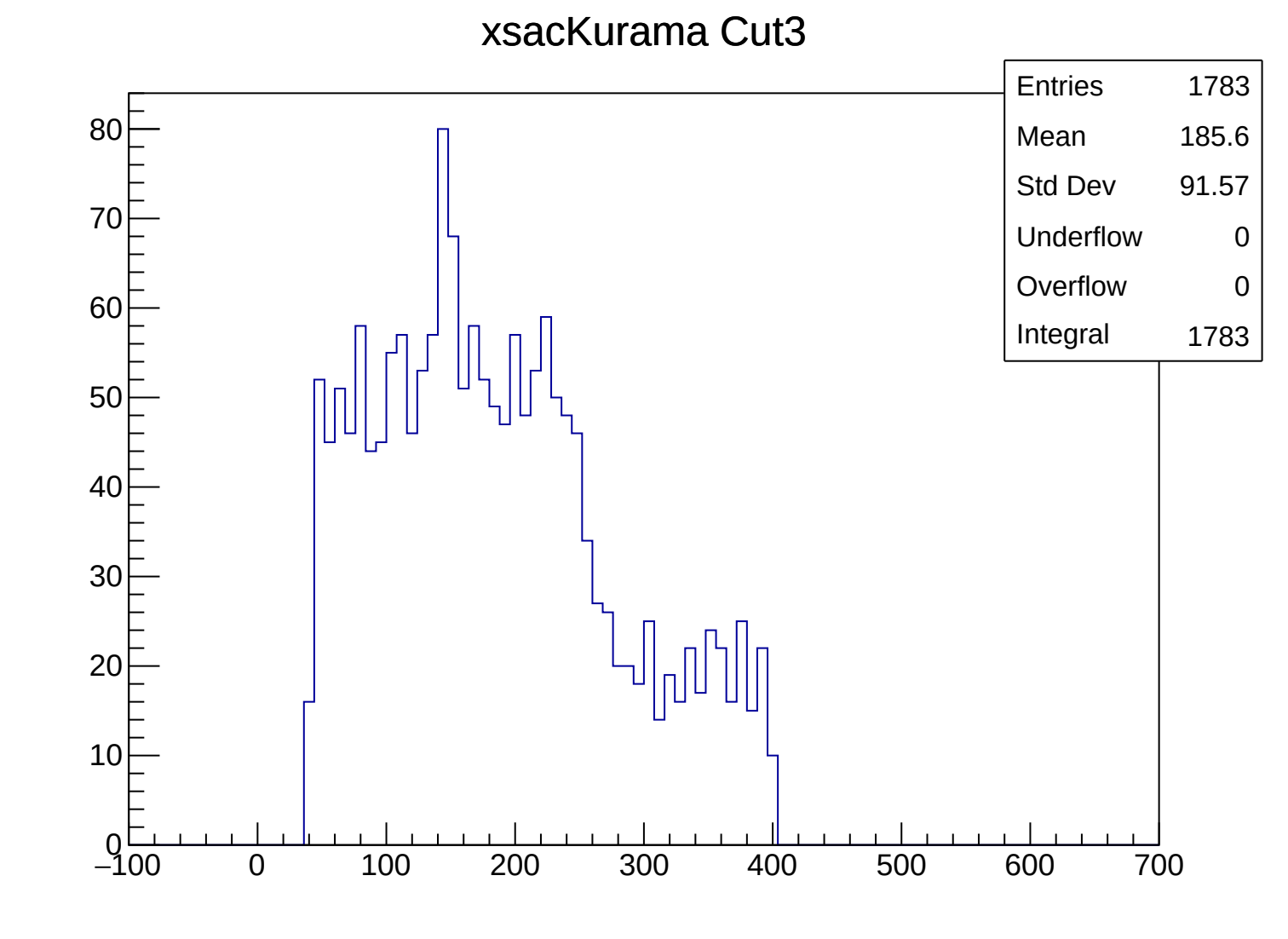

ysacKurama Cut2
Entries 10969
Mean −15.43
Std Dev 86.49
Underflow 0
Overflow 0
Integral 1.097e+04
400
350
300
250
200
150
100
50
0
−400
−300
−200
−100
0
100
200
300
400

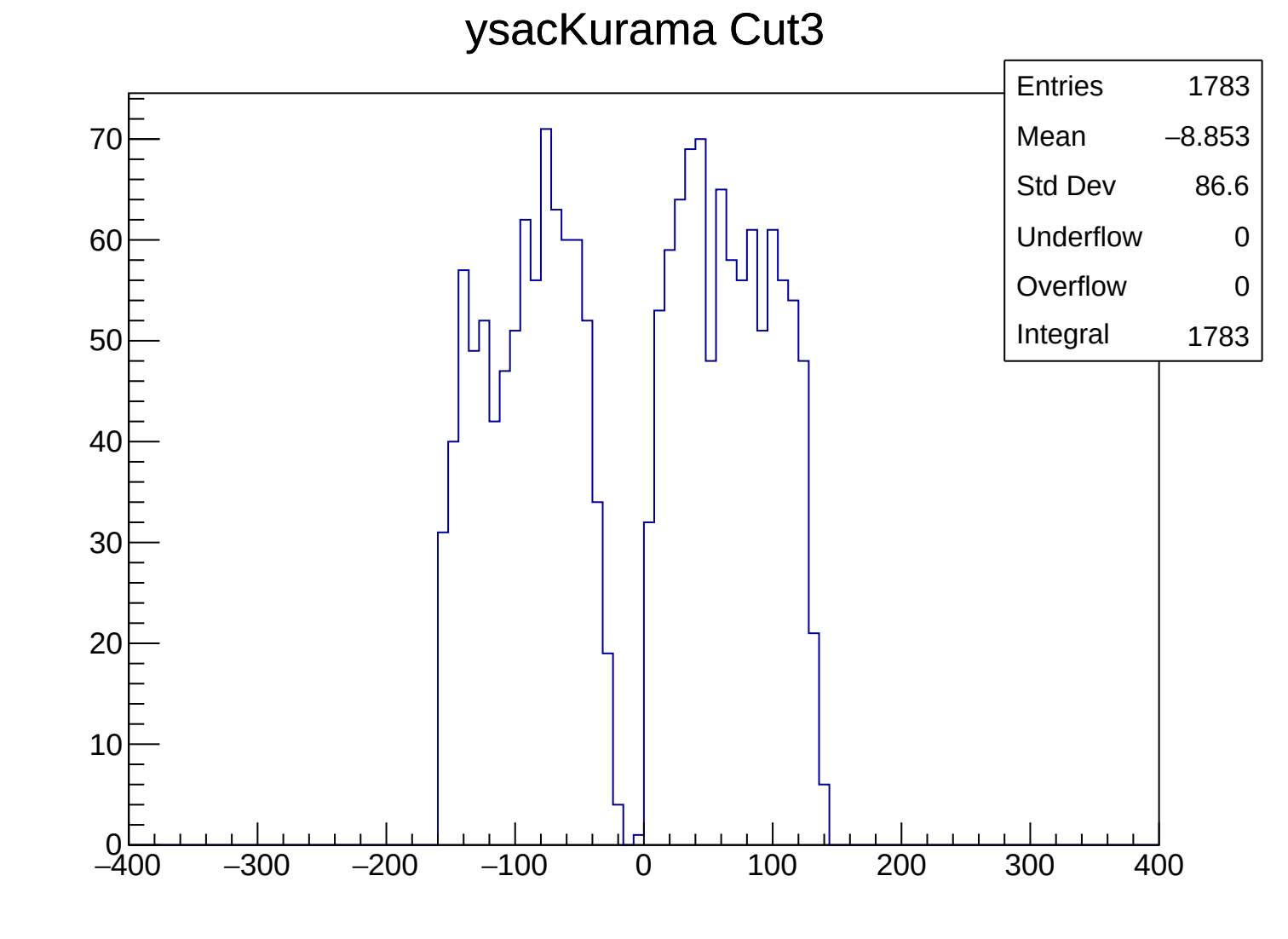

tSac Or
×10^3
200
180
160
140
120
100
80
60
40
20
0
−40
−20
0
20
40
60
80
Entries 466507
Mean 1.582
Std Dev 9.452
Underflow 1022
Overflow 3.317e+04
Integral 3.002e+05
χ² / ndf 2.283e+04 / 2
Constant 1.922e+05 ± 4.476e+02
Mean 0.8663 ± 0.0022
Sigma 1.065 ± 0.001

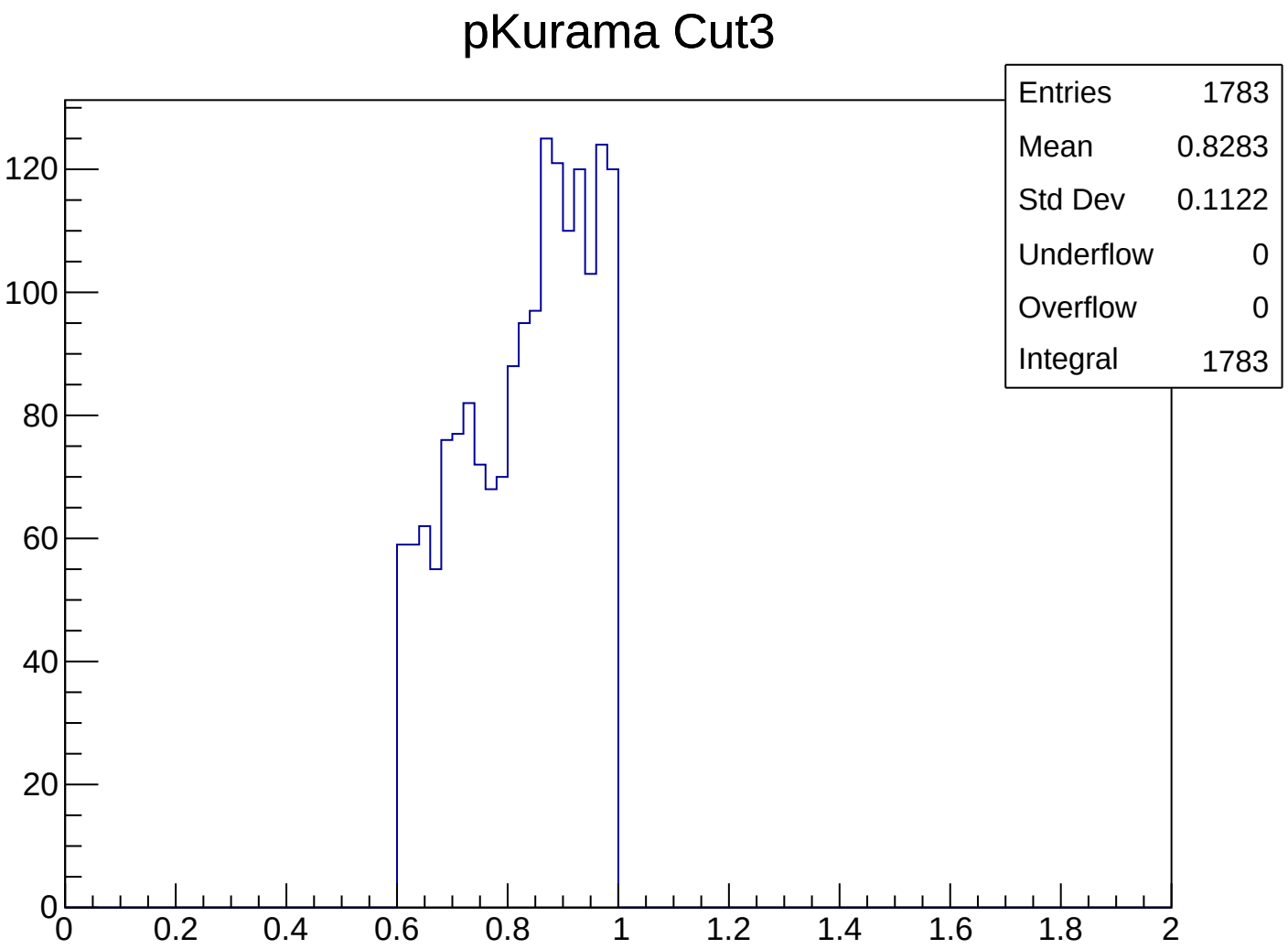

tSac Or Cut2
Entries 5075
Mean 1.779
Std Dev 10.79
Underflow 13
Overflow 449
Integral 2855
χ² / ndf 155 / 2
Constant 1093 ± 34.4
Mean 0.6118 ± 0.0411
Sigma 1.782 ± 0.045
1200
1000
800
600
400
200
0
–40
–20
0
20
40
60
80

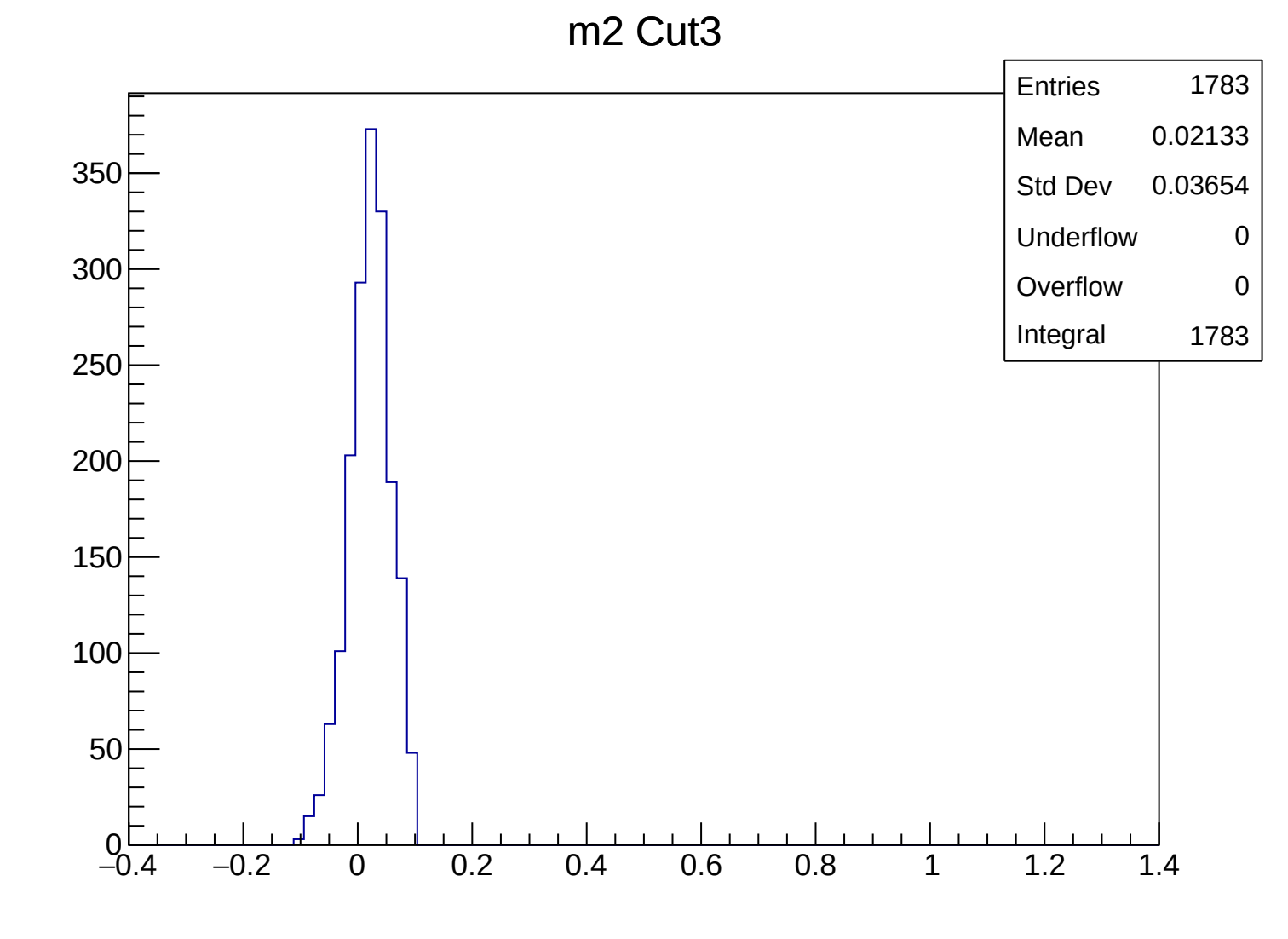

Trigger Flag BeamTofPs
Entries 1004633
Mean 957.3
Std Dev 1.343
Underflow 107
Overflow 0
Integral 1.005e+06
χ² / ndf 2.821e+04 / 6
Constant 3.205e+05 ± 3.693e+02
Mean 957.4 ± 0.0
Sigma 1.214 ± 0.001
10⁵
10⁴
10³
10²
10
1
920
940
960
980
1000
1020

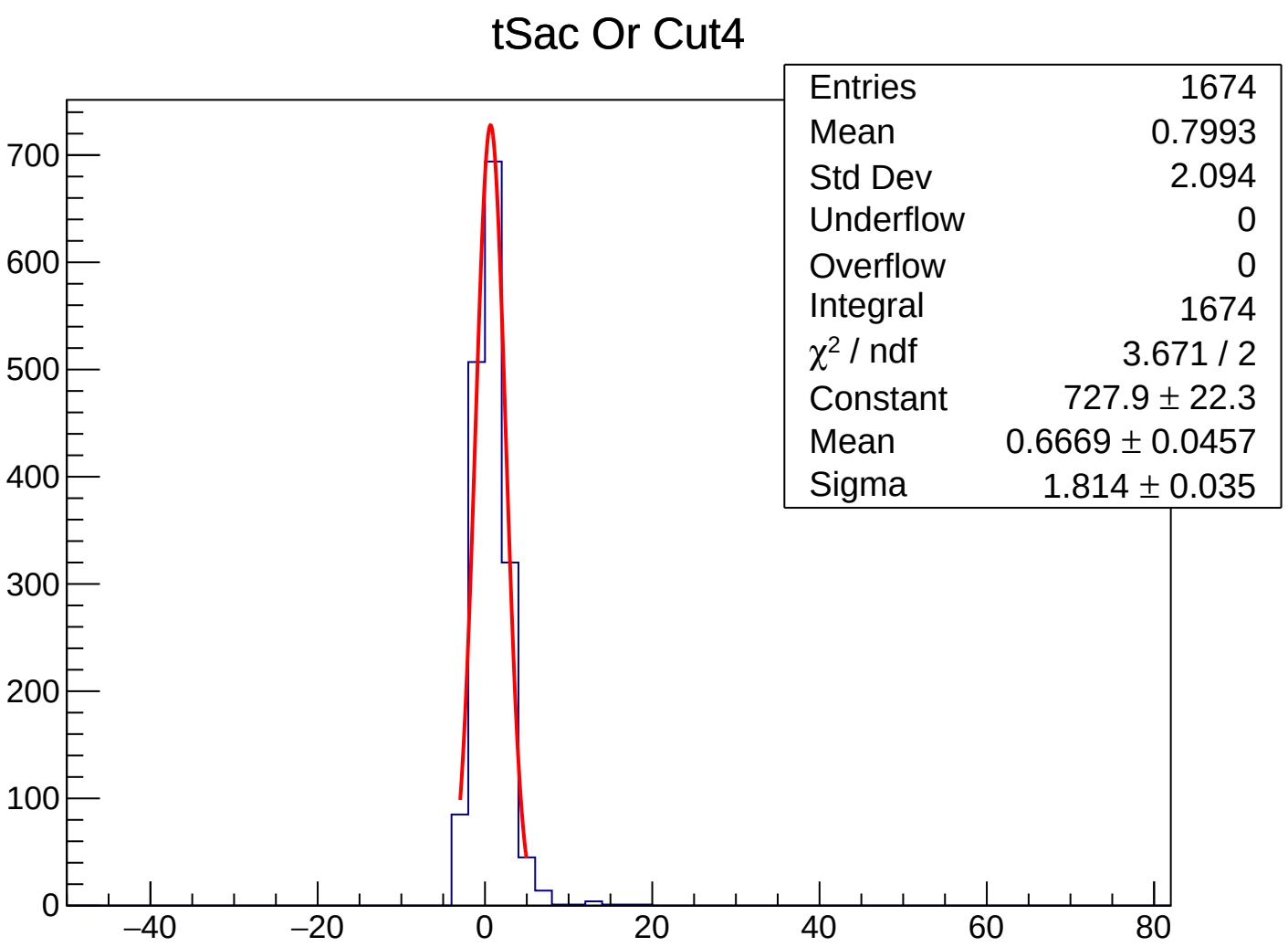

Trigger Flag BeamTofPs Cut2
Entries 10596
Mean 957.3
Std Dev 1.274
Underflow 0
Overflow 0
Integral 1.06e+04
χ² / ndf 483.4 / 6
Constant 3481 ± 38.6
Mean 957.4 ± 0.0
Sigma 1.159 ± 0.006
10³
10²
10
1
920
940
960
980
1000
1020

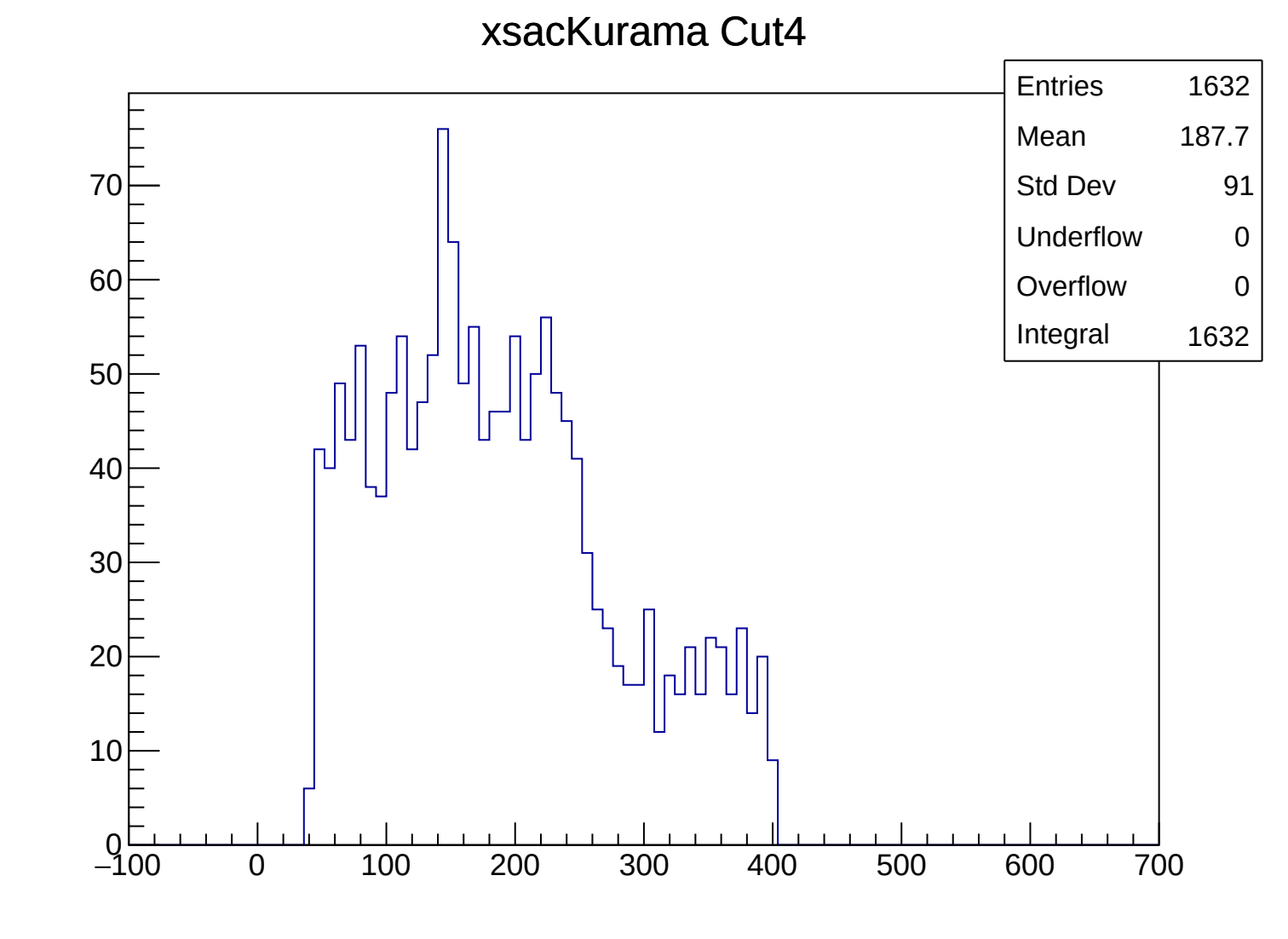

xsacKurama Cut3
Entries 1783
Mean 185.6
Std Dev 91.57
Underflow 0
Overflow 0
Integral 1783
80
70
60
50
40
30
20
10
0
–100
0
100
200
300
400
500
600
700

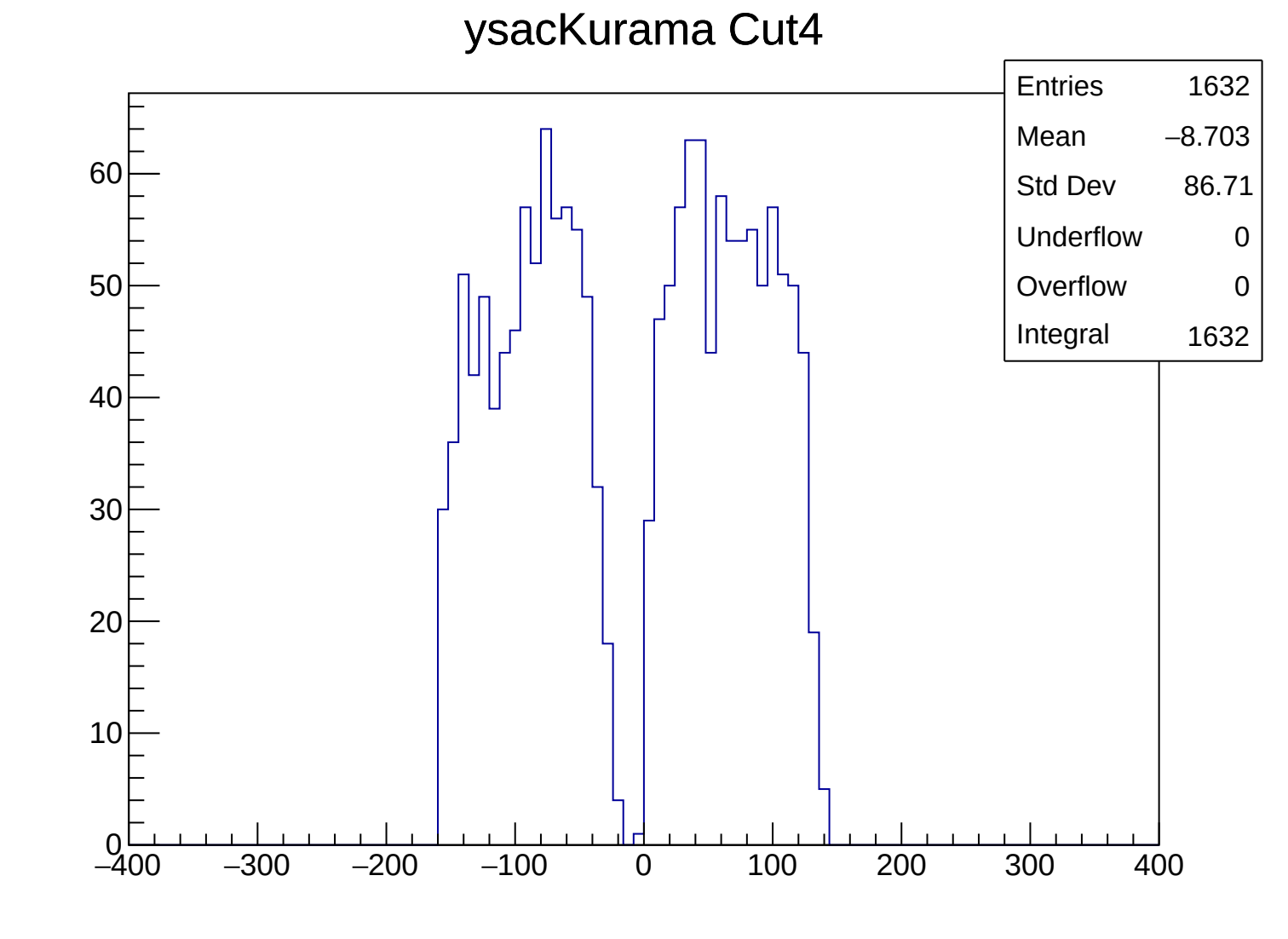

ysacKurama Cut3
Entries 1783
Mean –8.853
Std Dev 86.6
Underflow 0
Overflow 0
Integral 1783
70
60
50
40
30
20
10
0
–400
–300
–200
–100
0
100
200
300
400

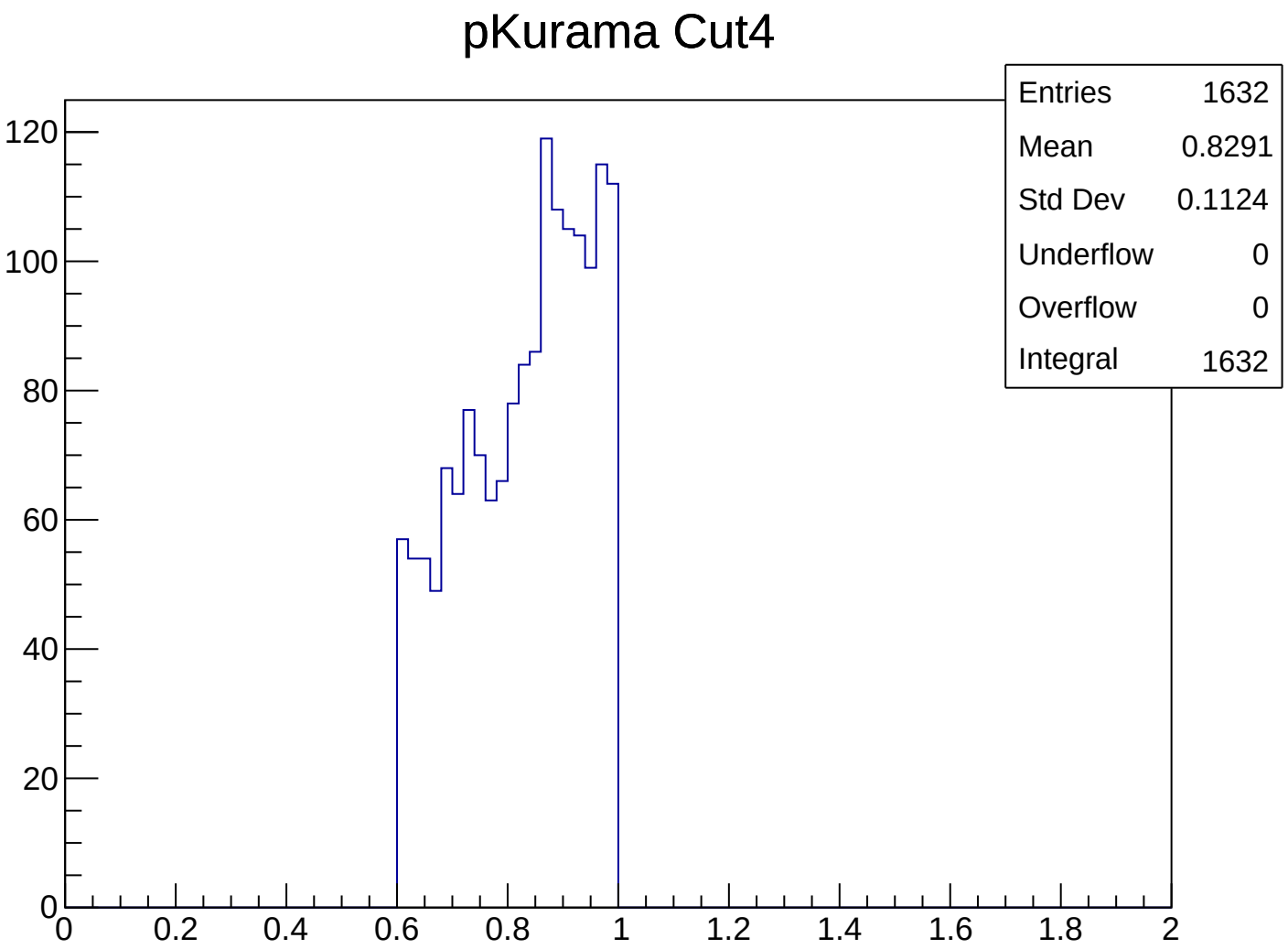

pKurama Cut3
Entries 1783
Mean 0.8283
Std Dev 0.1122
Underflow 0
Overflow 0
Integral 1783
120
100
80
60
40
20
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

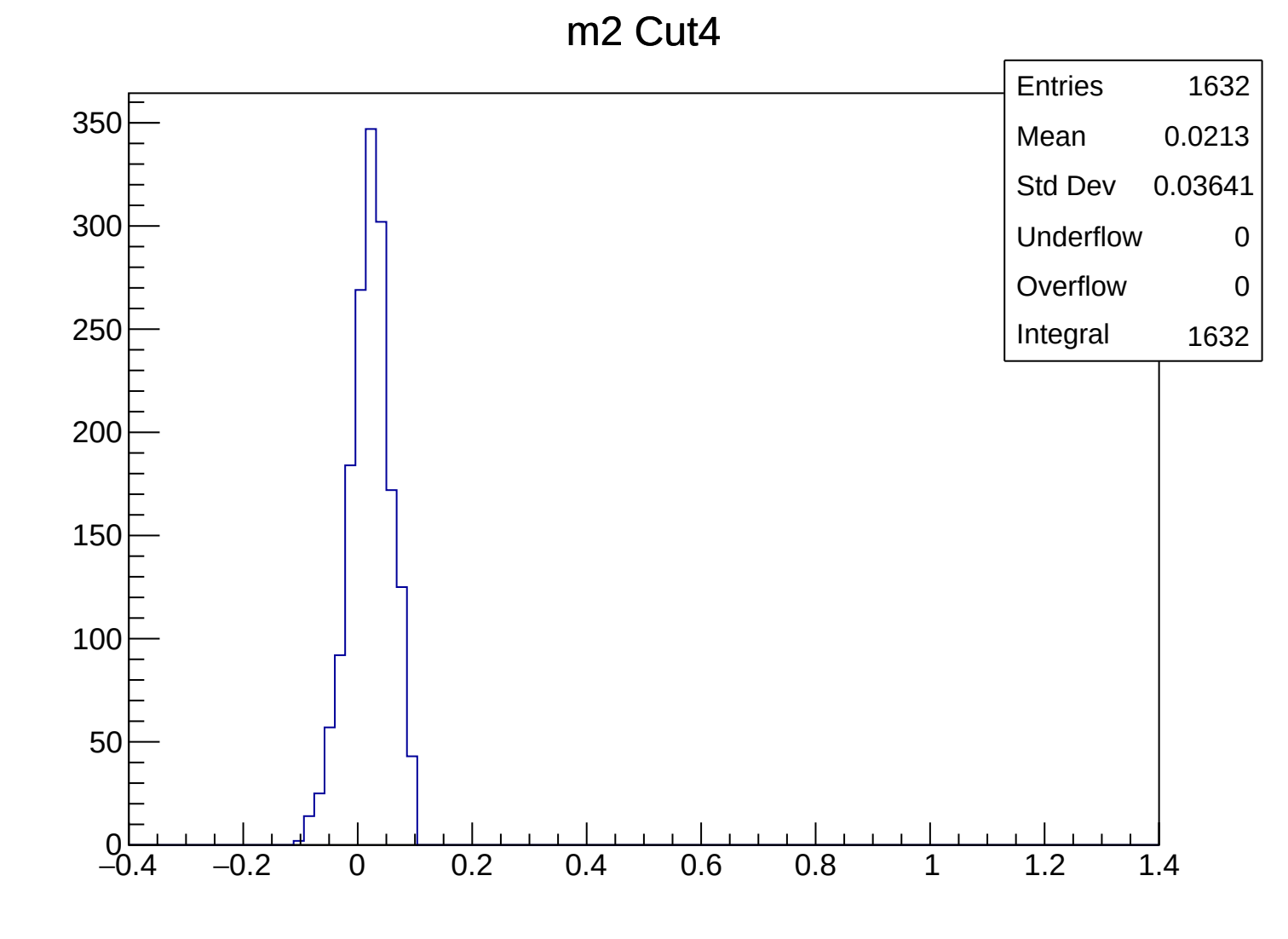

m2 Cut3
Entries 1783
Mean 0.02133
Std Dev 0.03654
Underflow 0
Overflow 0
Integral 1783
350
300
250
200
150
100
50
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

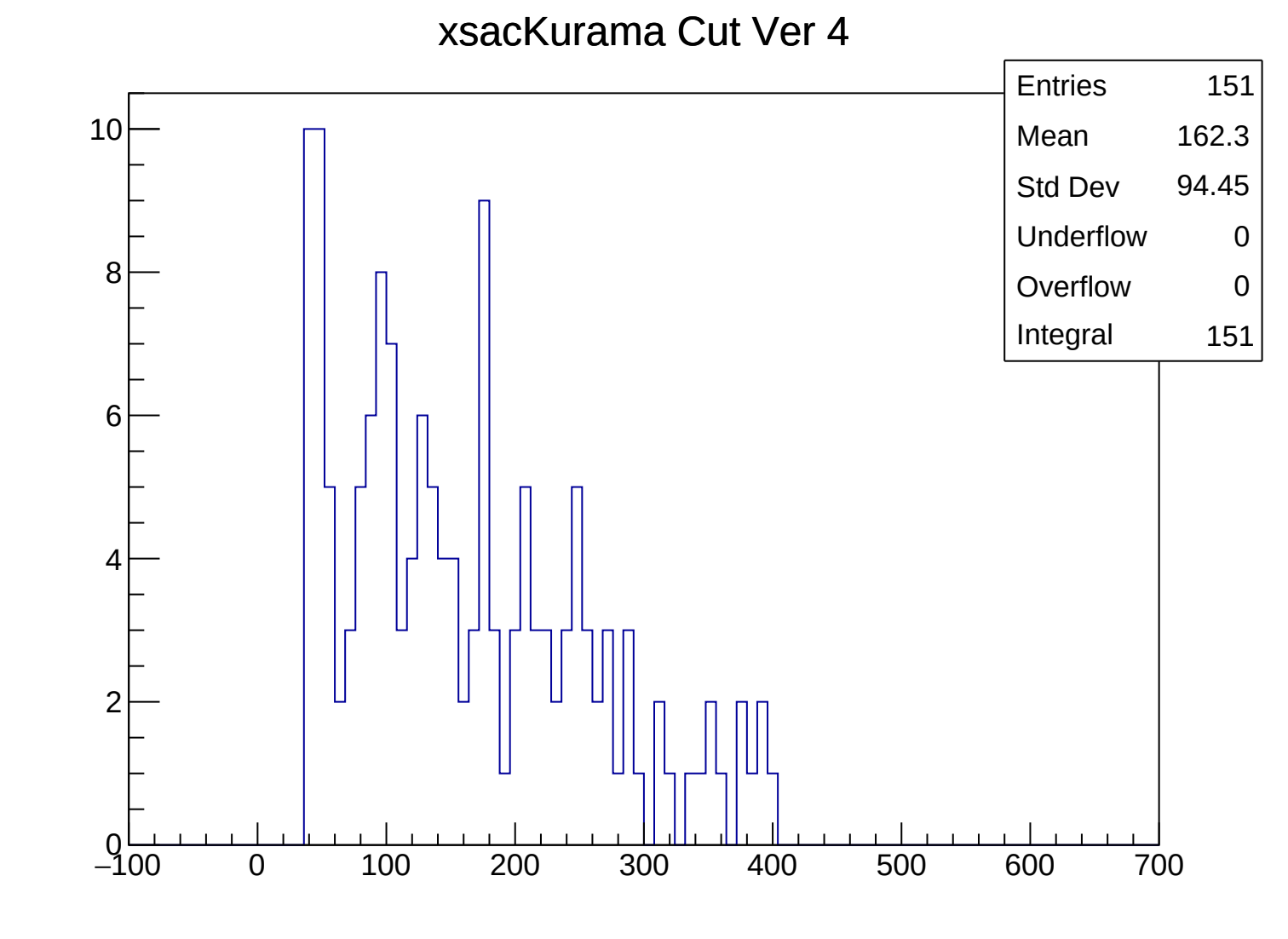

tSac Or Cut4
Entries 1674
Mean 0.7993
Std Dev 2.094
Underflow 0
Overflow 0
Integral 1674
χ² / ndf 3.671 / 2
Constant 727.9 ± 22.3
Mean 0.6669 ± 0.0457
Sigma 1.814 ± 0.035
700
600
500
400
300
200
100
0
–40
–20
0
20
40
60
80

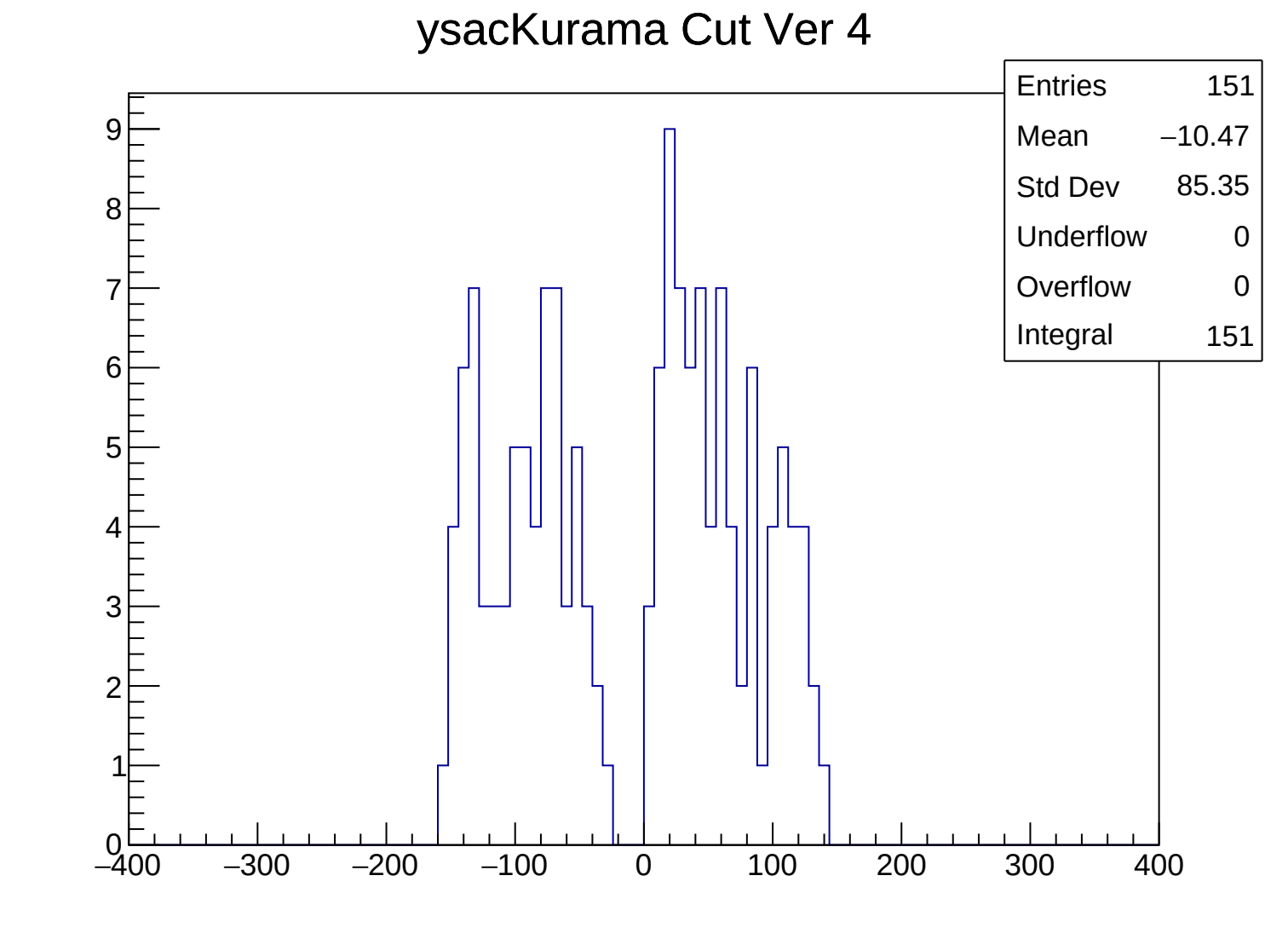

xsacKurama Cut4
Entries 1632
Mean 187.7
Std Dev 91
Underflow 0
Overflow 0
Integral 1632
70
60
50
40
30
20
10
0
–100
0
100
200
300
400
500
600
700

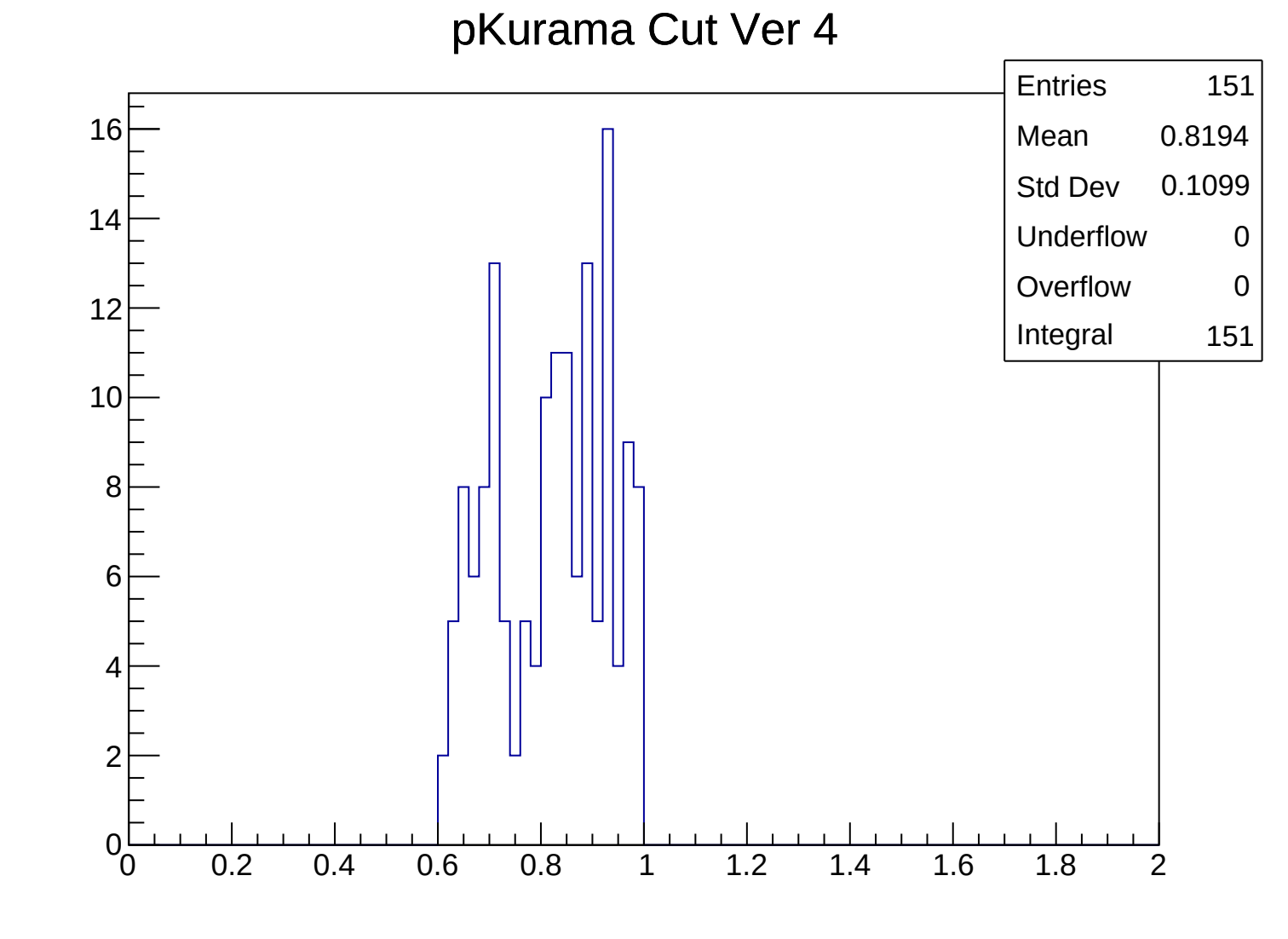

ysacKurama Cut4
Entries 1632
Mean –8.703
Std Dev 86.71
Underflow 0
Overflow 0
Integral 1632
60
50
40
30
20
10
0
–400
–300
–200
–100
0
100
200
300
400

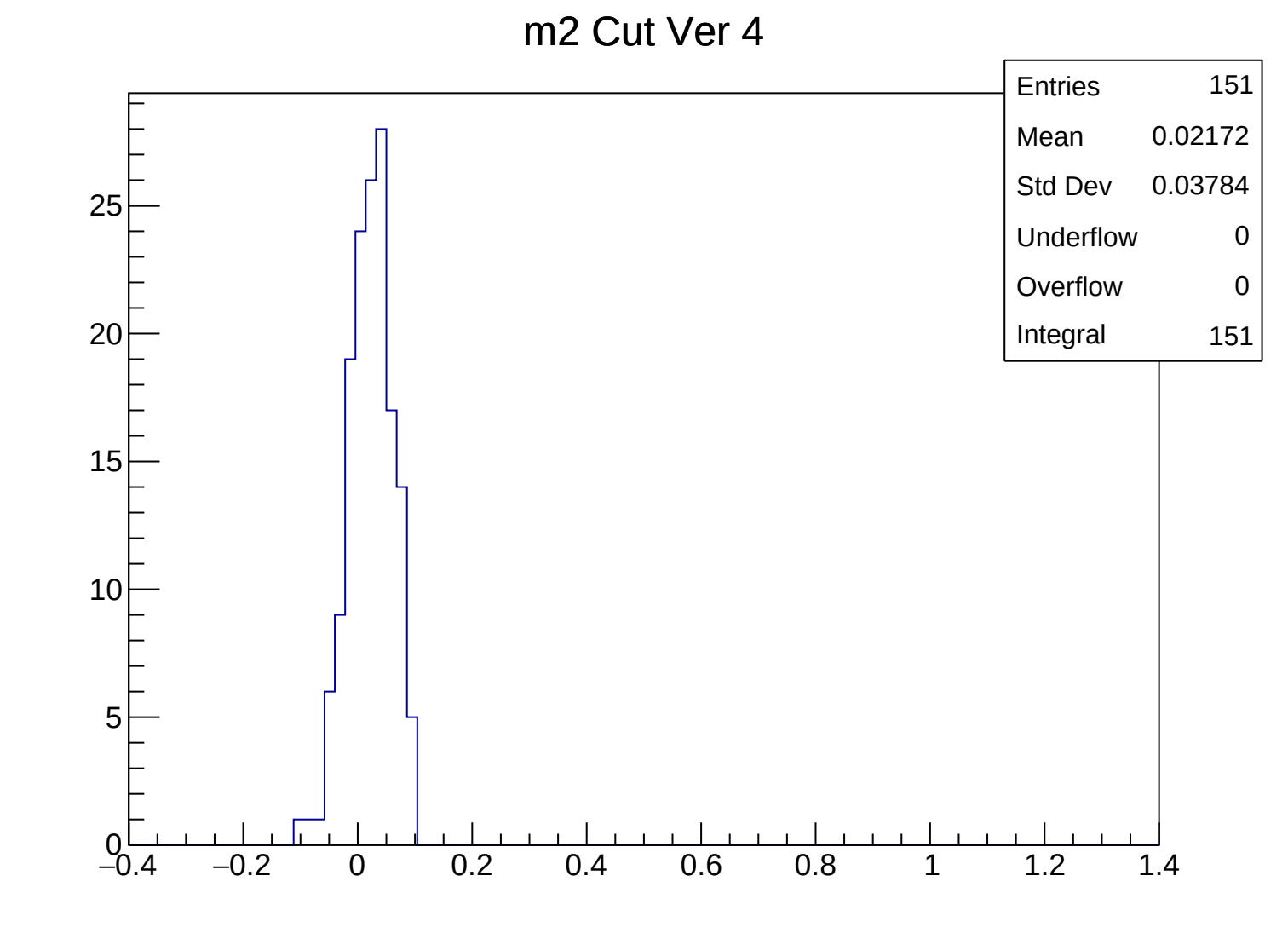

pKurama Cut4
Entries 1632
Mean 0.8291
Std Dev 0.1124
Underflow 0
Overflow 0
Integral 1632
120
100
80
60
40
20
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

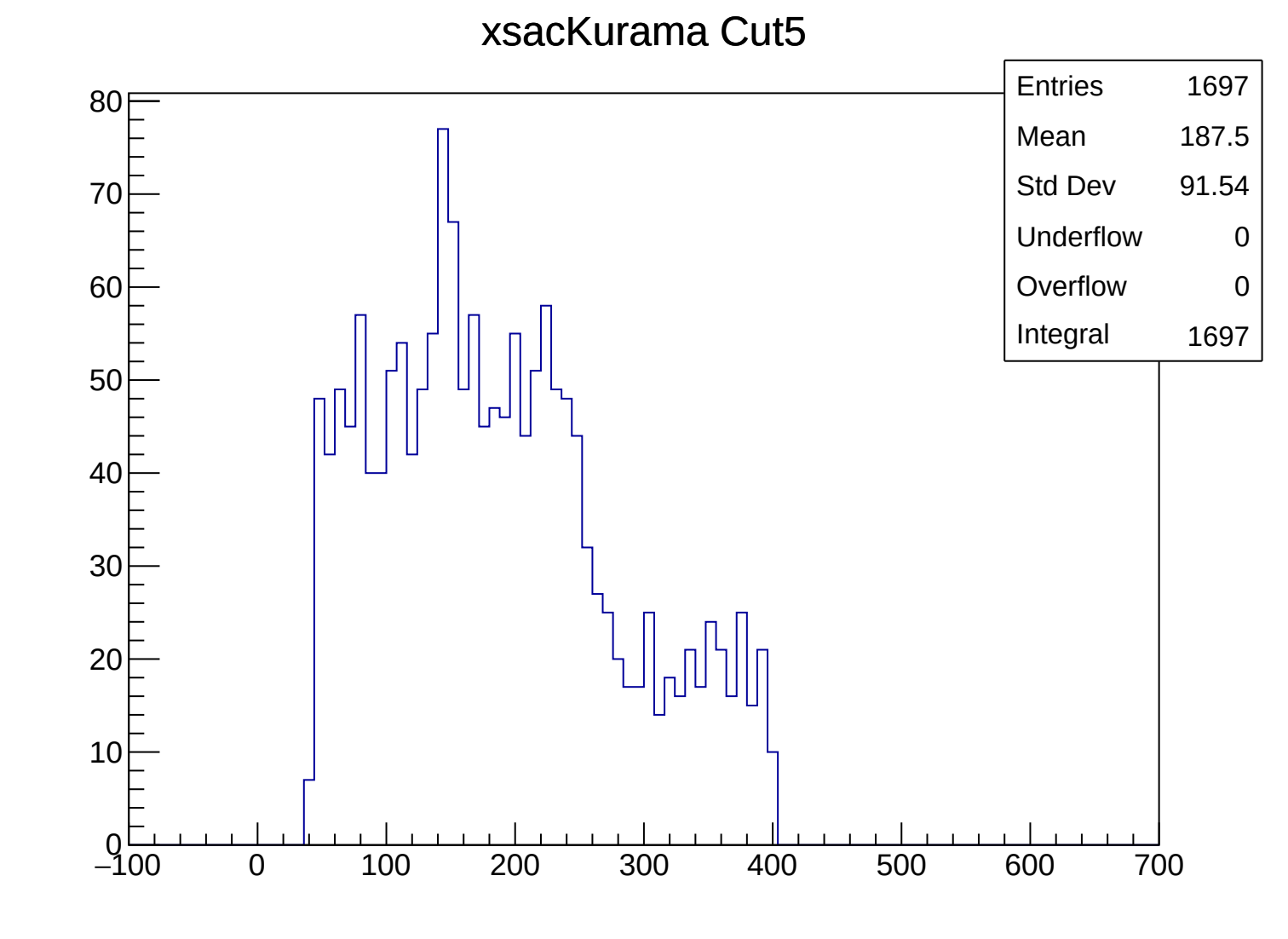

m2 Cut4
Entries 1632
Mean 0.0213
Std Dev 0.03641
Underflow 0
Overflow 0
Integral 1632
350
300
250
200
150
100
50
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

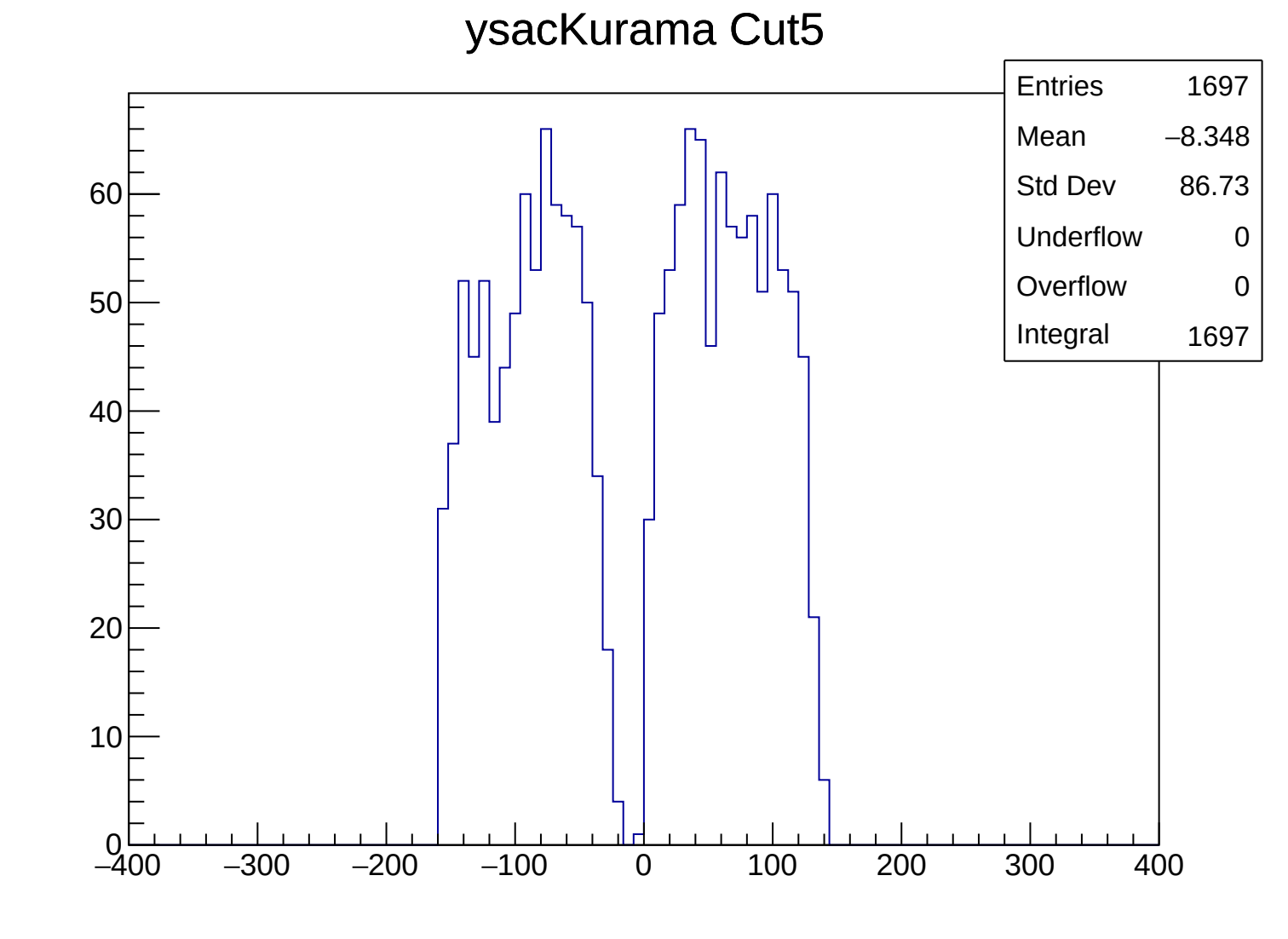

xsacKurama Cut Ver 4
Entries 151
Mean 162.3
Std Dev 94.45
Underflow 0
Overflow 0
Integral 151
10
8
6
4
2
0
–100
0
100
200
300
400
500
600
700

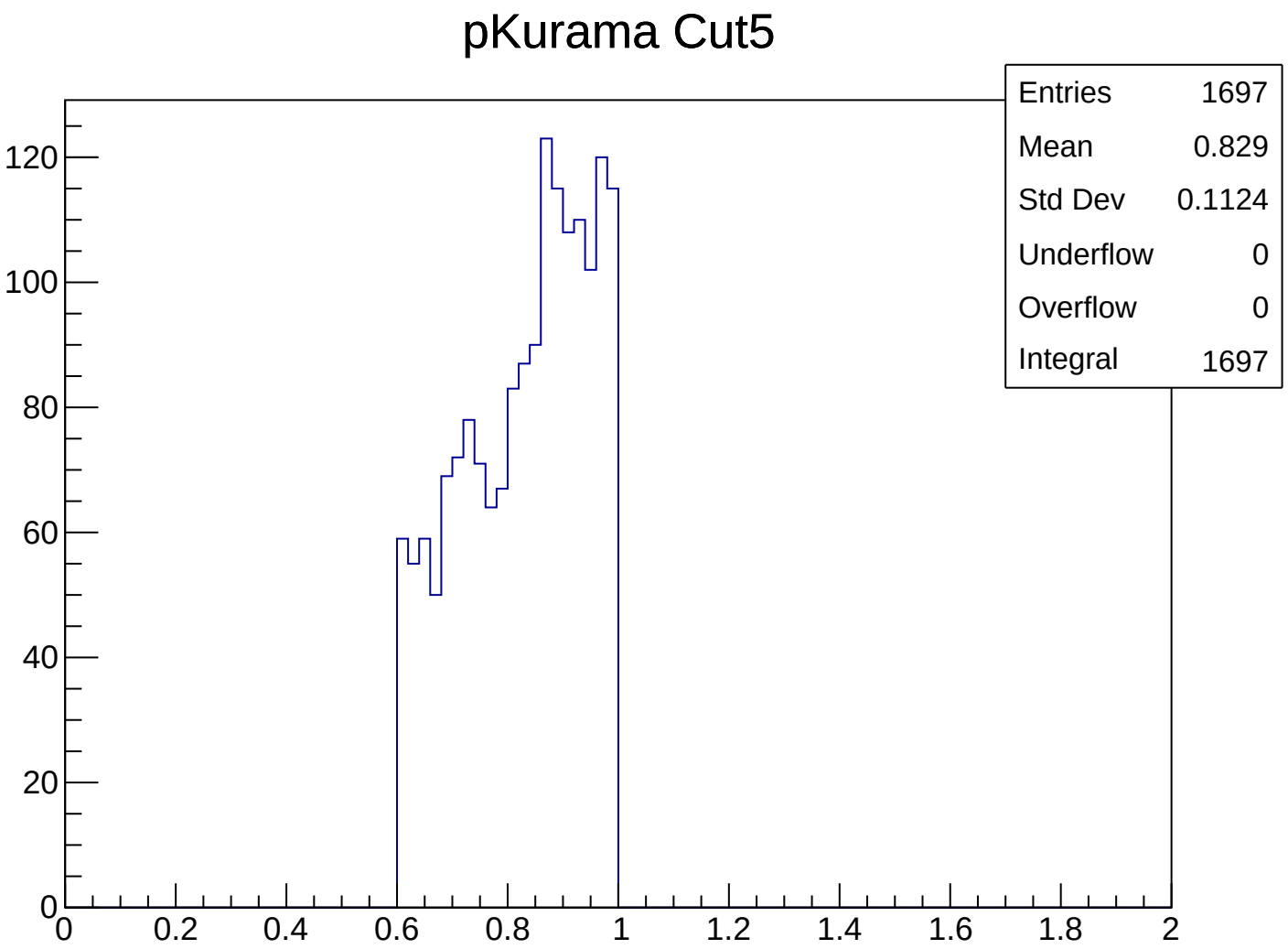

ysacKurama Cut Ver 4
Entries 151
Mean −10.47
Std Dev 85.35
Underflow 0
Overflow 0
Integral 151
9
8
7
6
5
4
3
2
1
0
−400
−300
−200
−100
0
100
200
300
400

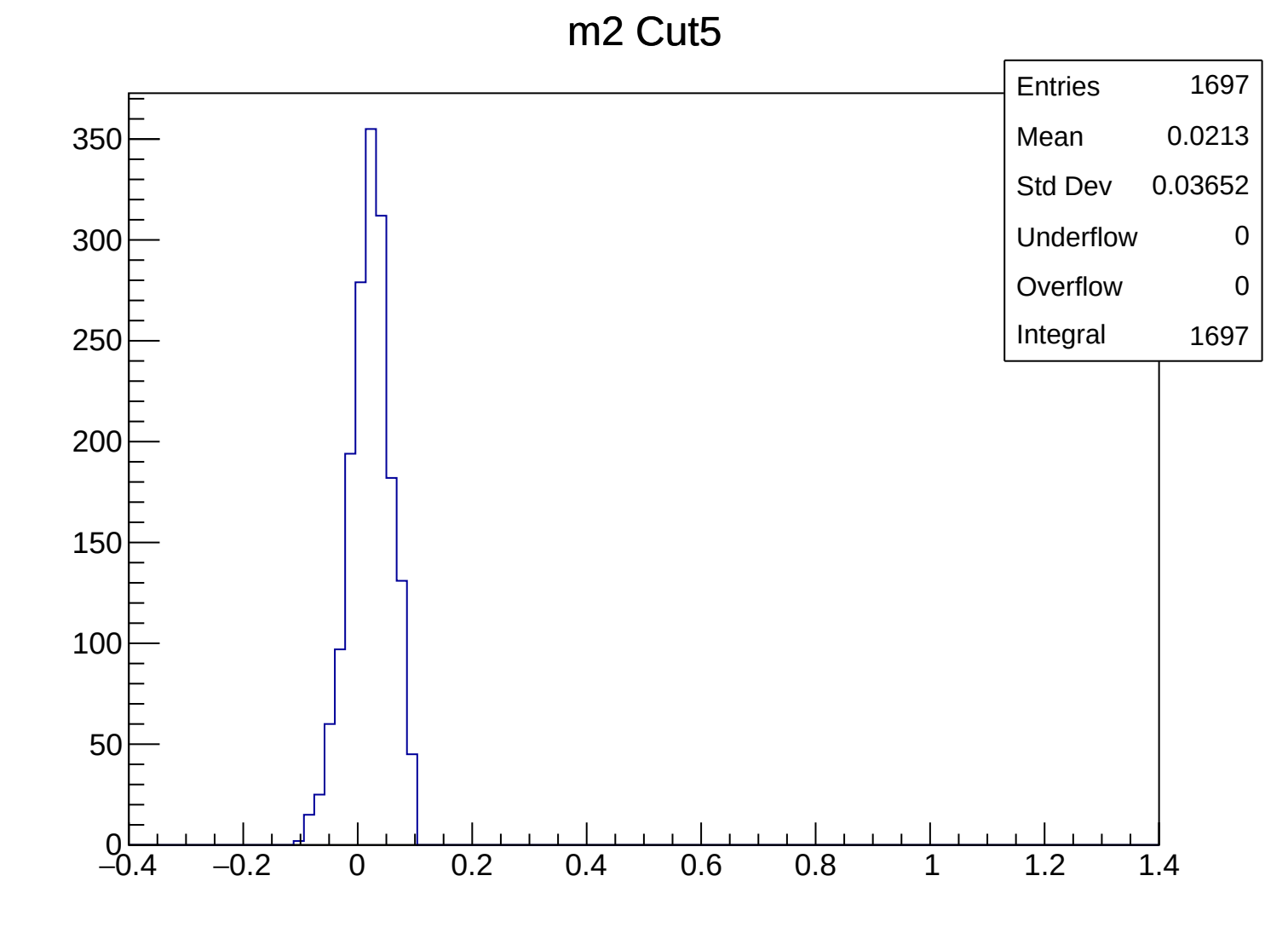

pKurama Cut Ver 4
Entries 151
Mean 0.8194
Std Dev 0.1099
Underflow 0
Overflow 0
Integral 151
0
2
4
6
8
10
12
14
16
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

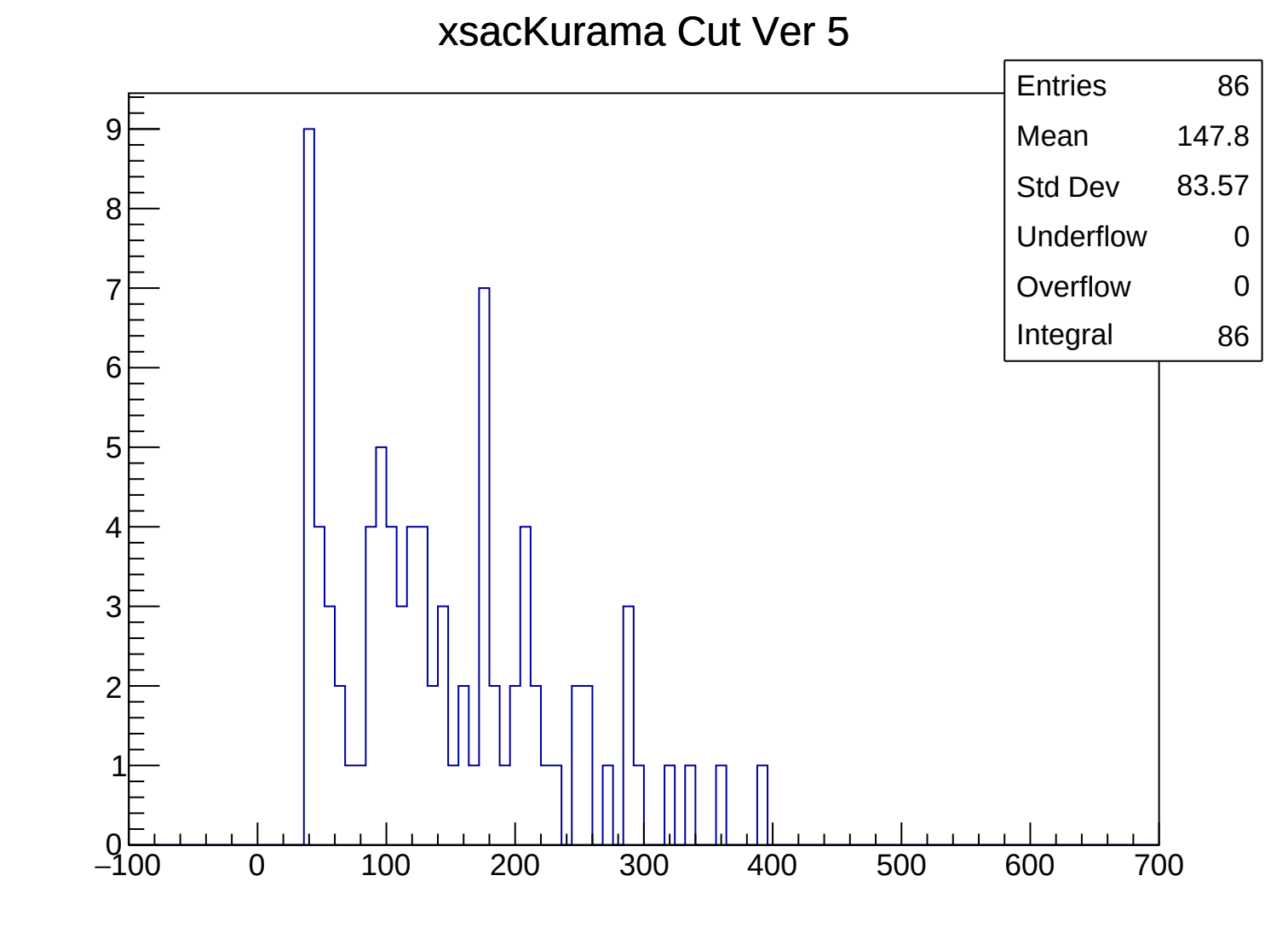

m2 Cut Ver 4
Entries 151
Mean 0.02172
Std Dev 0.03784
Underflow 0
Overflow 0
Integral 151
25
20
15
10
5
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

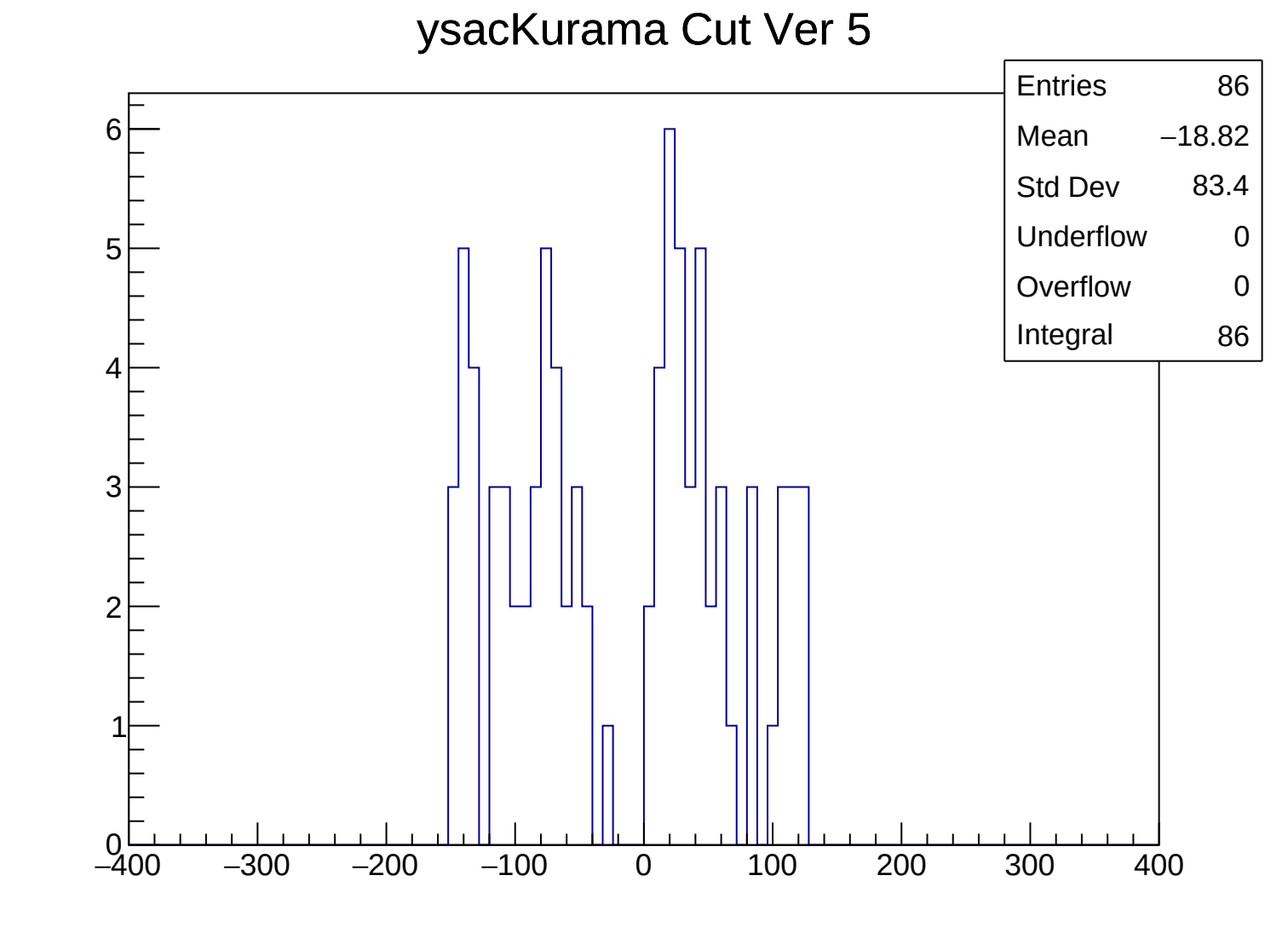

xsacKurama Cut5
Entries 1697
Mean 187.5
Std Dev 91.54
Underflow 0
Overflow 0
Integral 1697
80
70
60
50
40
30
20
10
0
–100
0
100
200
300
400
500
600
700

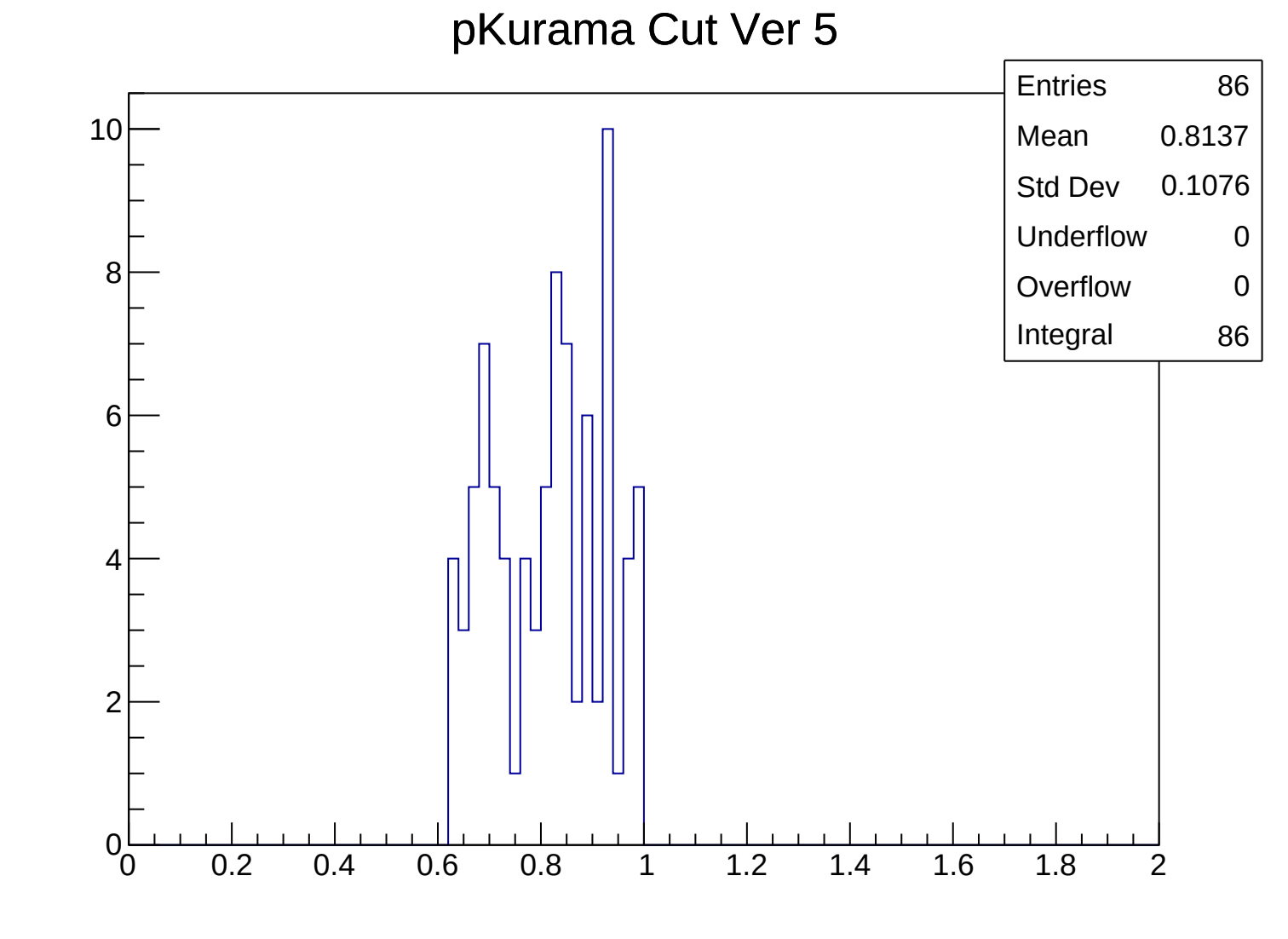

ysacKurama Cut5
Entries 1697
Mean –8.348
Std Dev 86.73
Underflow 0
Overflow 0
Integral 1697
60
50
40
30
20
10
0
–400
–300
–200
–100
0
100
200
300
400

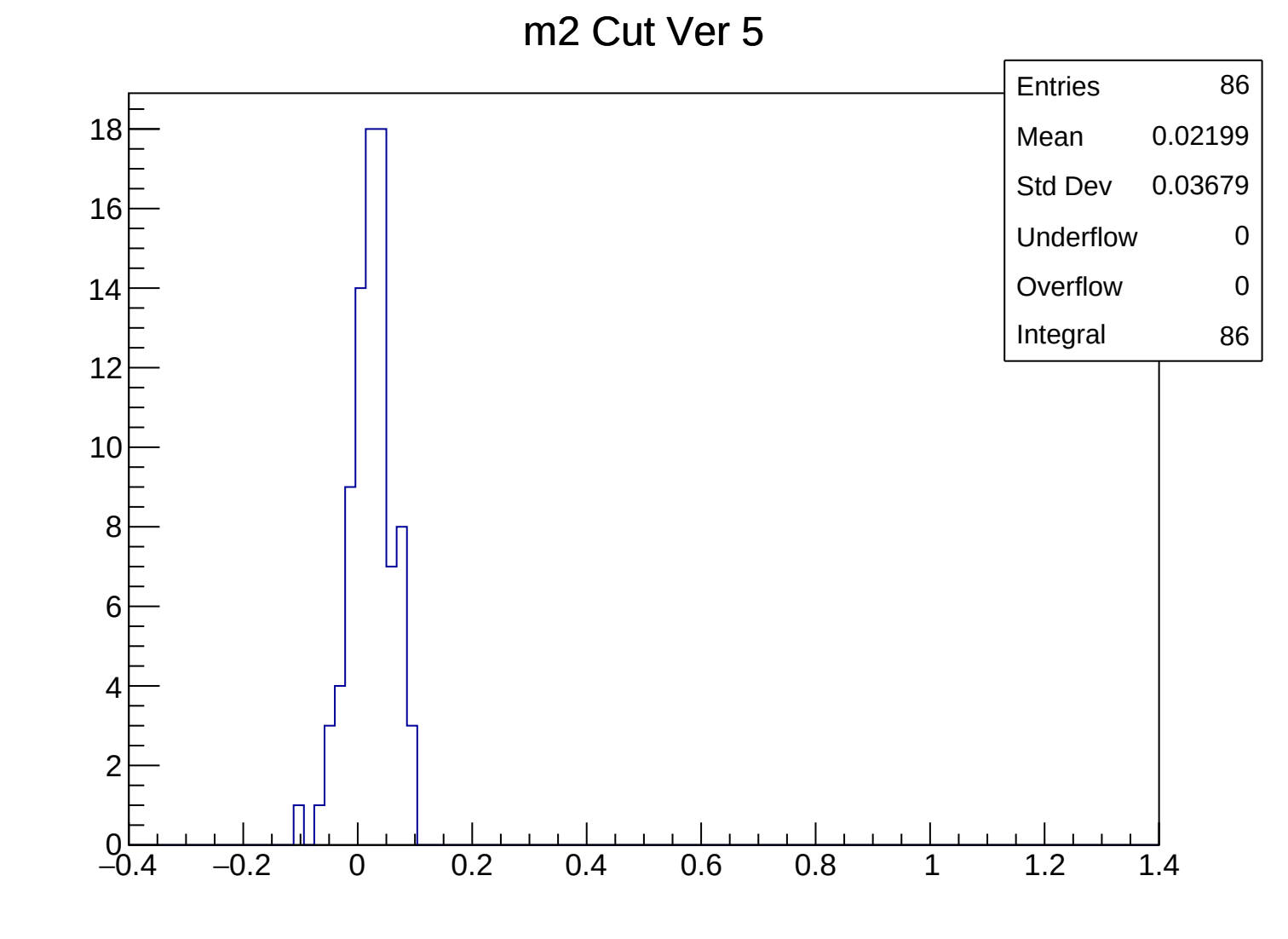

pKurama Cut5
Entries 1697
Mean 0.829
Std Dev 0.1124
Underflow 0
Overflow 0
Integral 1697
120
100
80
60
40
20
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

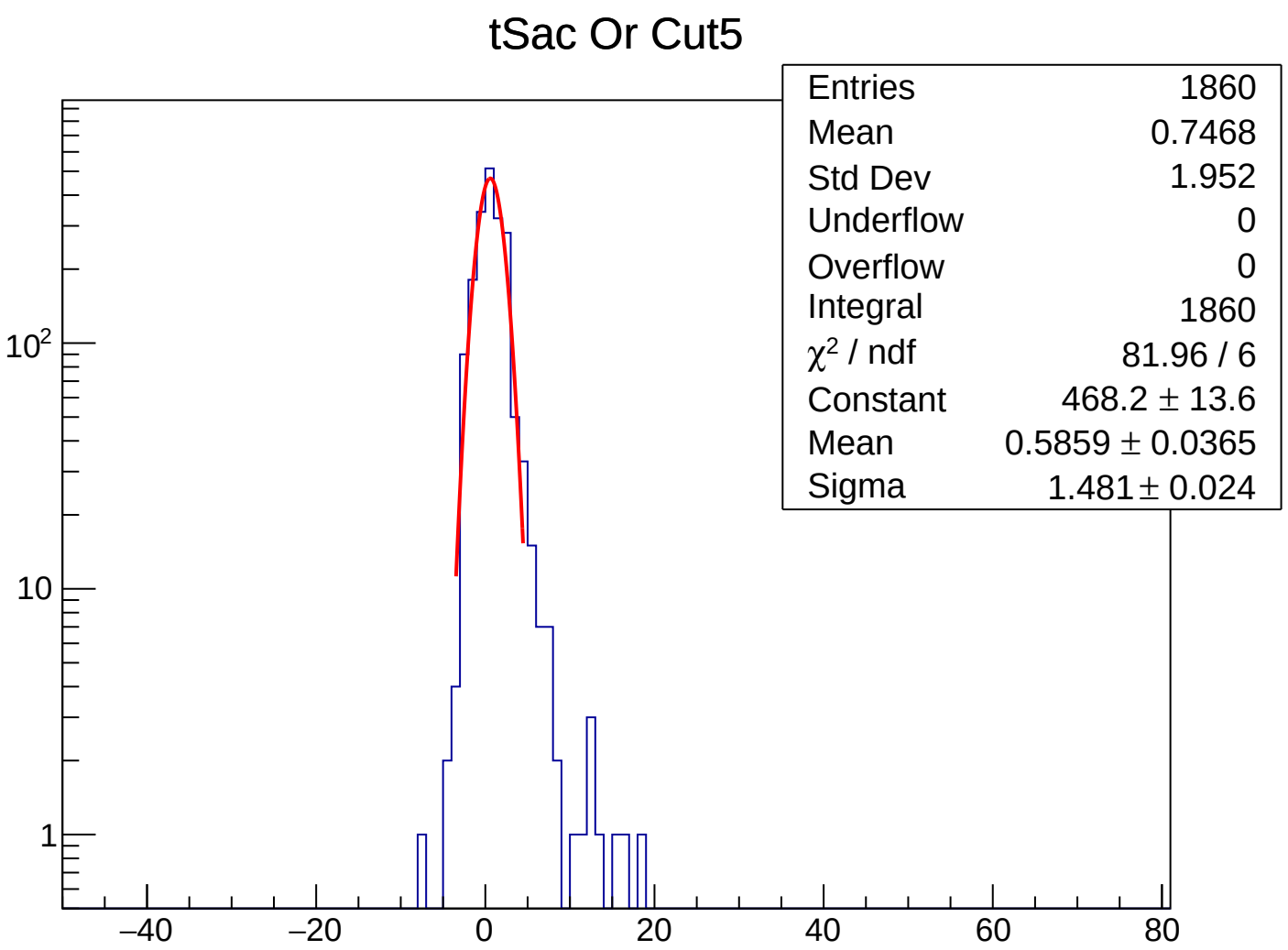

m2 Cut5
Entries 1697
Mean 0.0213
Std Dev 0.03652
Underflow 0
Overflow 0
Integral 1697
350
300
250
200
150
100
50
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

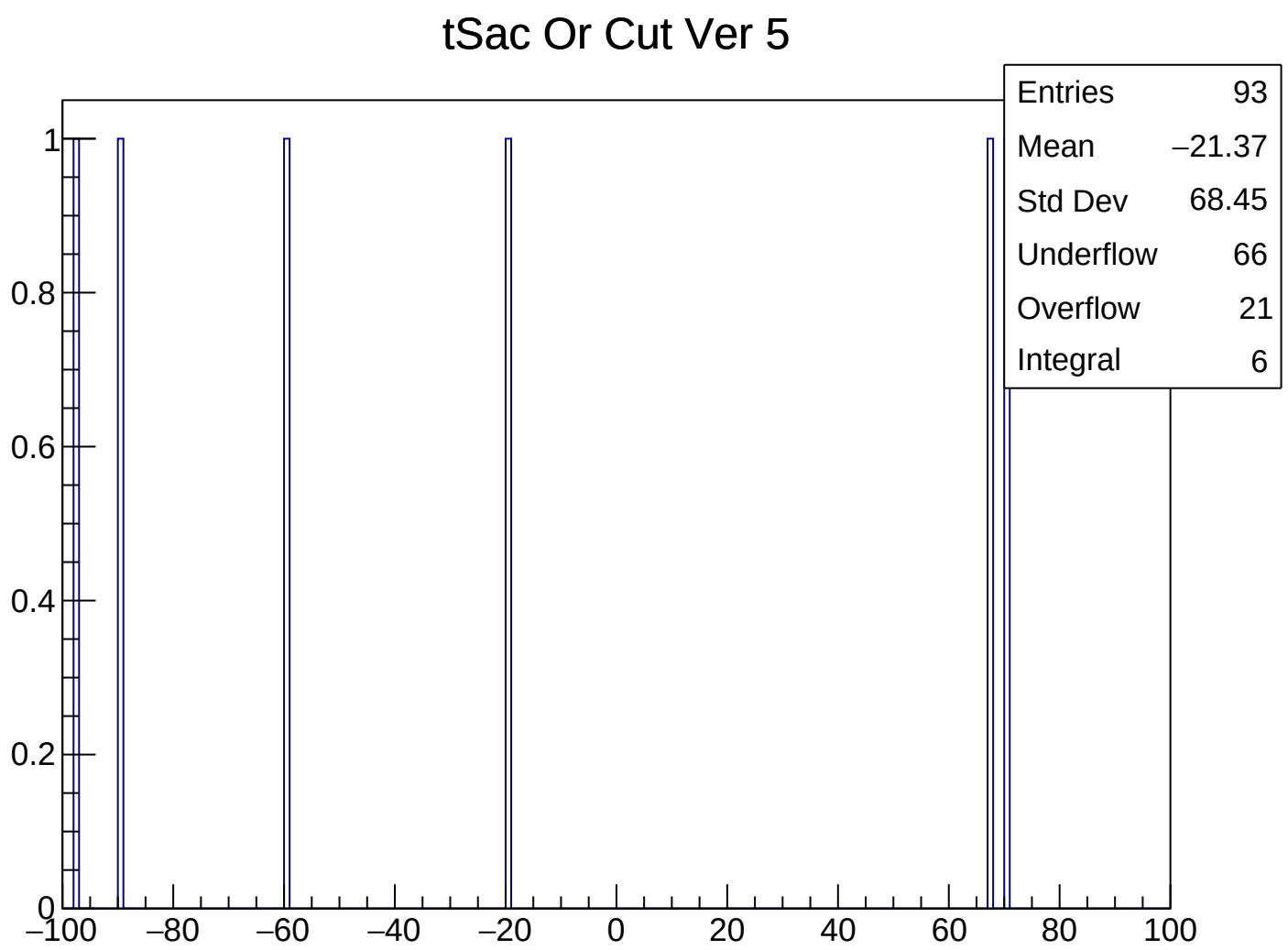

xsacKurama Cut Ver 5
Entries 86
Mean 147.8
Std Dev 83.57
Underflow 0
Overflow 0
Integral 86
0
1
2
3
4
5
6
7
8
9
–100
0
100
200
300
400
500
600
700

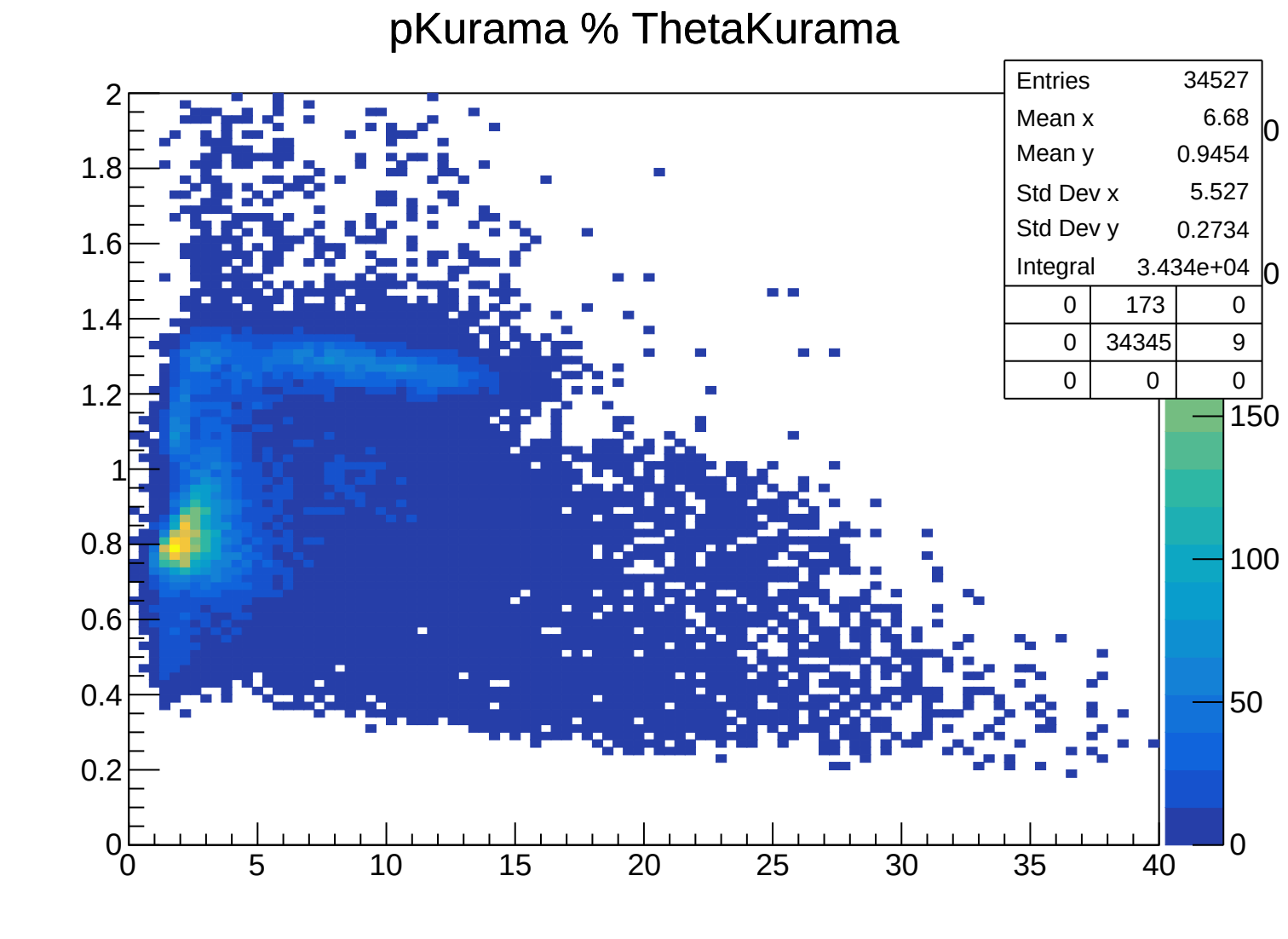

ysacKurama Cut Ver 5
Entries 86
Mean −18.82
Std Dev 83.4
Underflow 0
Overflow 0
Integral 86
6
5
4
3
2
1
0
−400
−300
−200
−100
0
100
200
300
400

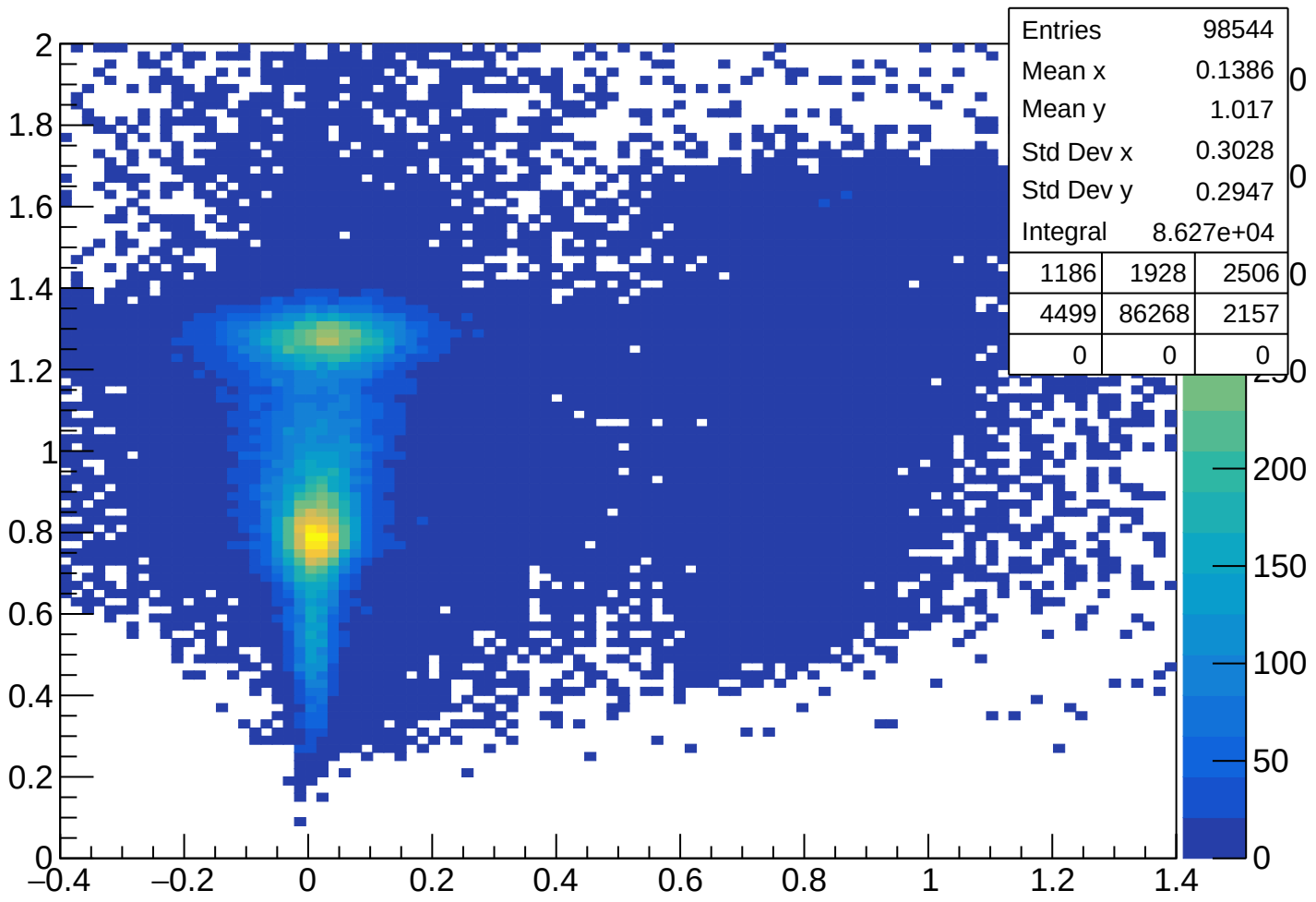

pKurama Cut Ver 5
Entries 86
Mean 0.8137
Std Dev 0.1076
Underflow 0
Overflow 0
Integral 86
10
8
6
4
2
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

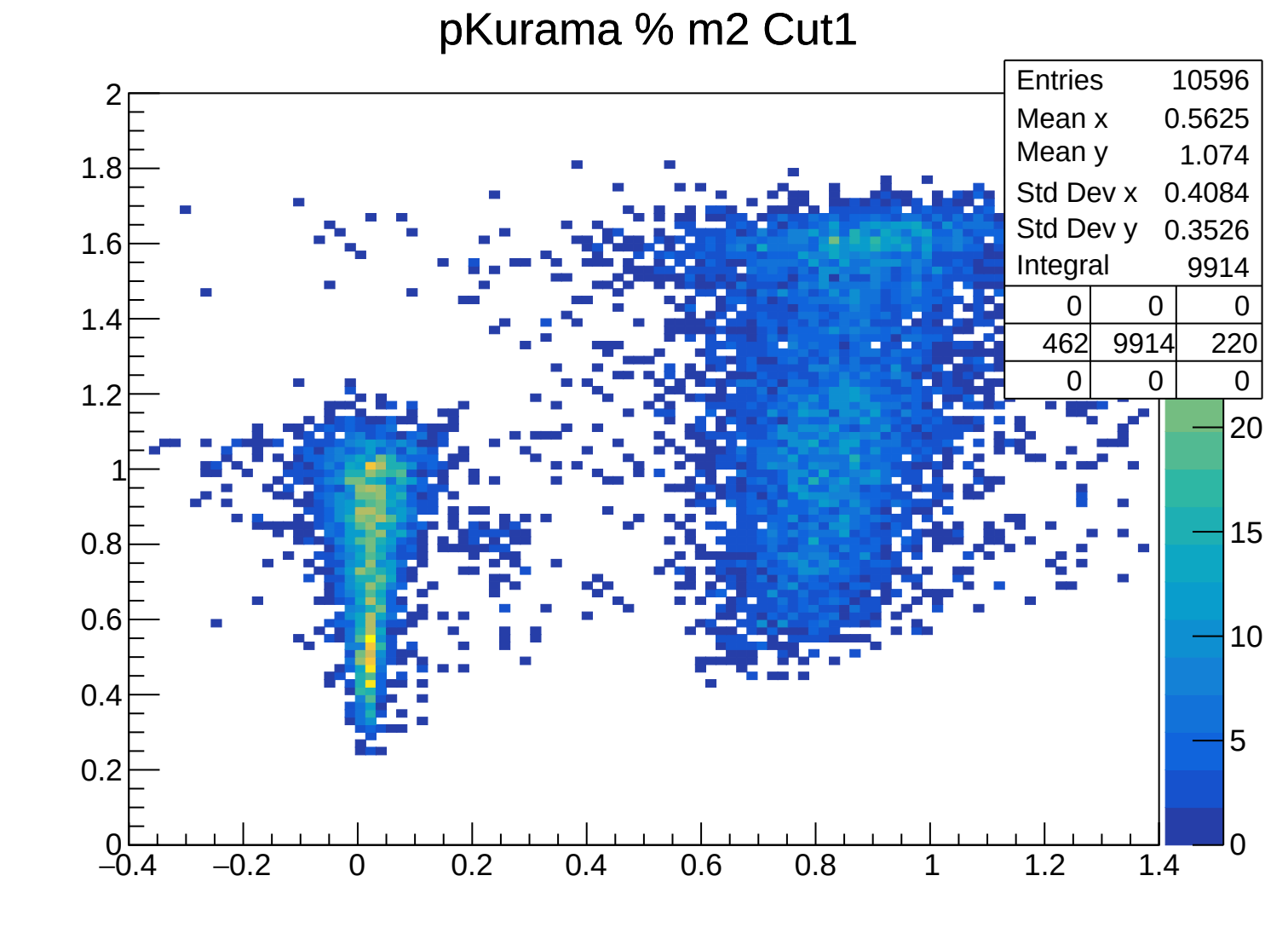

m2 Cut Ver 5
Entries 86
Mean 0.02199
Std Dev 0.03679
Underflow 0
Overflow 0
Integral 86
18
16
14
12
10
8
6
4
2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4

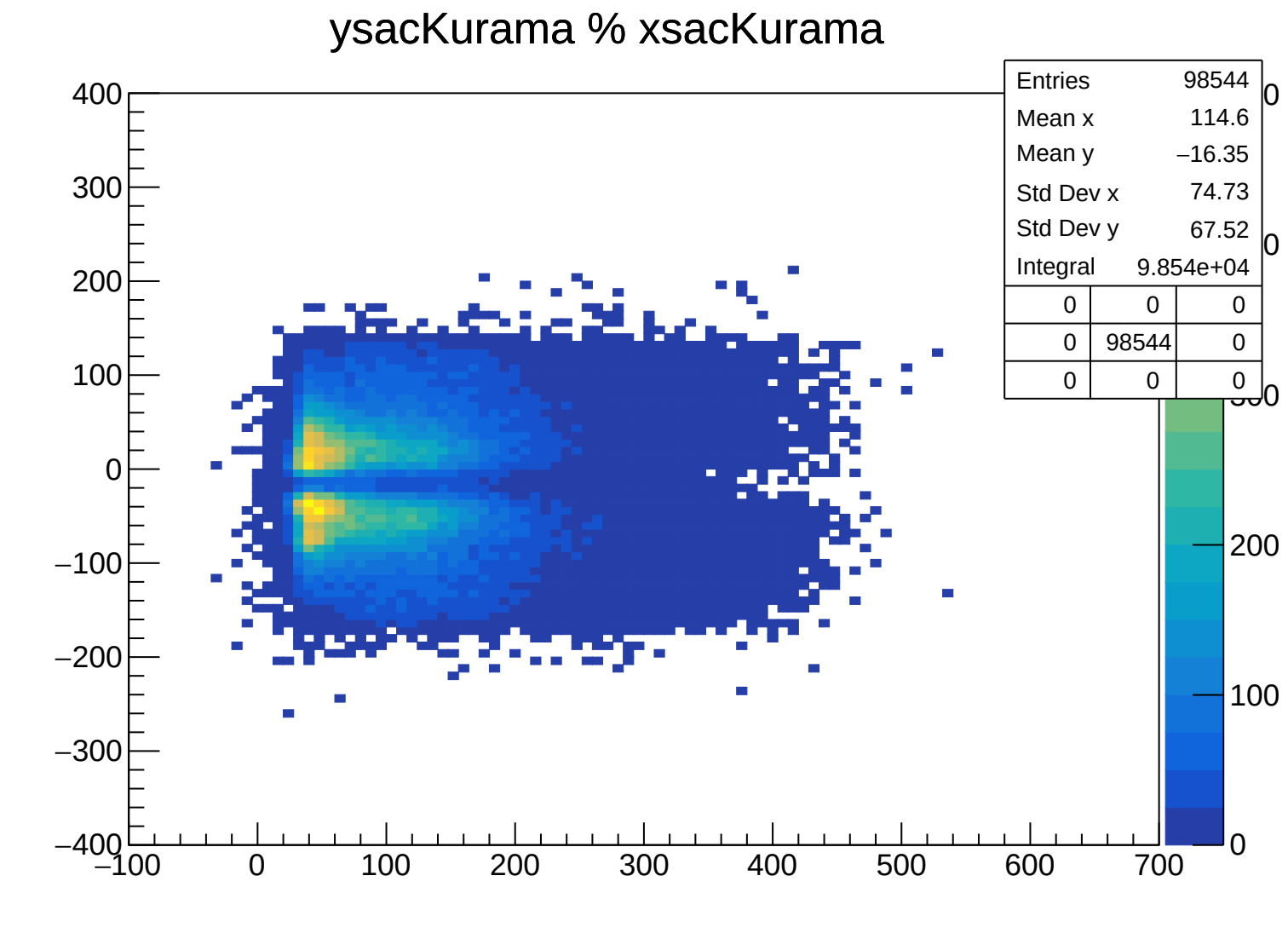

tSac Or Cut5
Entries 1860
Mean 0.7468
Std Dev 1.952
Underflow 0
Overflow 0
Integral 1860
χ² / ndf 81.96 / 6
Constant 468.2 ± 13.6
Mean 0.5859 ± 0.0365
Sigma 1.481 ± 0.024
10²
10
1
–40
–20
0
20
40
60
80

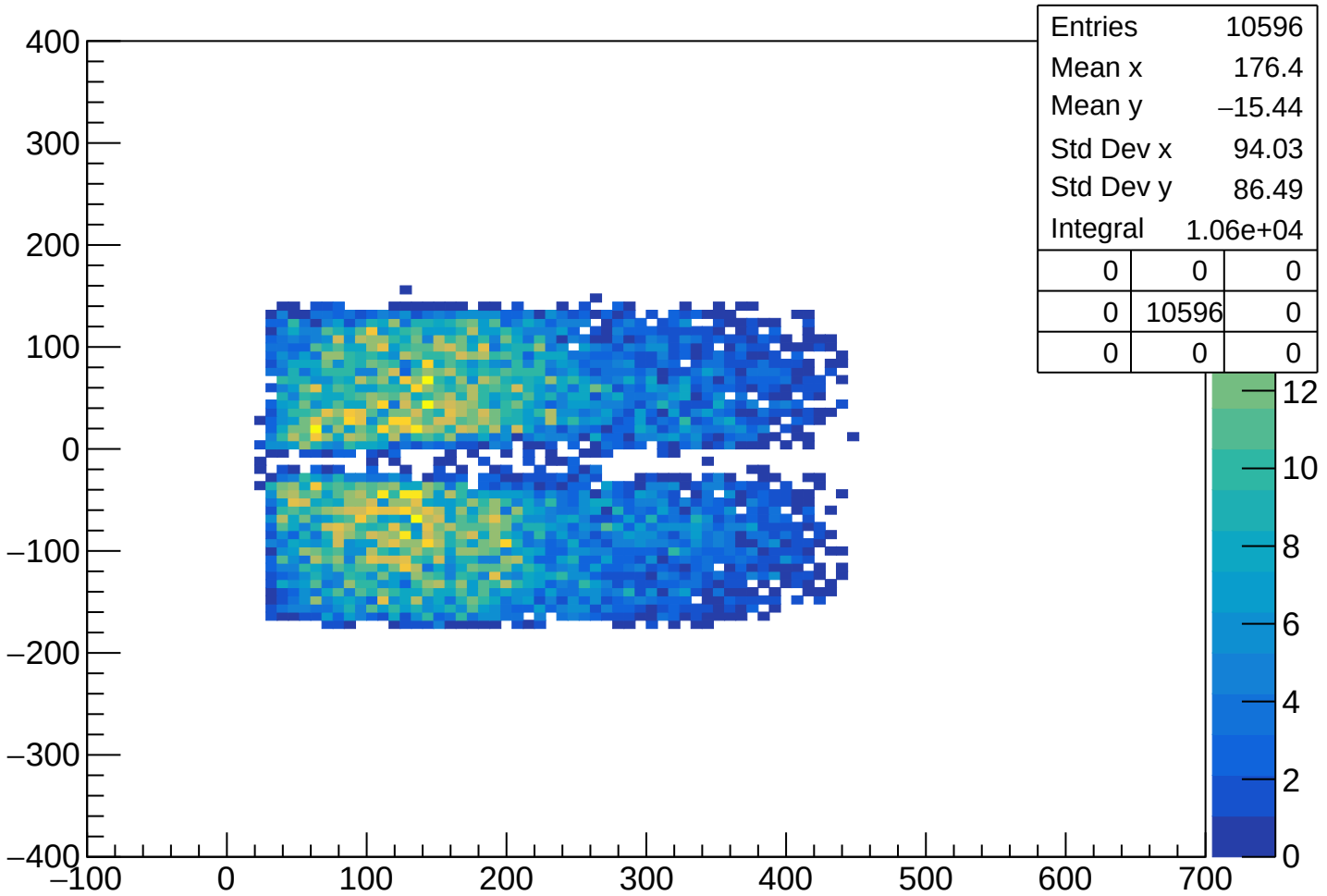

tSac Or Cut Ver 5
Entries 93
Mean −21.37
Std Dev 68.45
Underflow 66
Overflow 21
Integral 6
1
0.8
0.6
0.4
0.2
0
−100
−80
−60
−40
−20
0
20
40
60
80
100

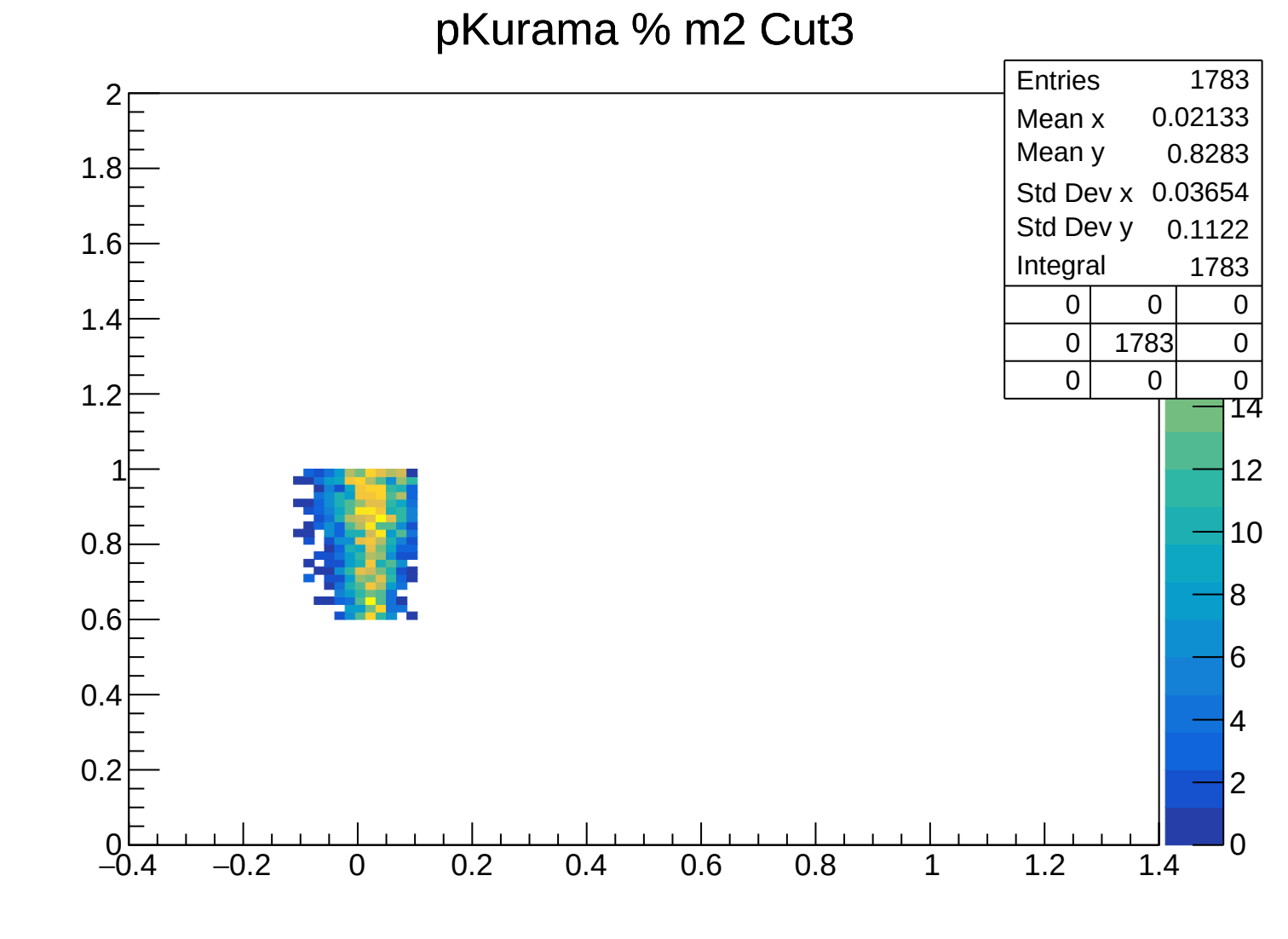

pKurama % ThetaKurama
Entries 34527
Mean x 6.68
Mean y 0.9454
Std Dev x 5.527
Std Dev y 0.2734
Integral 3.434e+04
0 173 0
0 34345 9
0 0 0
0
0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0 5 10 15 20 25 30 35 40
150
100
50
0

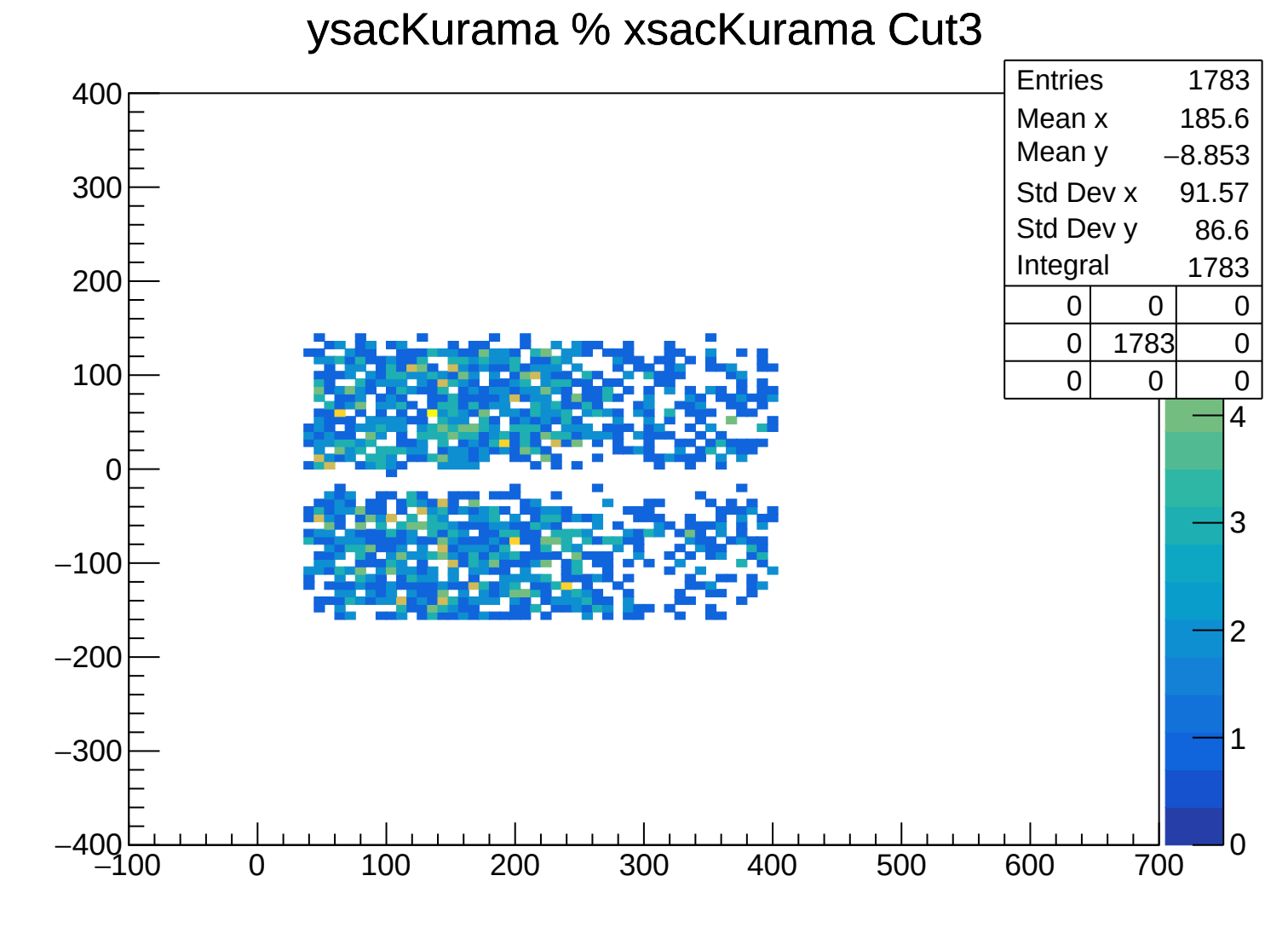

pKurama % m2
Entries 98544
Mean x 0.1386
Mean y 1.017
Std Dev x 0.3028
Std Dev y 0.2947
Integral 8.627e+04
1186 1928 2506
4499 86268 2157
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
200
150
100
50
0

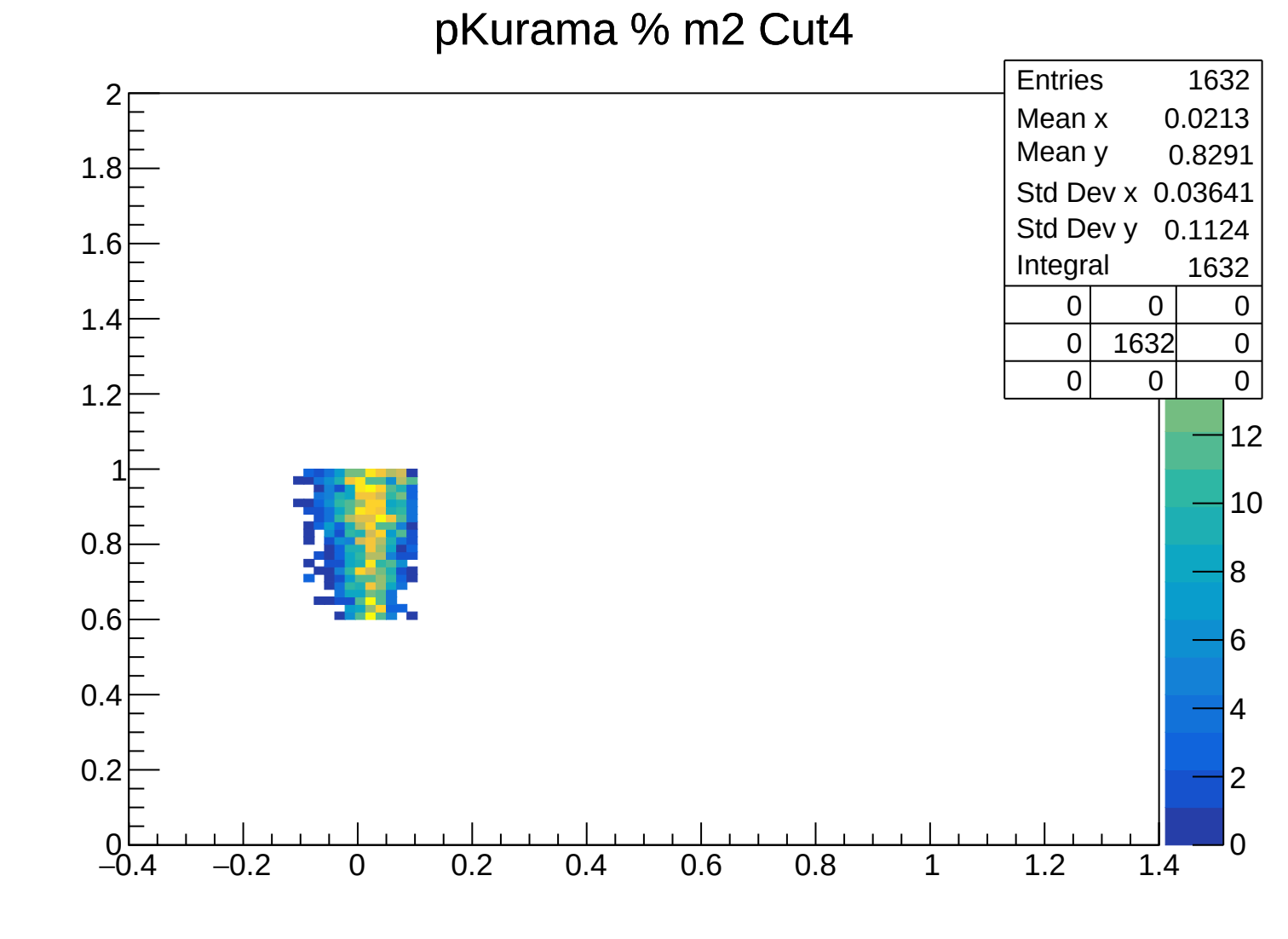

pKurama % m2 Cut1
Entries 10596
Mean x 0.5625
Mean y 1.074
Std Dev x 0.4084
Std Dev y 0.3526
Integral 9914
0 0 0
462 9914 220
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
20
15
10
5
0

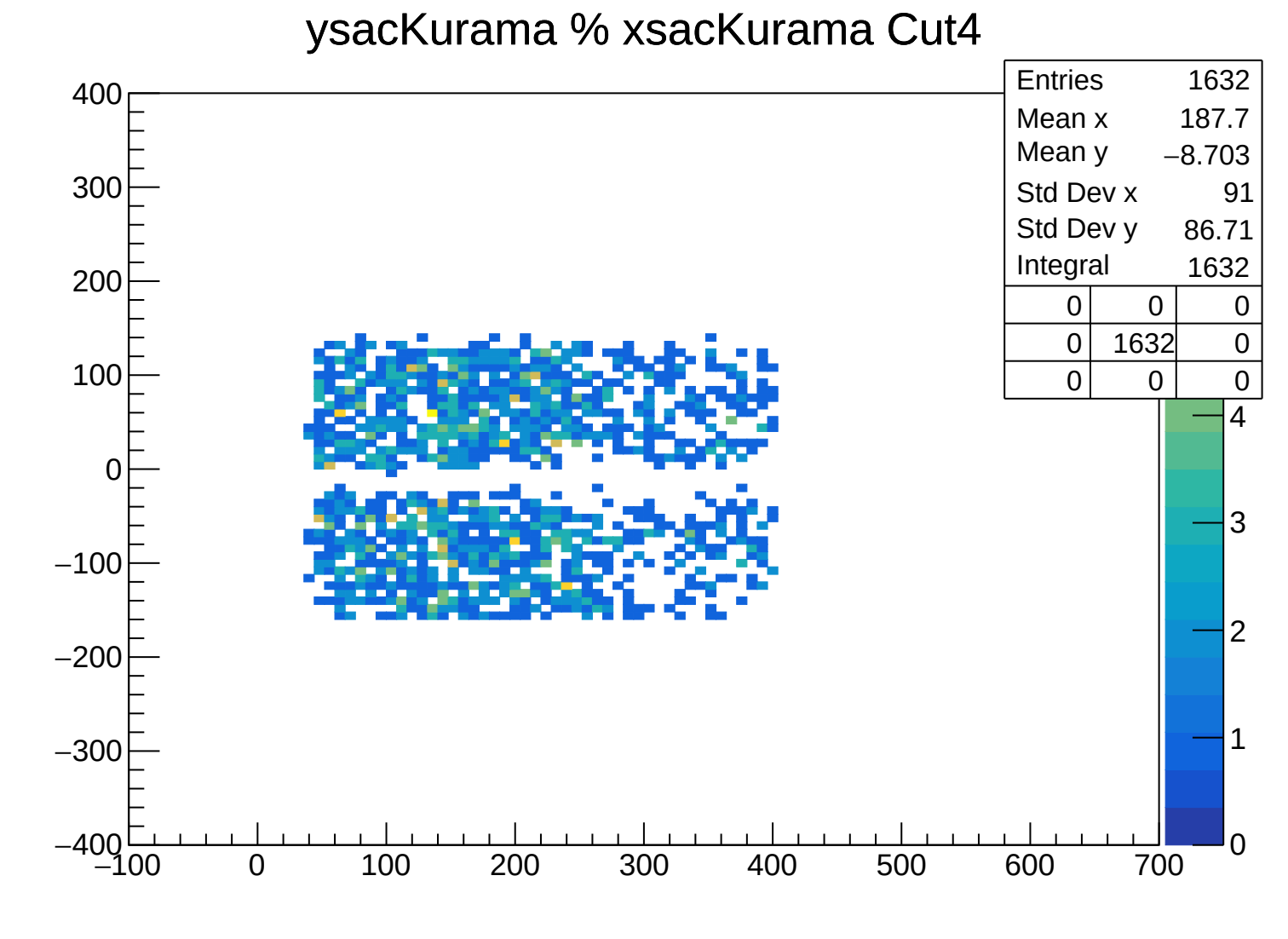

ysacKurama % xsacKurama
Entries 98544
Mean x 114.6
Mean y −16.35
Std Dev x 74.73
Std Dev y 67.52
Integral 9.854e+04
0 0 0
0 98544 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
200
100
0

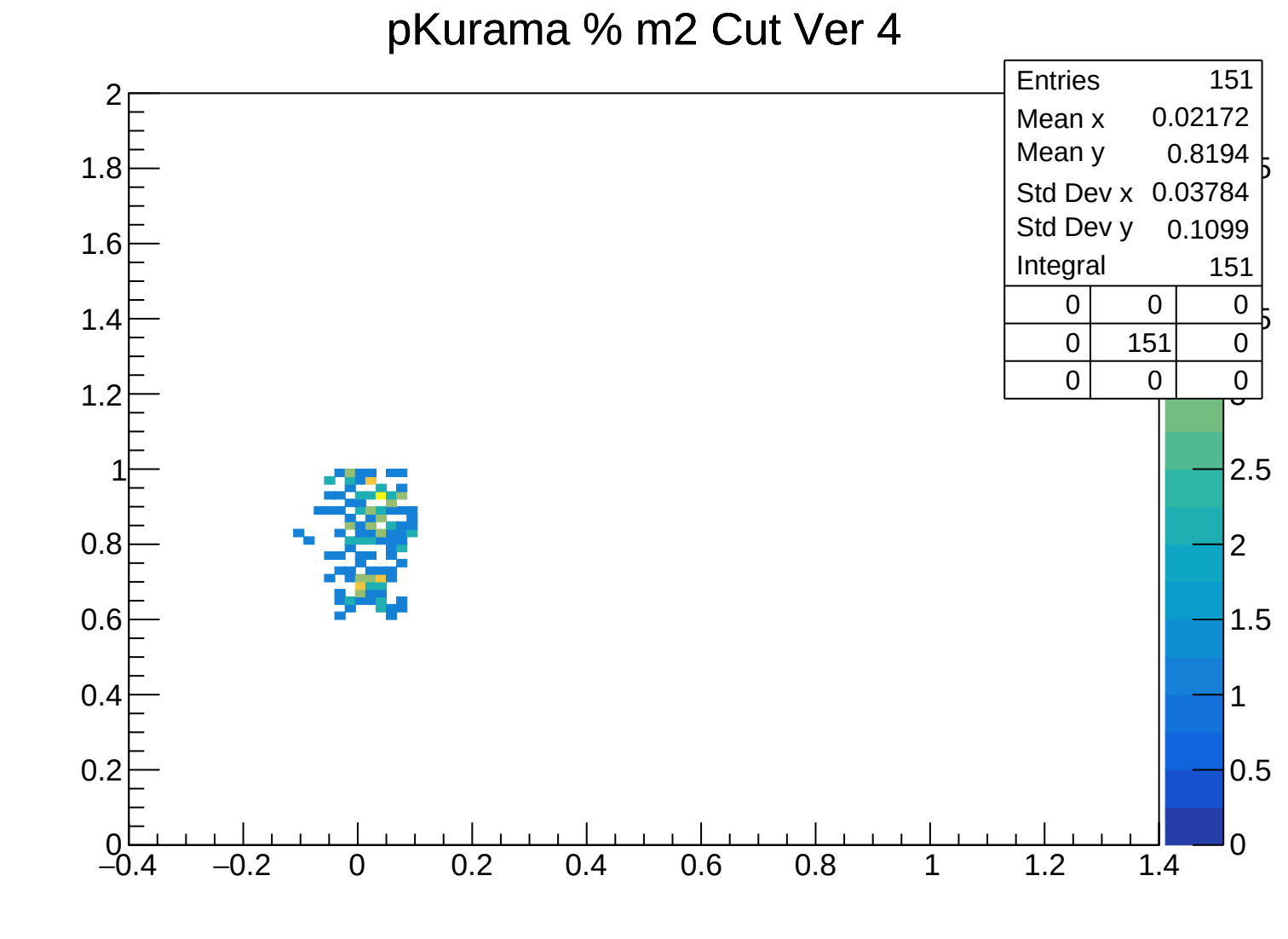

ysacKurama % xsacKurama Cut1
Entries 10596
Mean x 176.4
Mean y −15.44
Std Dev x 94.03
Std Dev y 86.49
Integral 1.06e+04
0 0 0
0 10596 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
12
10
8
6
4
2
0

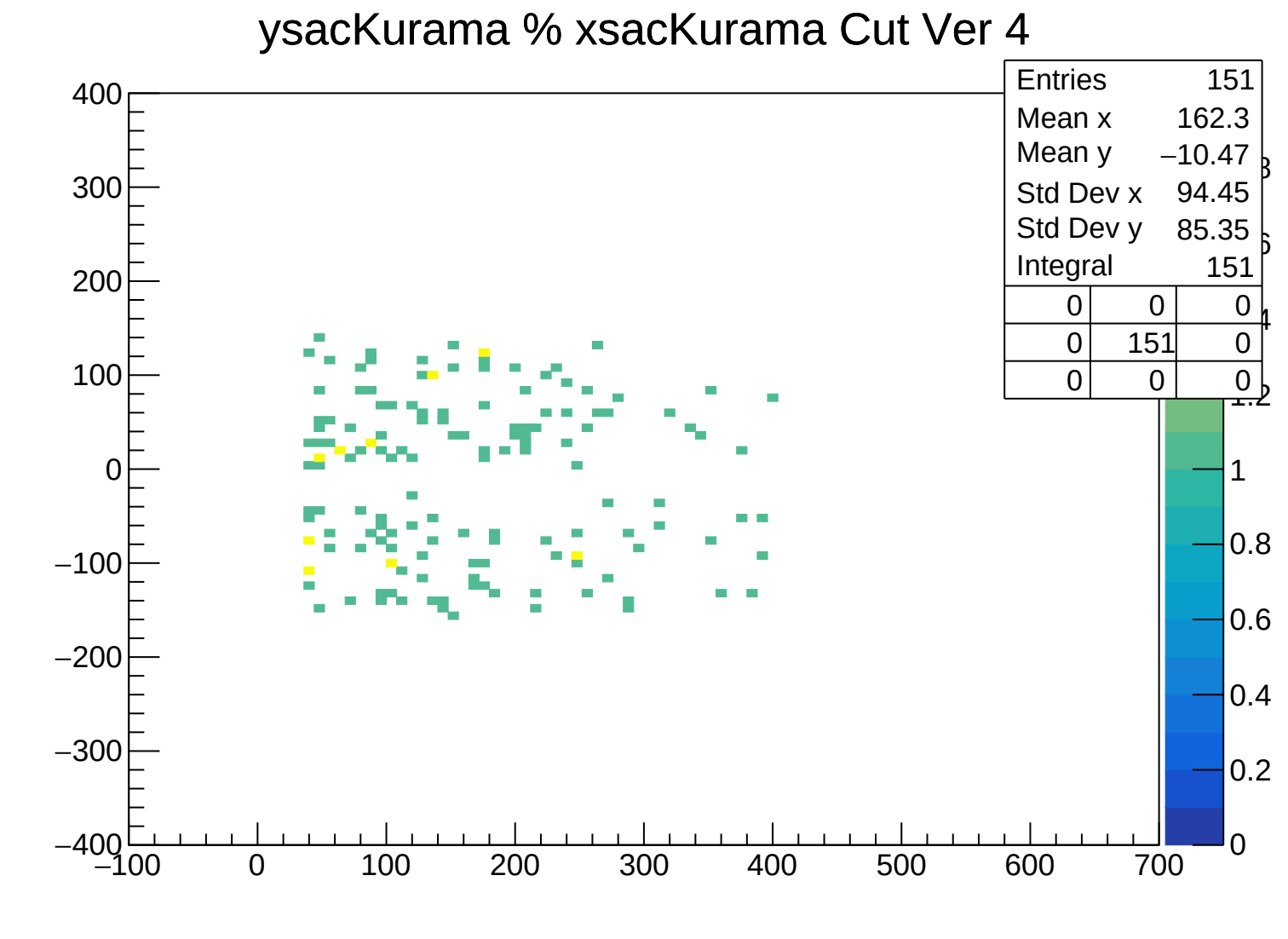

pKurama % m2 Cut3
Entries 1783
Mean x 0.02133
Mean y 0.8283
Std Dev x 0.03654
Std Dev y 0.1122
Integral 1783
0 0 0
0 1783 0
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
14
12
10
8
6
4
2
0

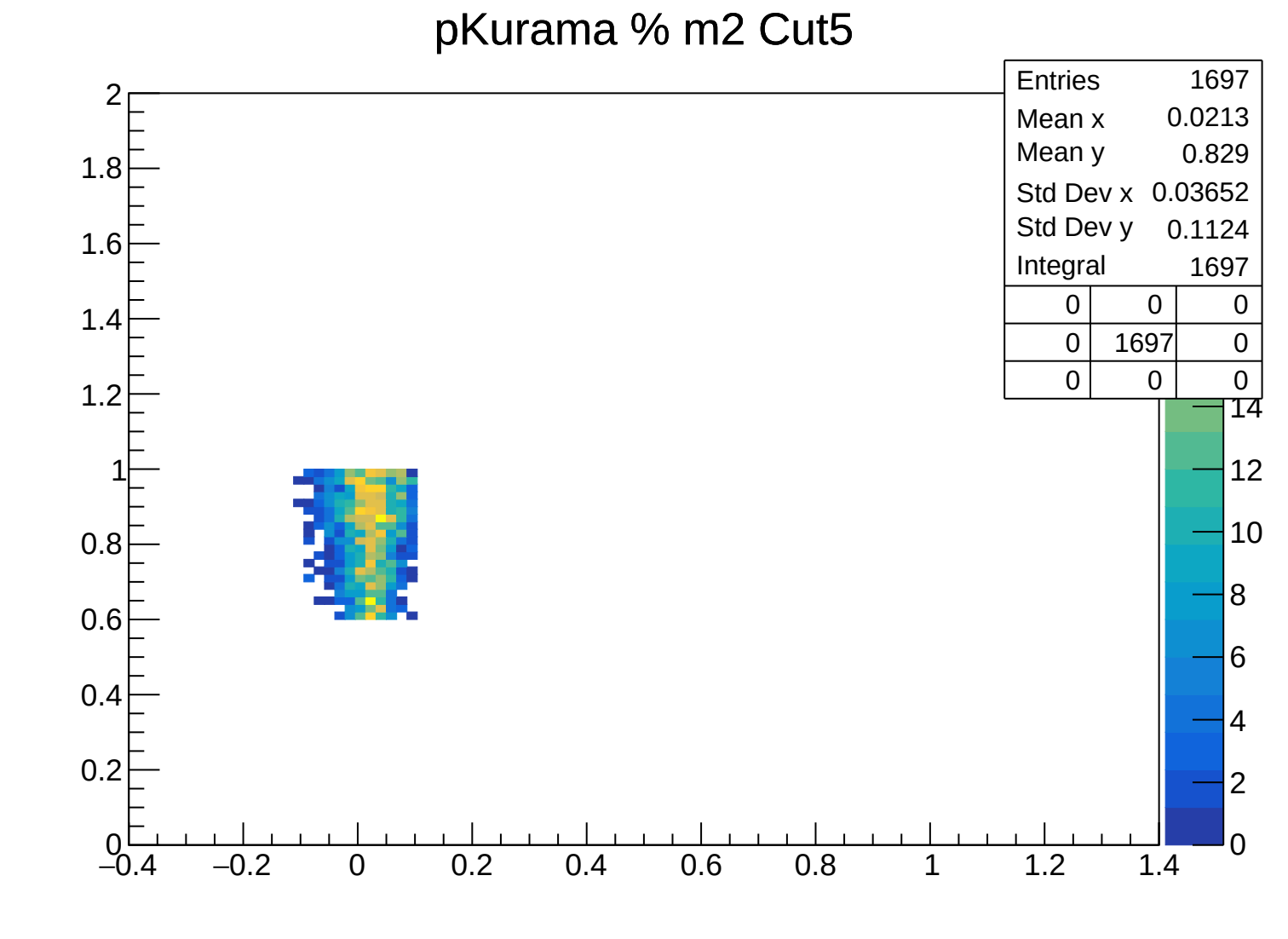

ysacKurama % xsacKurama Cut3
Entries 1783
Mean x 185.6
Mean y −8.853
Std Dev x 91.57
Std Dev y 86.6
Integral 1783
0 0 0
0 1783 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
4
3
2
1
0

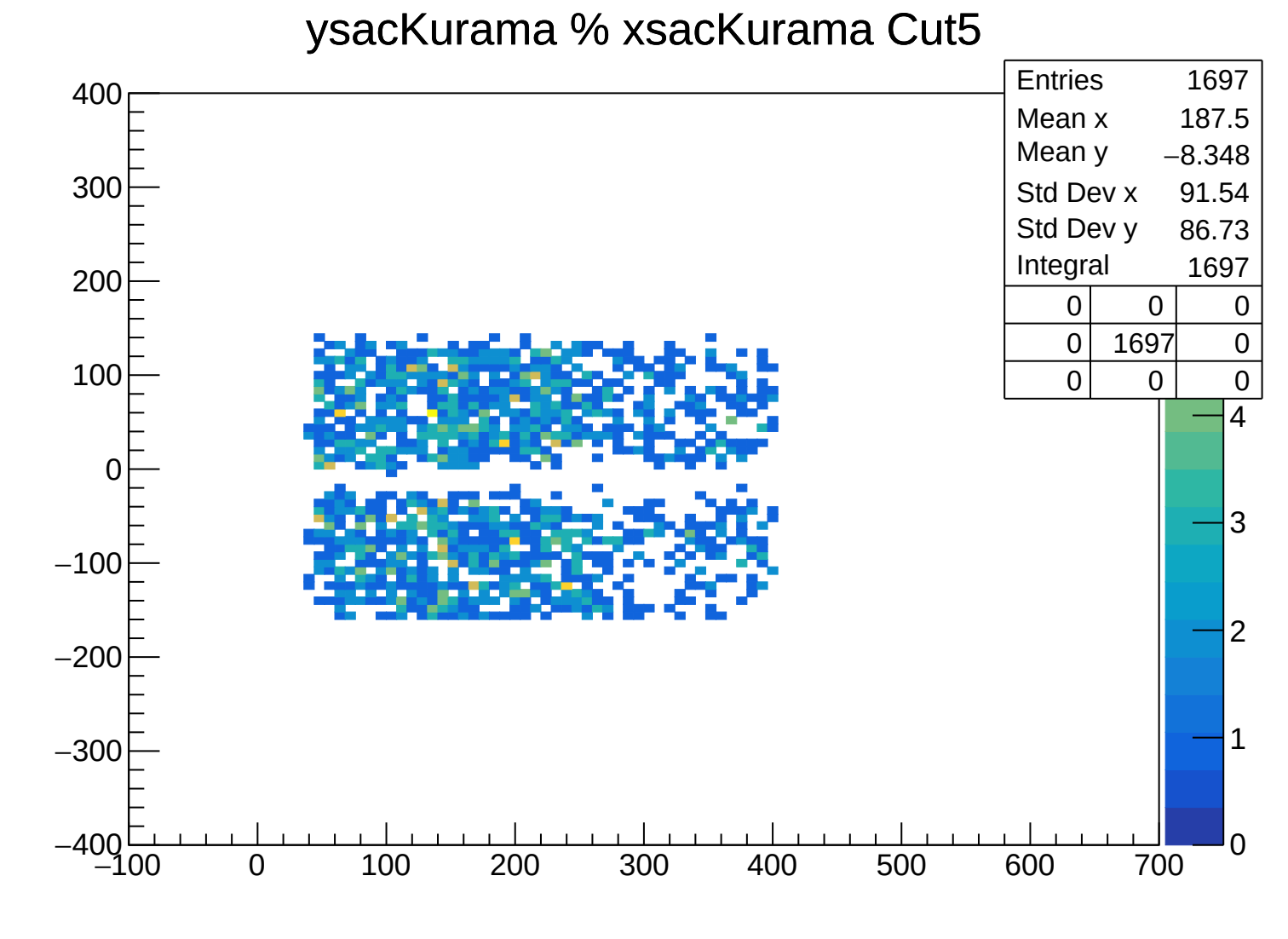

pKurama % m2 Cut4
Entries 1632
Mean x 0.0213
Mean y 0.8291
Std Dev x 0.03641
Std Dev y 0.1124
Integral 1632
0 0 0
0 1632 0
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
12
10
8
6
4
2
0

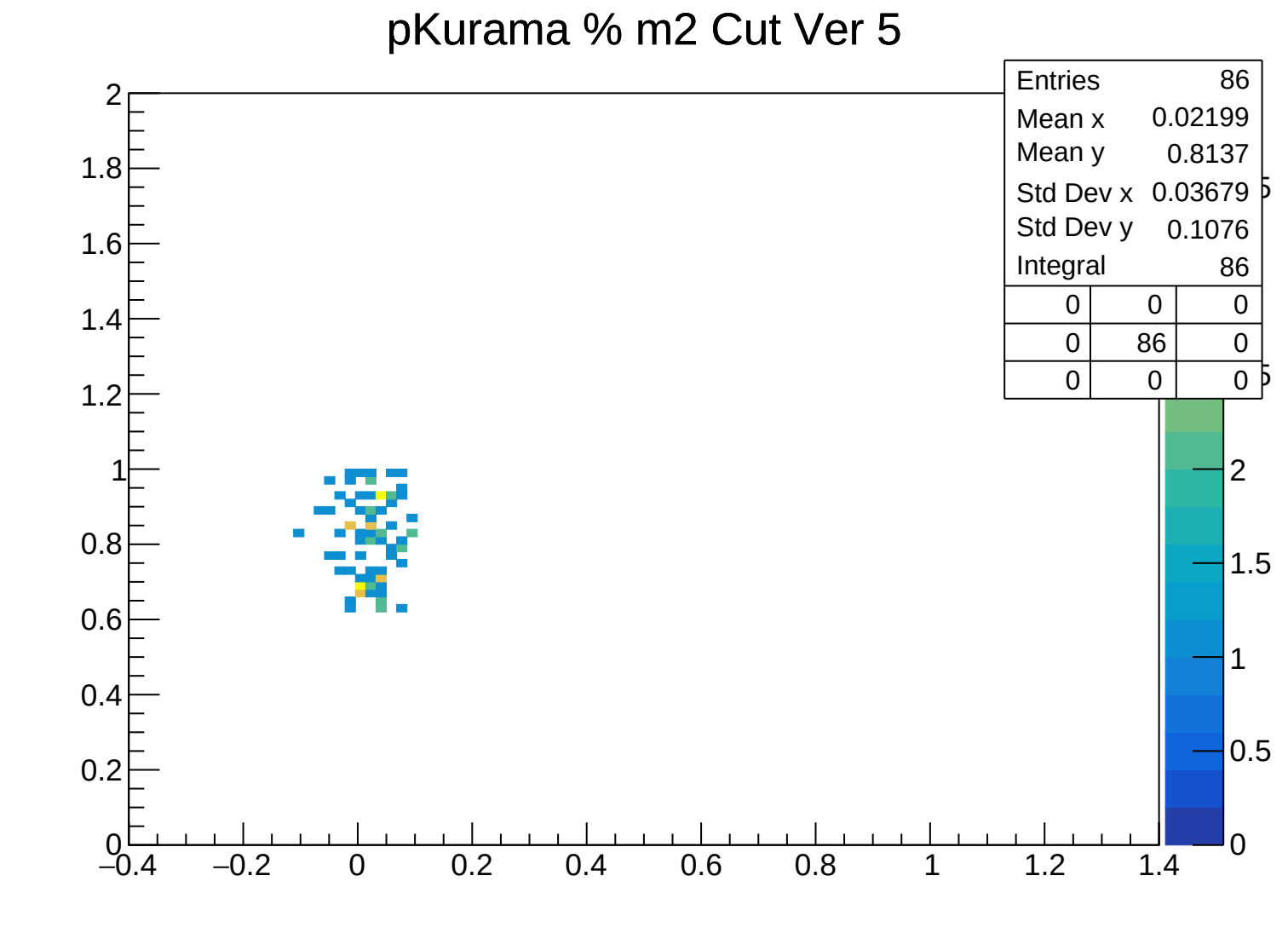

ysacKurama % xsacKurama Cut4
Entries 1632
Mean x 187.7
Mean y −8.703
Std Dev x 91
Std Dev y 86.71
Integral 1632
0 0 0
0 1632 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
4
3
2
1
0

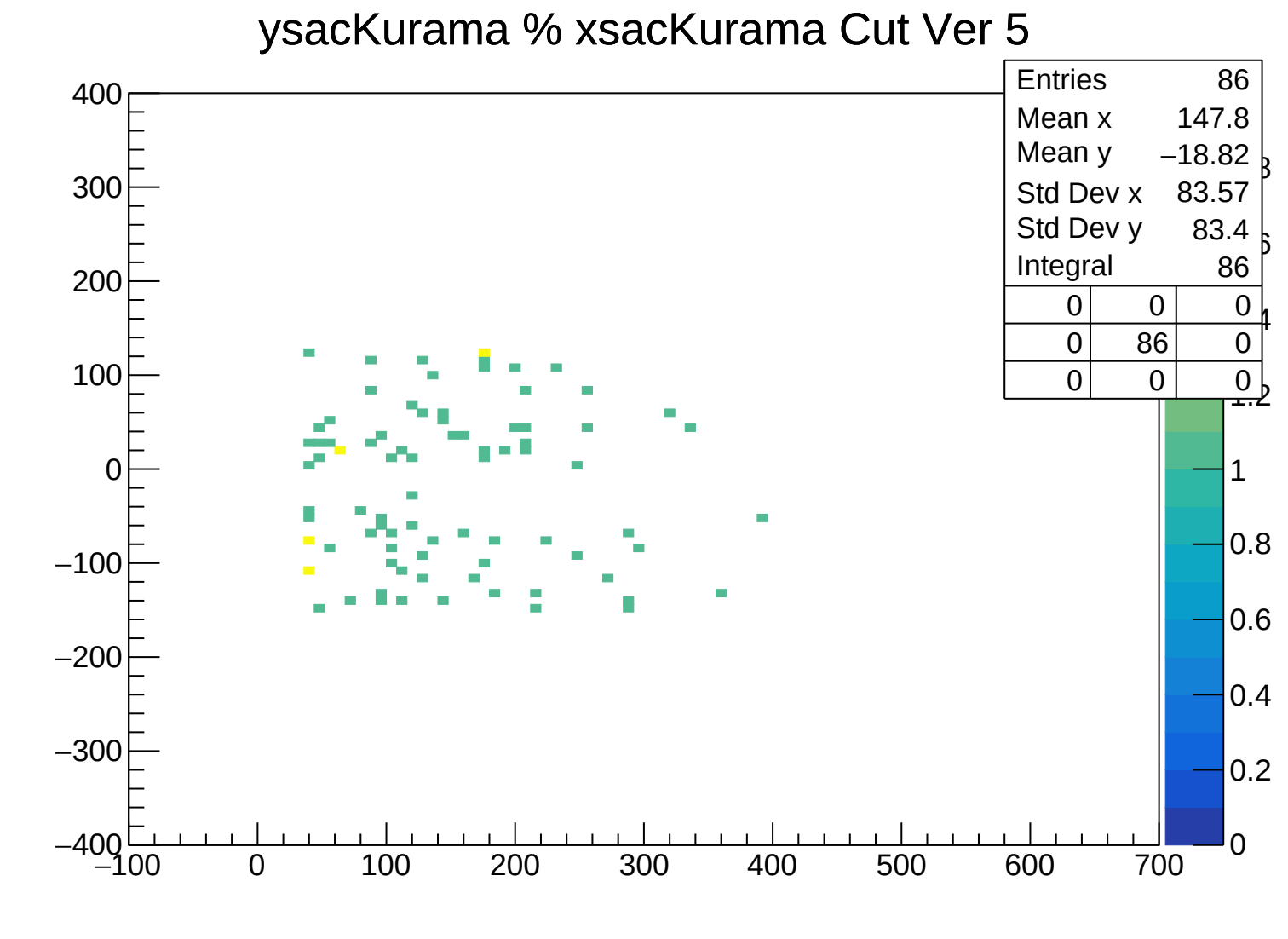

pKurama % m2 Cut Ver 4
Entries 151
Mean x 0.02172
Mean y 0.8194
Std Dev x 0.03784
Std Dev y 0.1099
Integral 151
0 0 0
0 151 0
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
2.5
2
1.5
1
0.5
0


ysacKurama % xsacKurama Cut Ver 4
Entries 151
Mean x 162.3
Mean y −10.47
Std Dev x 94.45
Std Dev y 85.35
Integral 151
0 0 0
0 151 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
1
0.8
0.6
0.4
0.2
0


pKurama % m2 Cut5
Entries 1697
Mean x 0.0213
Mean y 0.829
Std Dev x 0.03652
Std Dev y 0.1124
Integral 1697
0 0 0
0 1697 0
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
14
12
10
8
6
4
2
0


ysacKurama % xsacKurama Cut5
Entries 1697
Mean x 187.5
Mean y −8.348
Std Dev x 91.54
Std Dev y 86.73
Integral 1697
0 0 0
0 1697 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
4
3
2
1
0


pKurama % m2 Cut Ver 5
Entries 86
Mean x 0.02199
Mean y 0.8137
Std Dev x 0.03679
Std Dev y 0.1076
Integral 86
0 0 0
0 86 0
0 0 0
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
1.2
1.4
2
1.5
1
0.5
0


ysacKurama % xsacKurama Cut Ver 5
Entries 86
Mean x 147.8
Mean y −18.82
Std Dev x 83.57
Std Dev y 83.4
Integral 86
0 0 0
0 86 0
0 0 0
400
300
200
100
0
−100
−200
−300
−400
−100
0
100
200
300
400
500
600
700
1
0.8
0.6
0.4
0.2
0