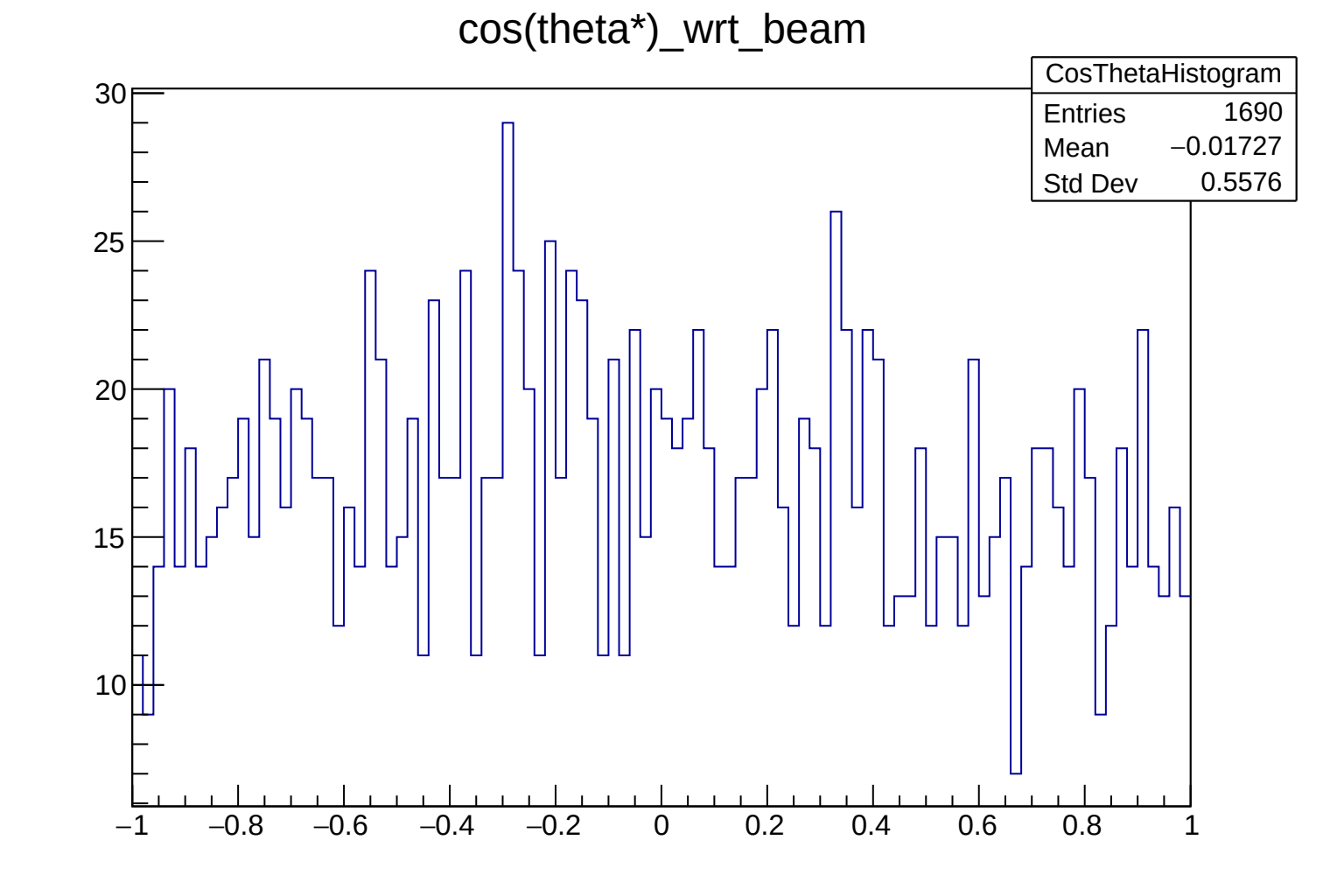
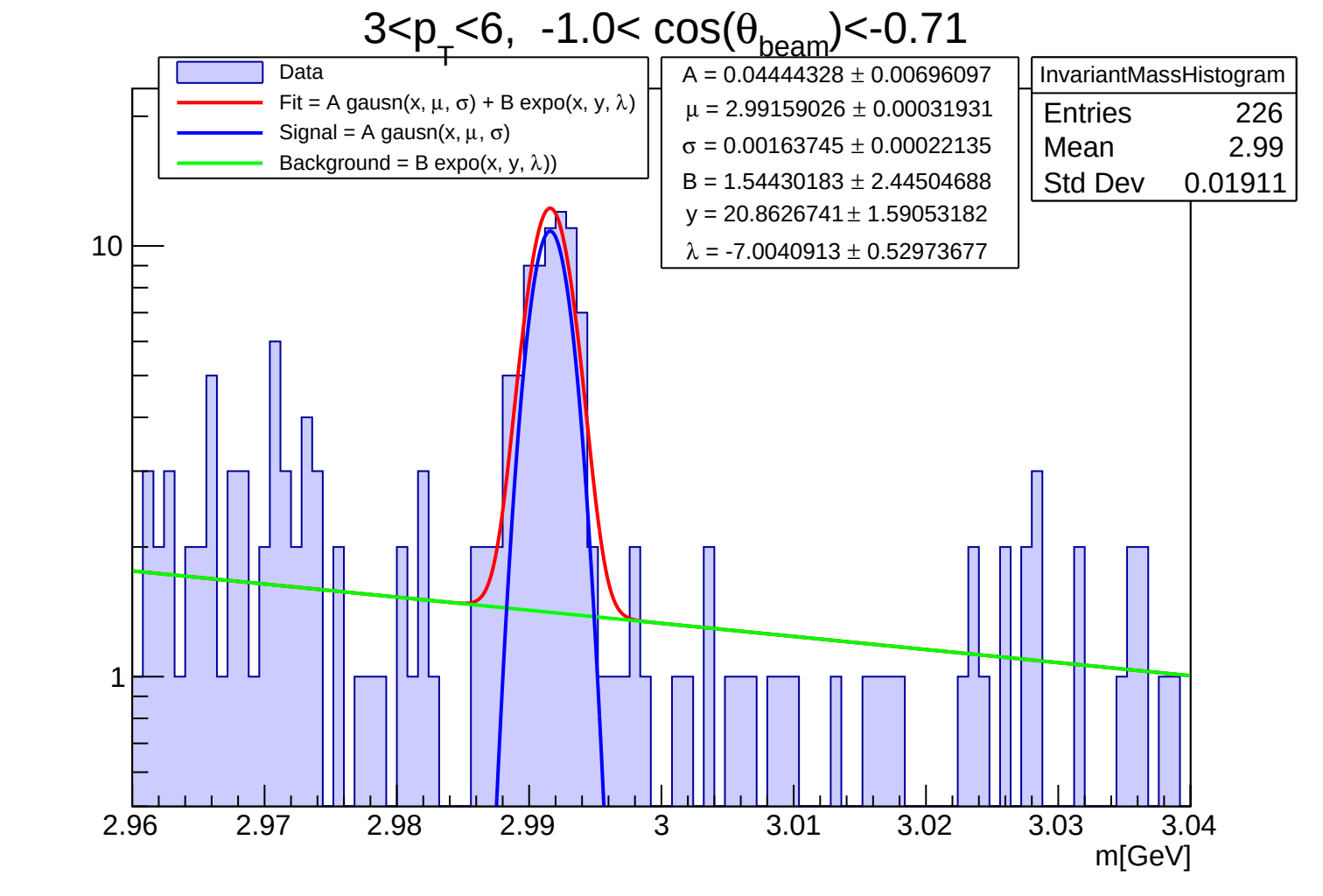
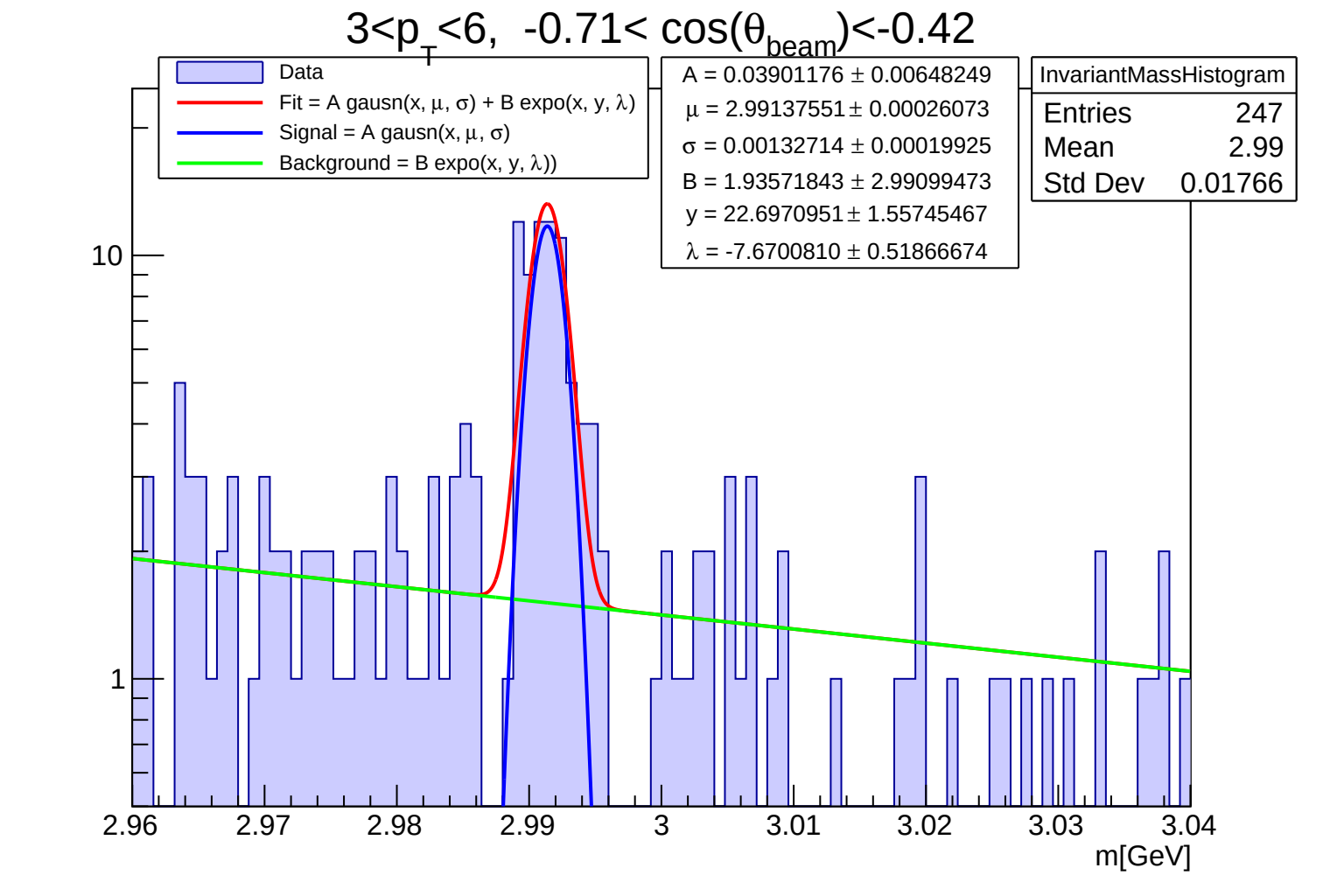
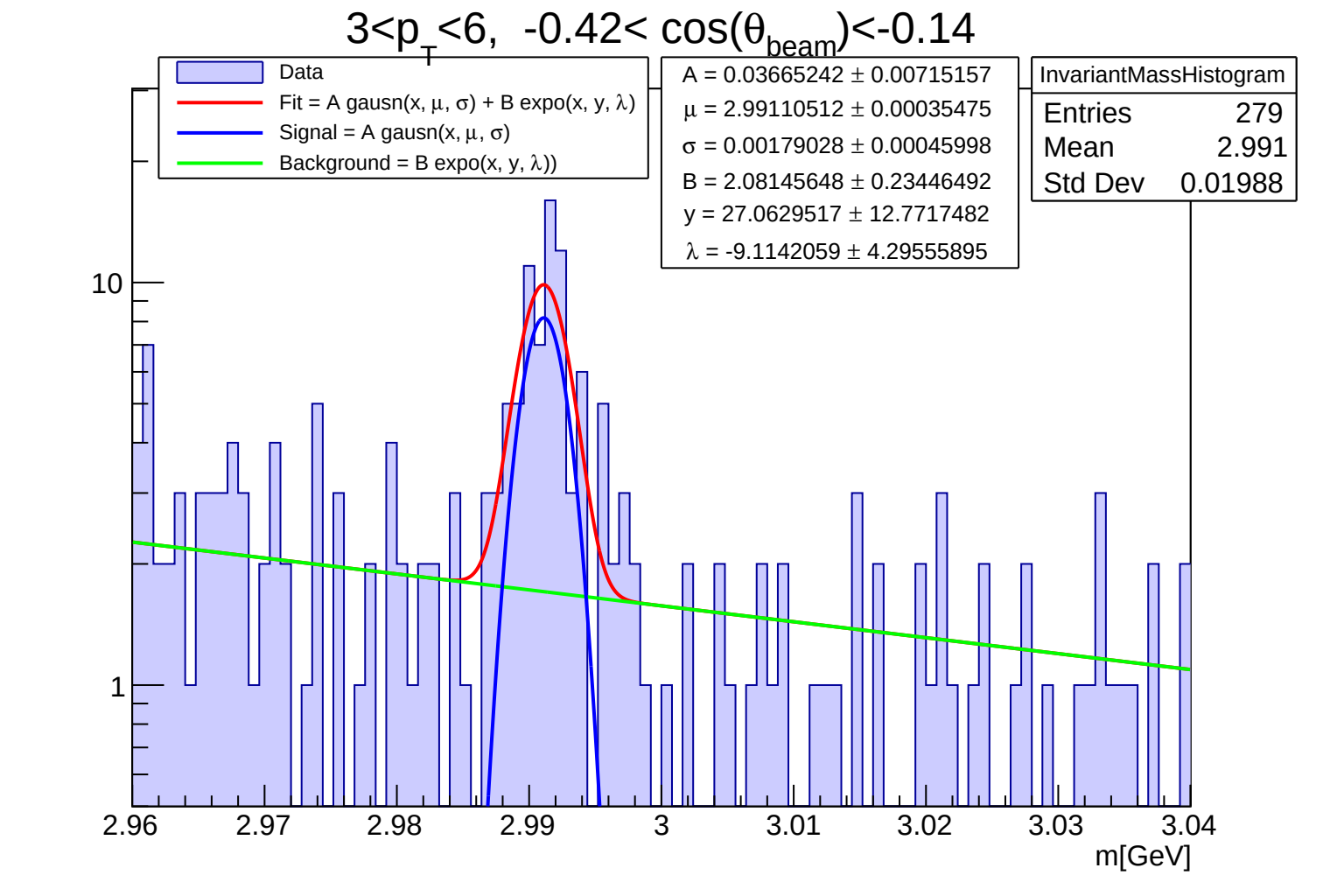
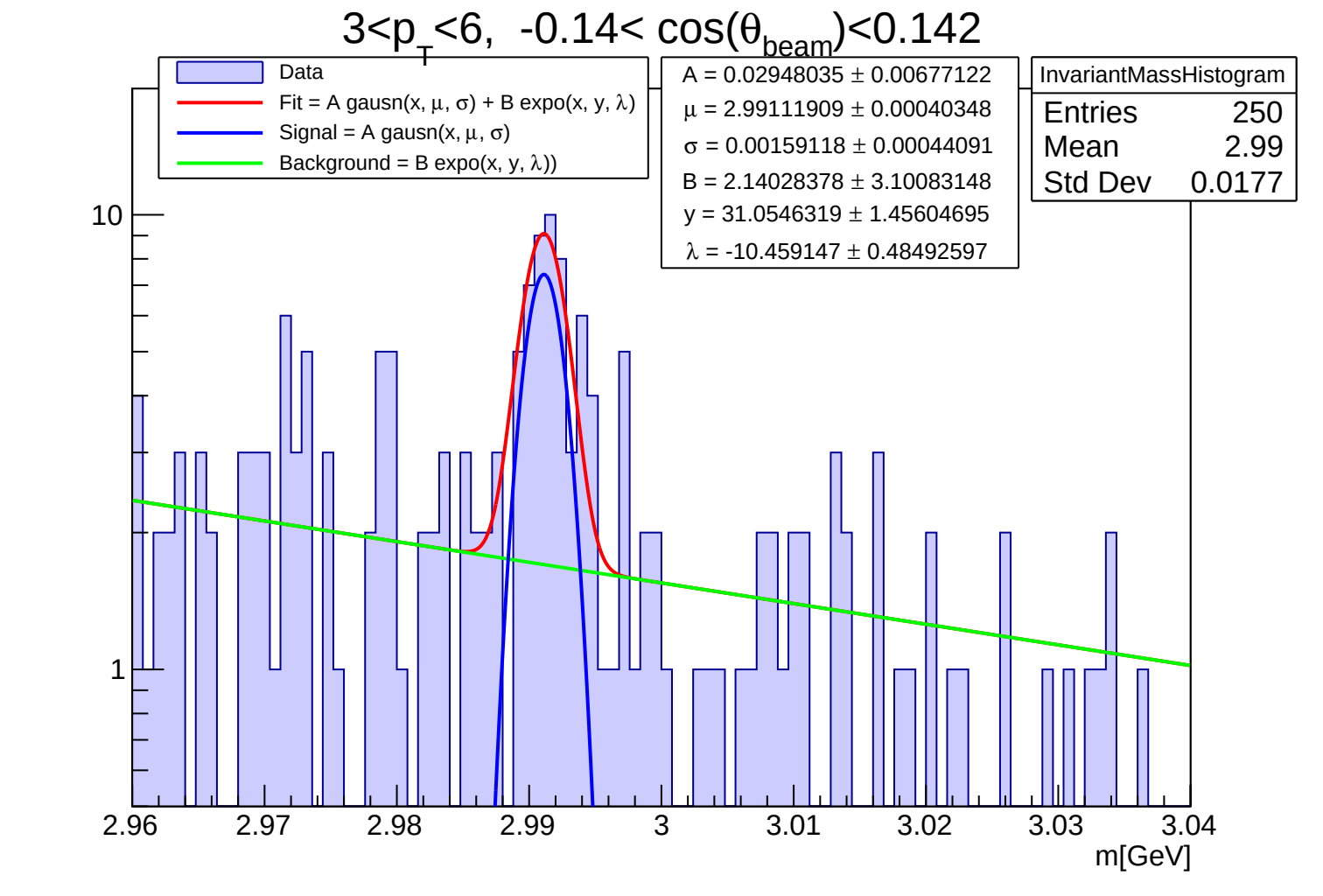
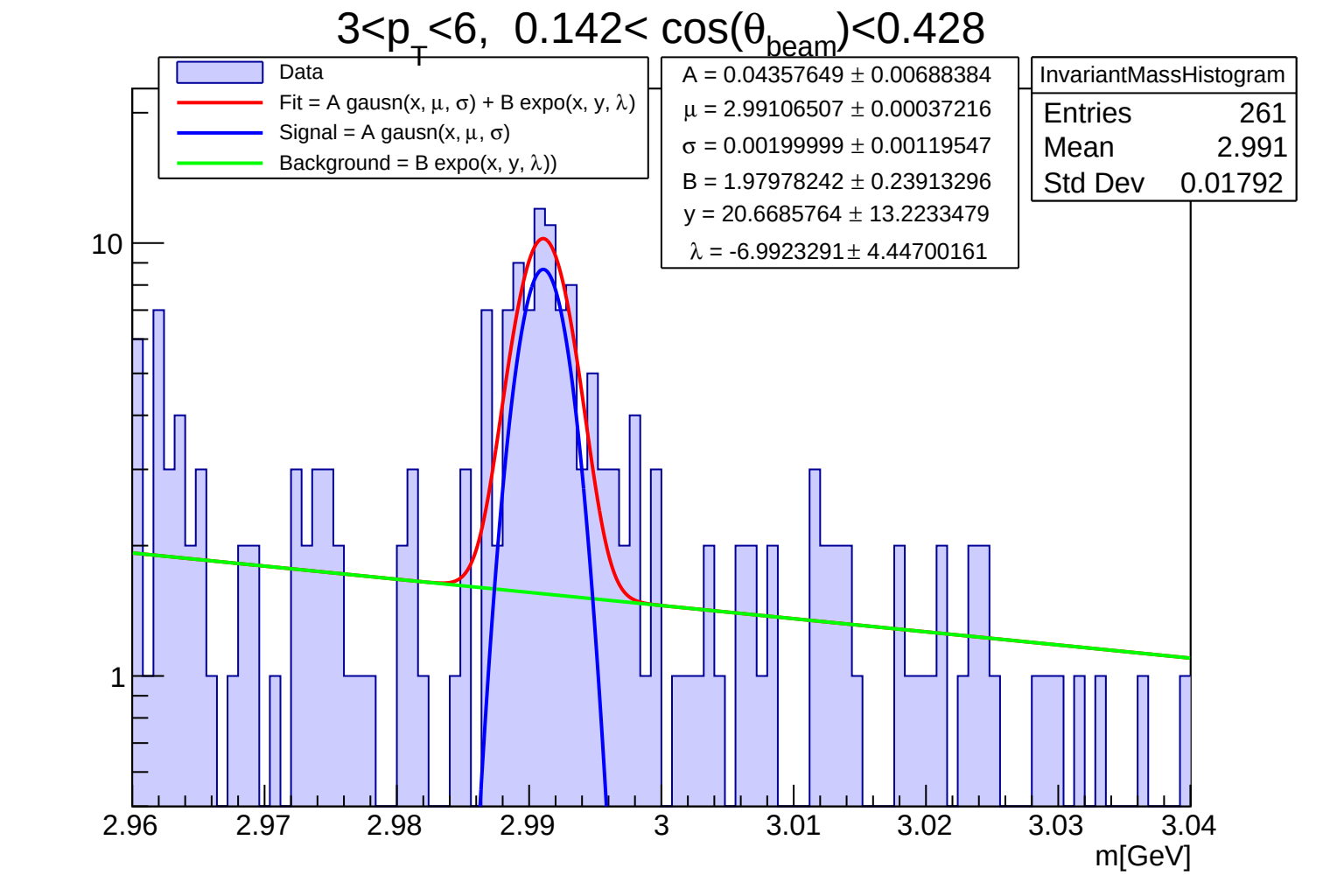

cos(theta*)_wrt_beam
CosThetaHistogram
Entries 1690
Mean −0.01727
Std Dev 0.5576
30
25
20
15
10
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1

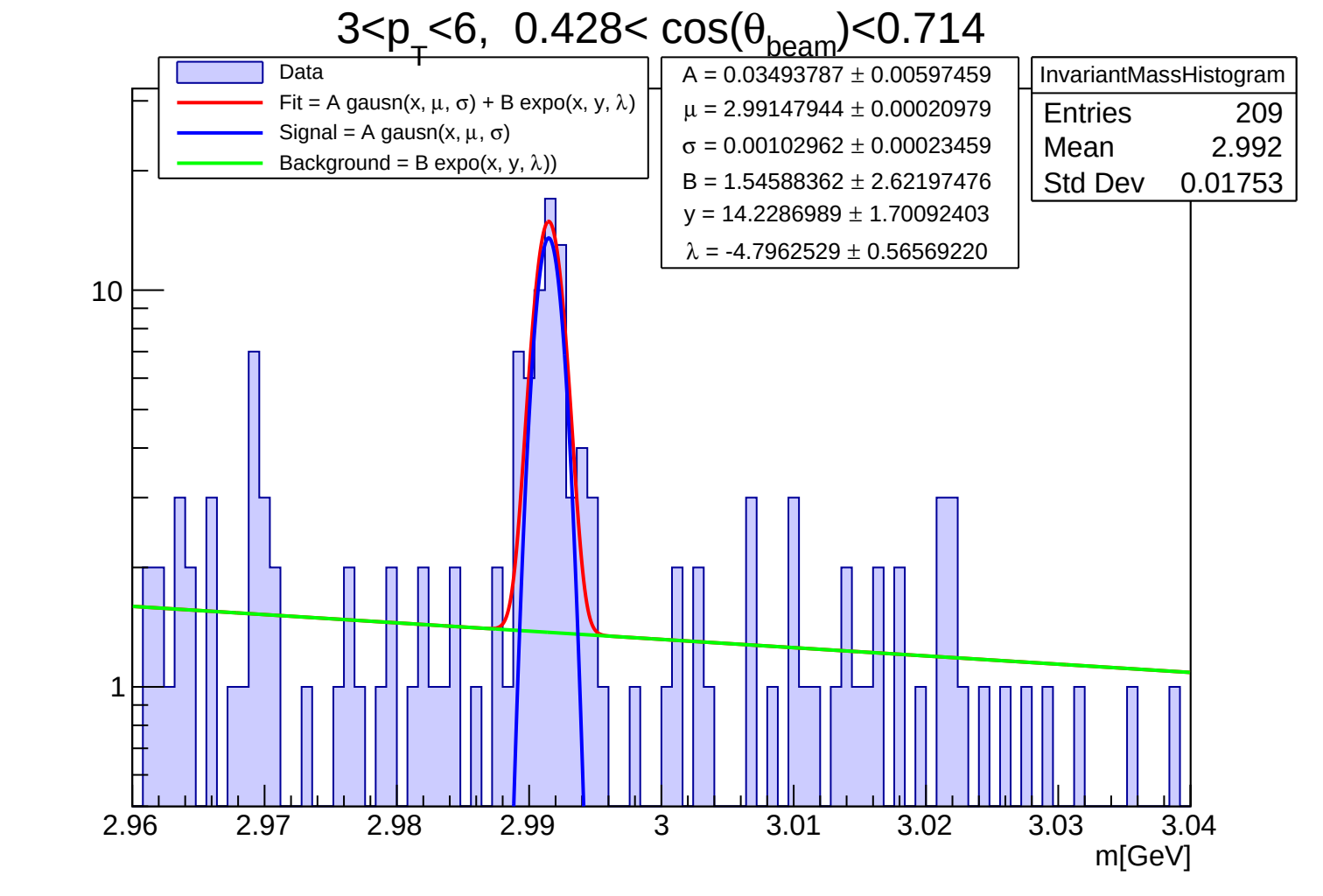

3<p_T<6, -1.0< cos(θ_beam)<-0.71
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.04444328 ± 0.00696097
μ = 2.99159026 ± 0.00031931
σ = 0.00163745 ± 0.00022135
B = 1.54430183 ± 2.44504688
y = 20.8626741 ± 1.59053182
λ = -7.0040913 ± 0.52973677
InvariantMassHistogram
Entries 226
Mean 2.99
Std Dev 0.01911
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

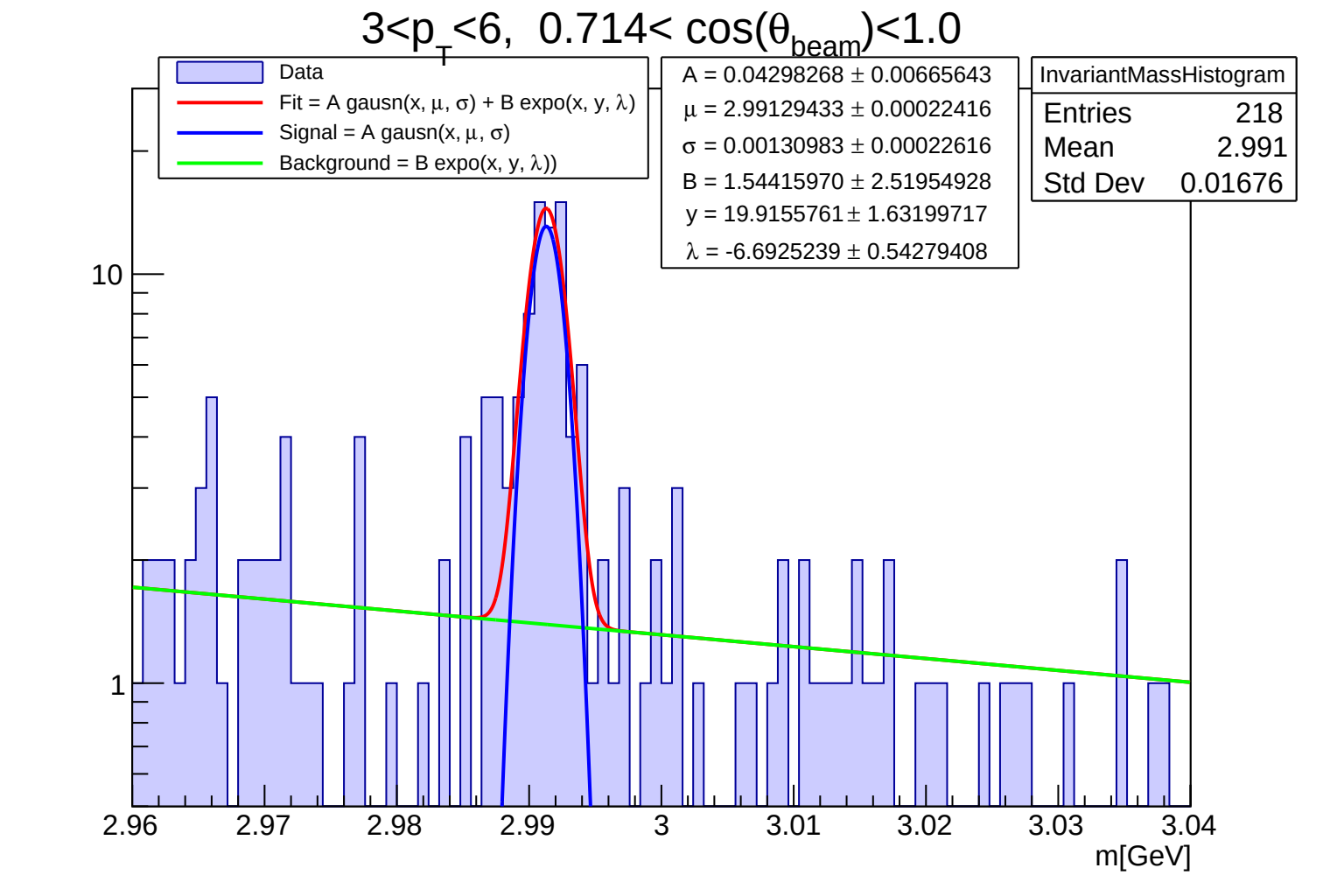

3<p_T<6, -0.71< cos(θ_beam)<-0.42
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03901176 ± 0.00648249
μ = 2.99137551 ± 0.00026073
σ = 0.00132714 ± 0.00019925
B = 1.93571843 ± 2.99099473
y = 22.6970951 ± 1.55745467
λ = -7.6700810 ± 0.51866674
InvariantMassHistogram
Entries 247
Mean 2.99
Std Dev 0.01766
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

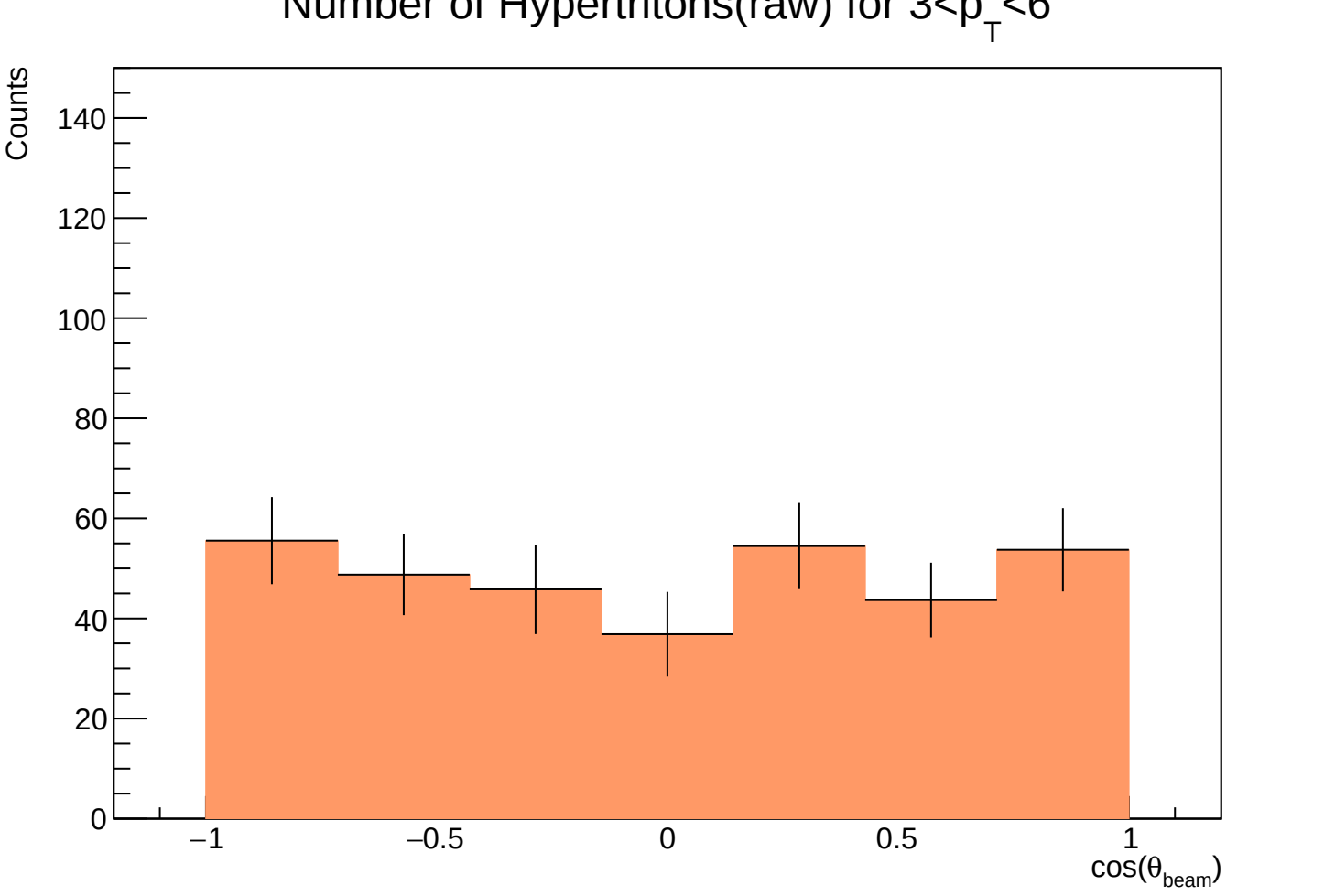

3<p_T<6, -0.42< cos(θ_beam)<-0.14
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03665242 ± 0.00715157
μ = 2.99110512 ± 0.00035475
σ = 0.00179028 ± 0.00045998
B = 2.08145648 ± 0.23446492
y = 27.0629517 ± 12.7717482
λ = -9.1142059 ± 4.29555895
InvariantMassHistogram
Entries 279
Mean 2.991
Std Dev 0.01988
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

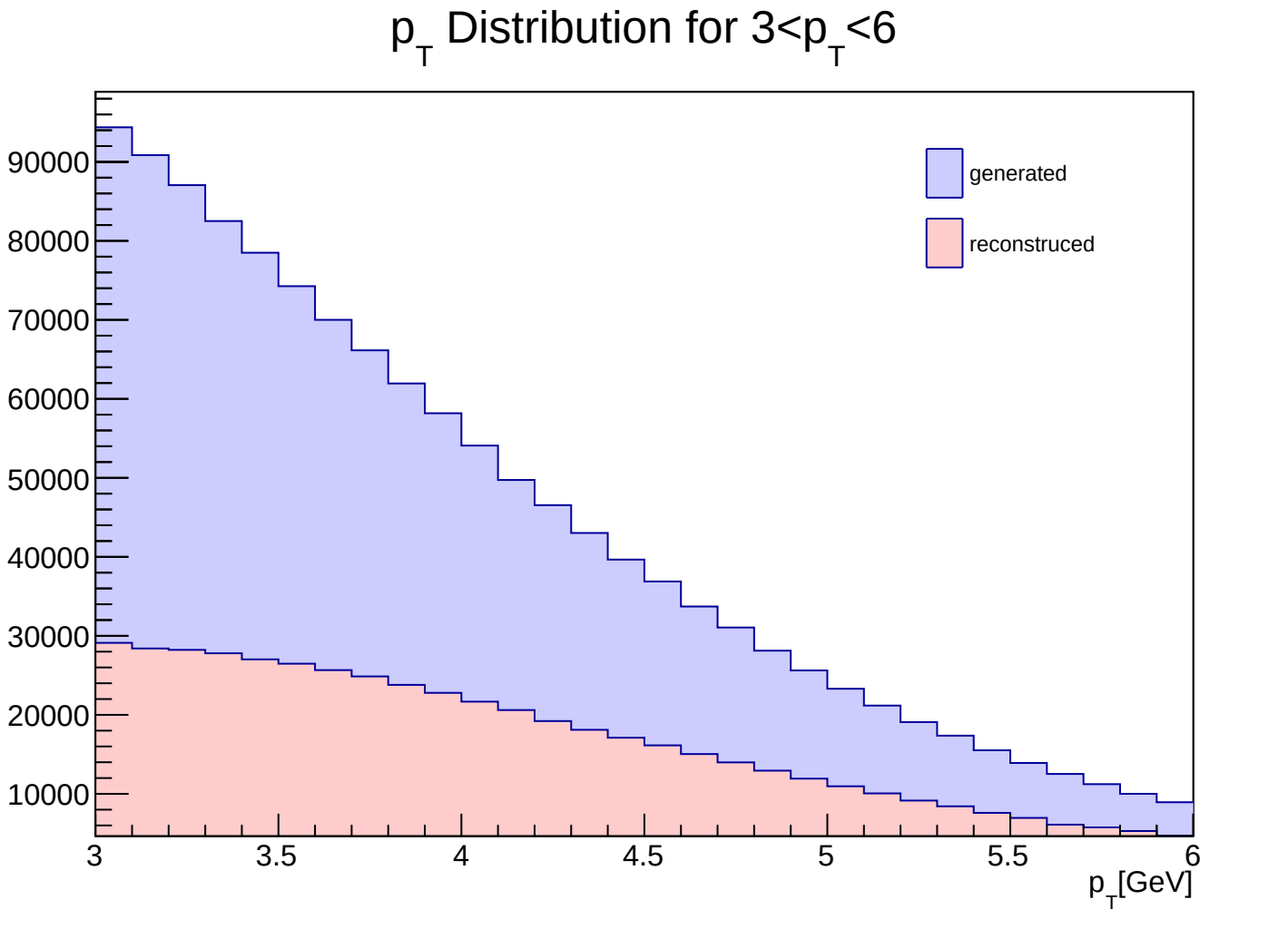

3<p_T<6, -0.14< cos(θ_beam)<0.142
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.02948035 ± 0.00677122
μ = 2.99111909 ± 0.00040348
σ = 0.00159118 ± 0.00044091
B = 2.14028378 ± 3.10083148
y = 31.0546319 ± 1.45604695
λ = -10.459147 ± 0.48492597
InvariantMassHistogram
Entries 250
Mean 2.99
Std Dev 0.0177
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

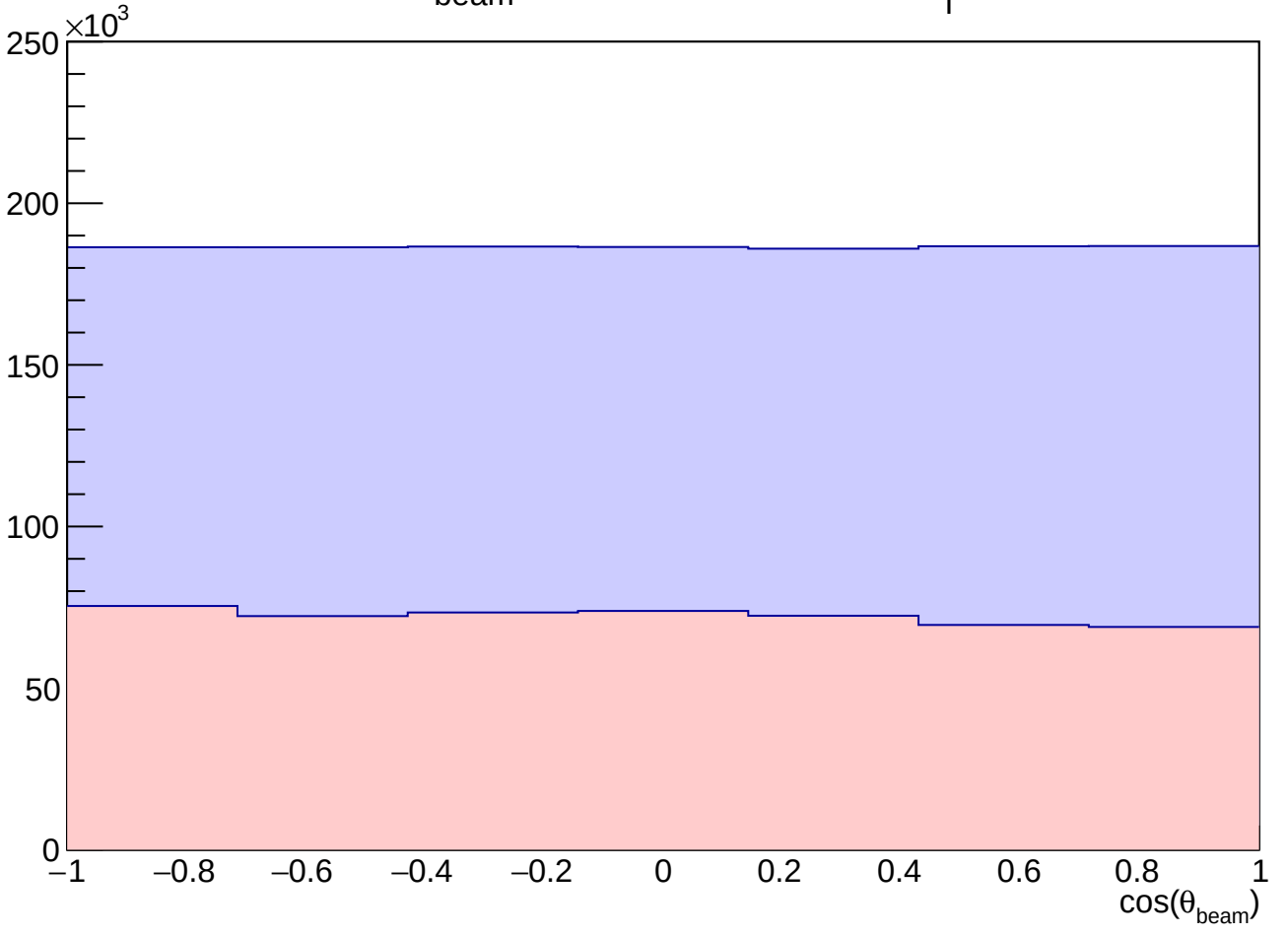

3<p_T<6, 0.142< cos(θ_beam)<0.428
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.04357649 ± 0.00688384
μ = 2.99106507 ± 0.00037216
σ = 0.00199999 ± 0.00119547
B = 1.97978242 ± 0.23913296
y = 20.6685764 ± 13.2233479
λ = -6.9923291 ± 4.44700161
InvariantMassHistogram
Entries 261
Mean 2.991
Std Dev 0.01792
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

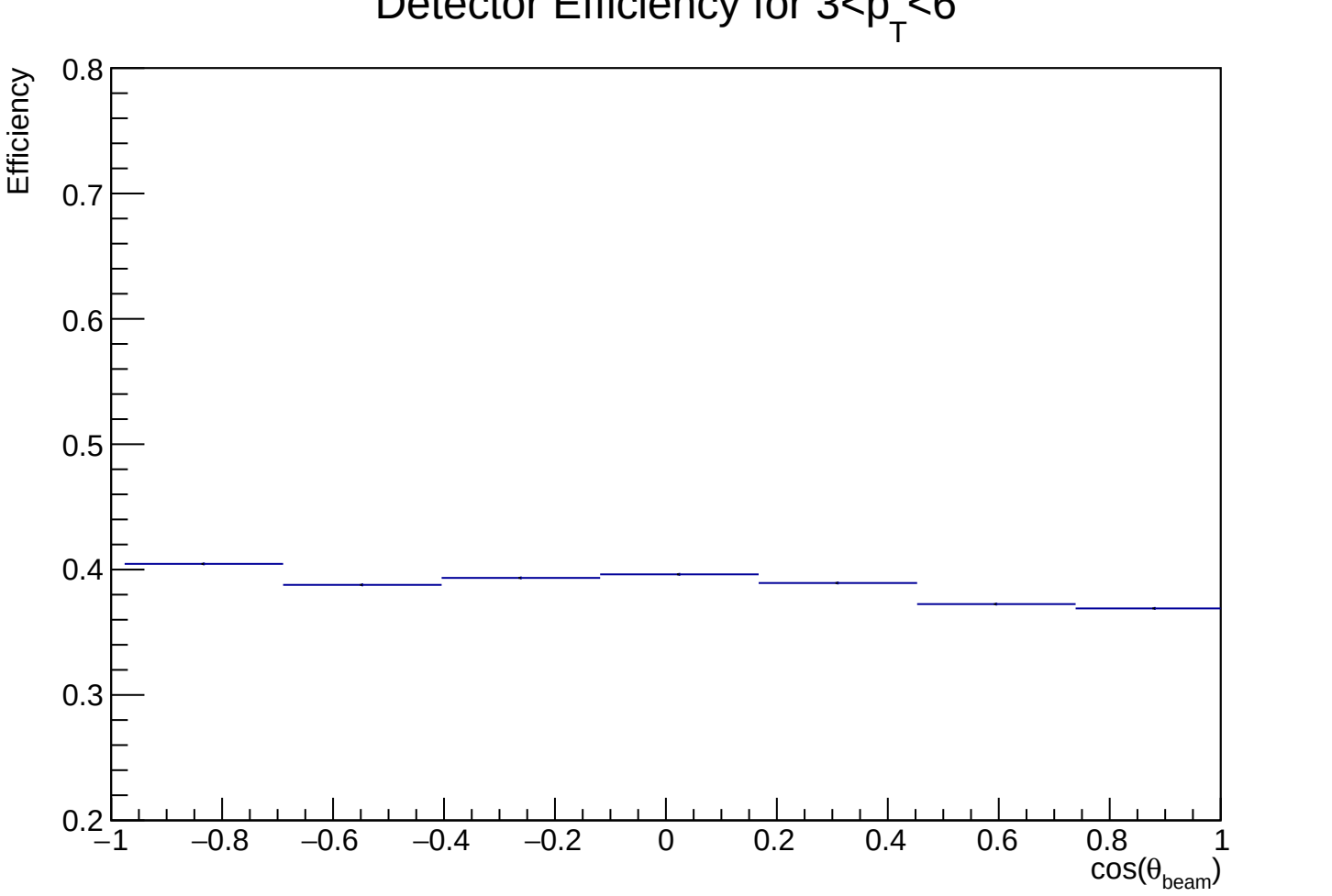

3<p_T<6, 0.428< cos(θ_beam)<0.714
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03493787 ± 0.00597459
μ = 2.99147944 ± 0.00020979
σ = 0.00102962 ± 0.00023459
B = 1.54588362 ± 2.62197476
y = 14.2286989 ± 1.70092403
λ = -4.7962529 ± 0.56569220
InvariantMassHistogram
Entries 209
Mean 2.992
Std Dev 0.01753
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

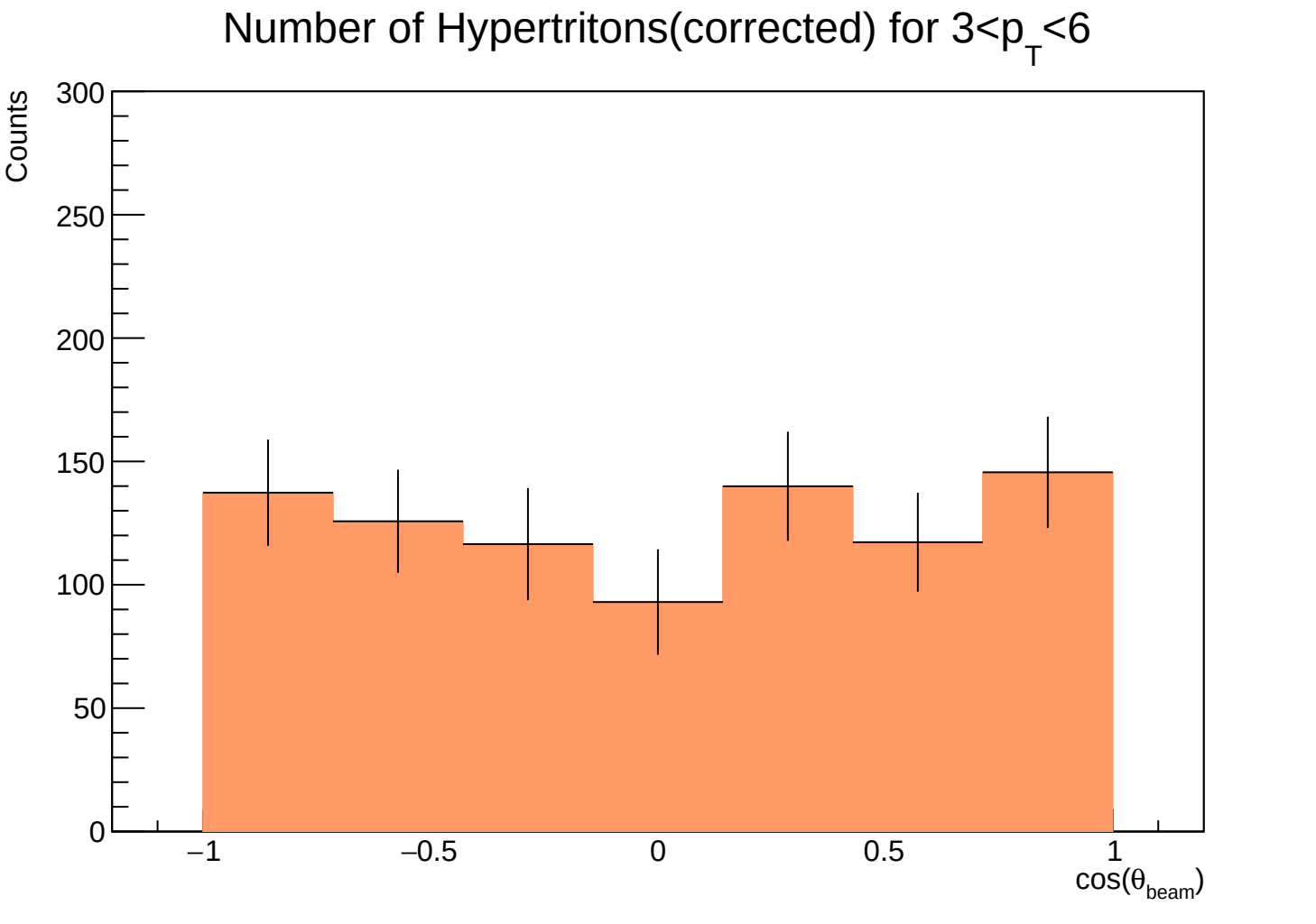

3<p_T<6, 0.714< cos(θ_beam)<1.0
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.04298268 ± 0.00665643
μ = 2.99129433 ± 0.00022416
σ = 0.00130983 ± 0.00022616
B = 1.54415970 ± 2.51954928
y = 19.9155761 ± 1.63199717
λ = -6.6925239 ± 0.54279408
InvariantMassHistogram
Entries 218
Mean 2.991
Std Dev 0.01676
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

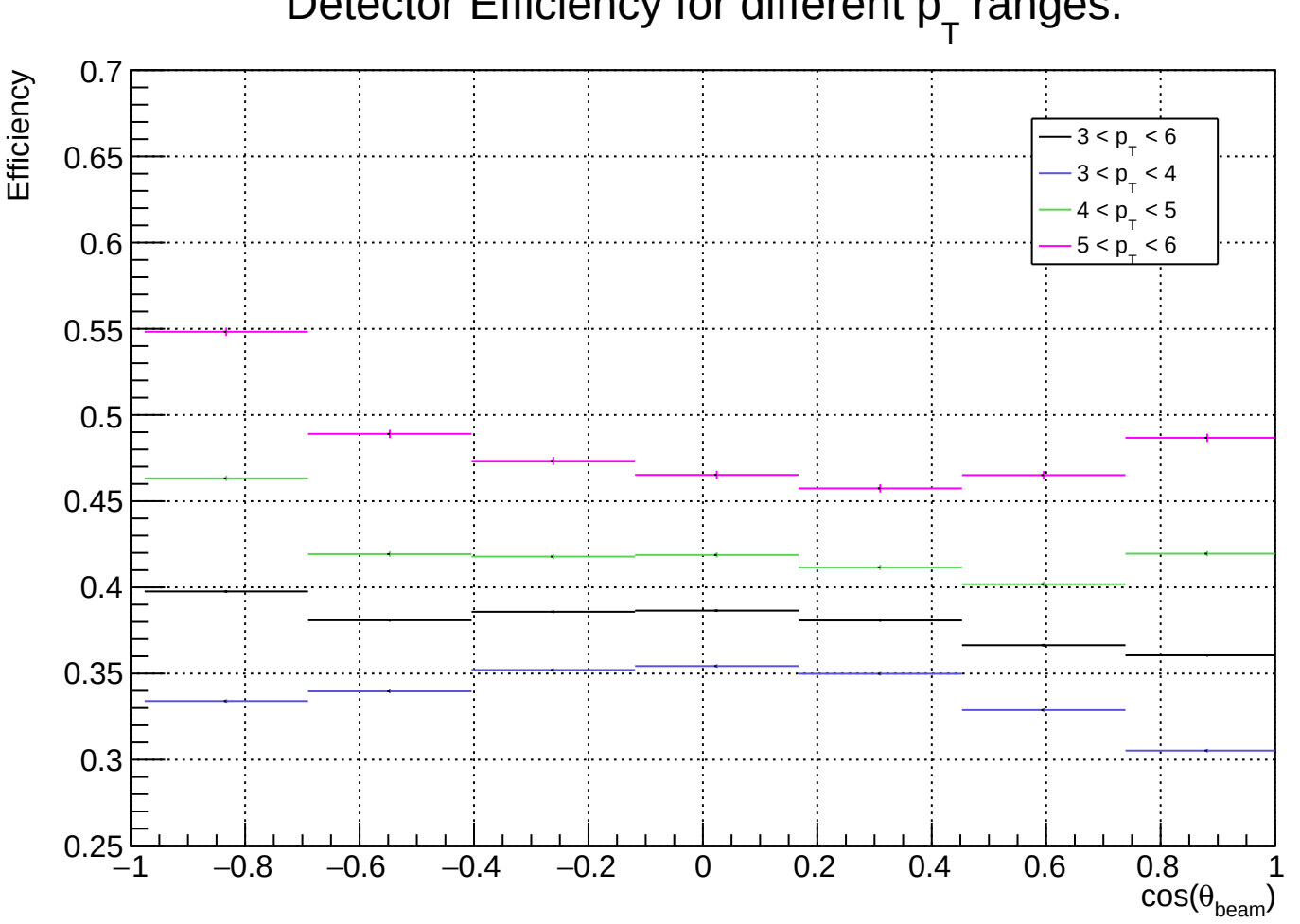

Number of Hypertritons(raw) for 3<p_T<6
Counts
140
120
100
80
60
40
20
0
−1
−0.5
0
0.5
1
cos(θ_beam)


p_T Distribution for $3<p_T<6$
generated
reconstruced
90000
80000
70000
60000
50000
40000
30000
20000
10000
3
3.5
4
4.5
5
5.5
6
p_T[GeV]


Cos(θbeam) Distribution for 3<pT<6
×10^3
250
200
150
100
50
0
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
cos(θbeam)


Detector Efficiency for 3<p_T<6
Efficiency
0.8
0.7
0.6
0.5
0.4
0.3
0.2
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
cos(θ_beam)


Number of Hypertritons(corrected) for 3<p_T<6
Counts
300
250
200
150
100
50
0
−1
−0.5
0
0.5
1
cos(θ_beam)


Detector Efficiency for different p_T ranges.
Efficiency
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1
cos(θbeam)
3 < pT < 6
3 < pT < 4
4 < pT < 5
5 < pT < 6