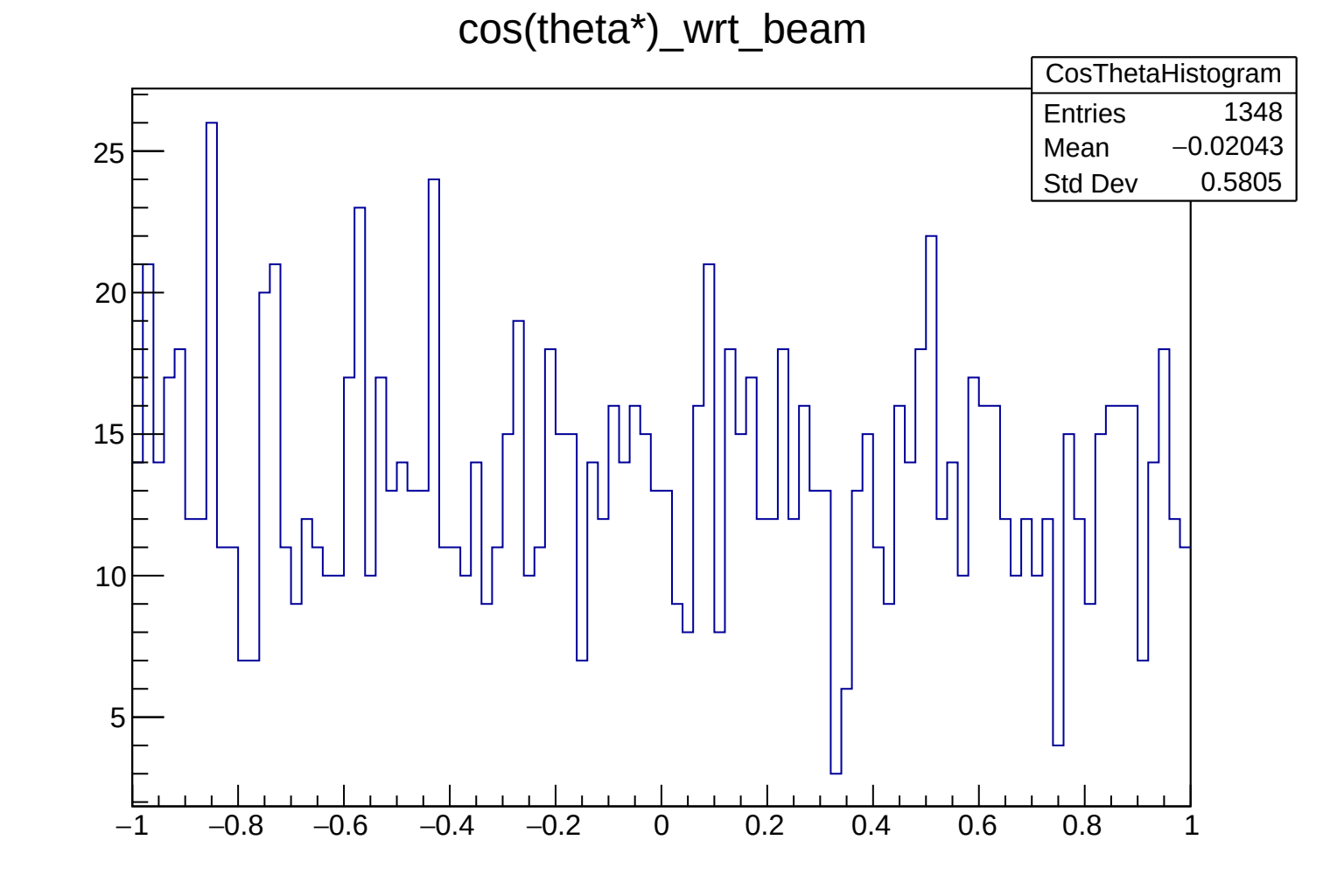
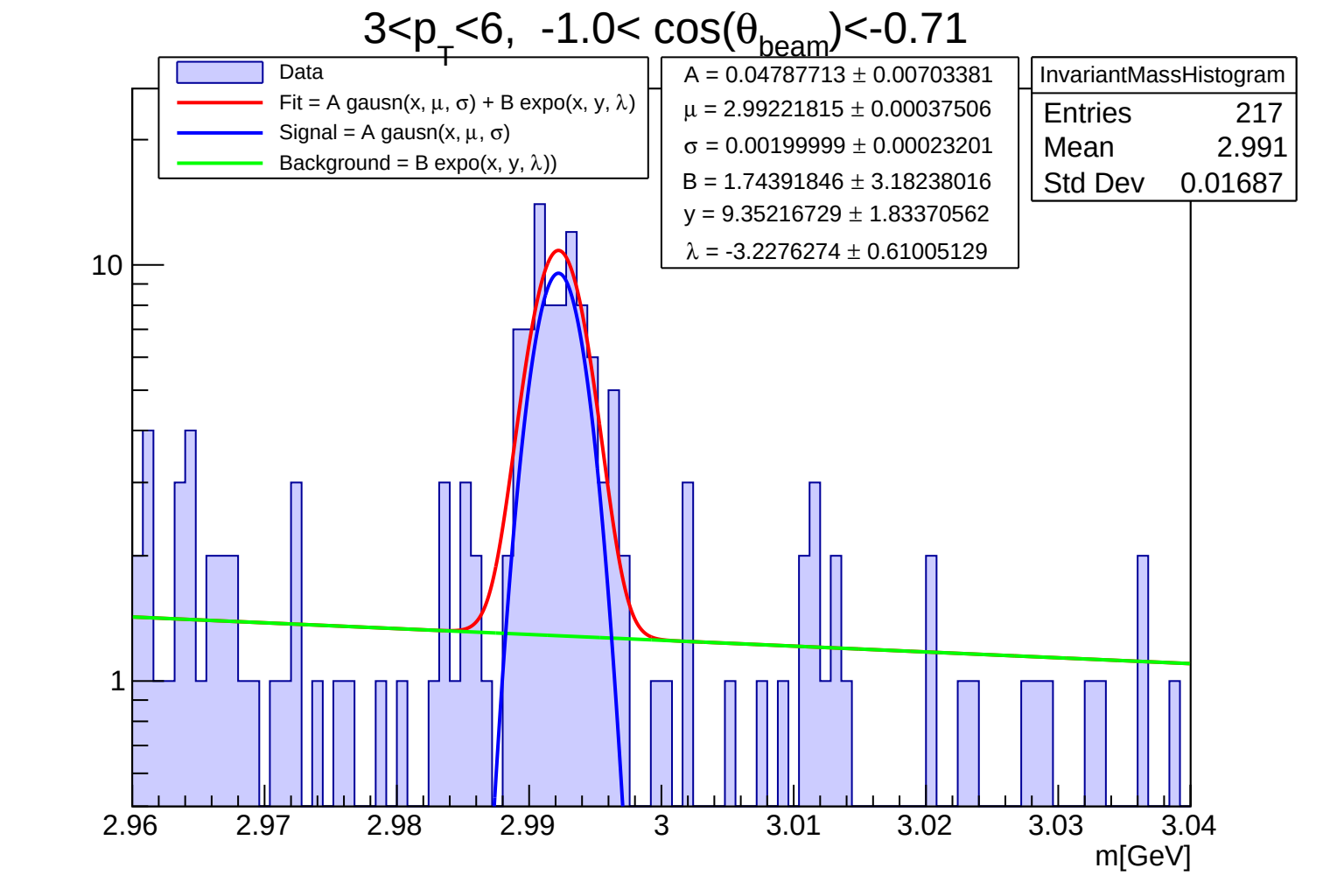
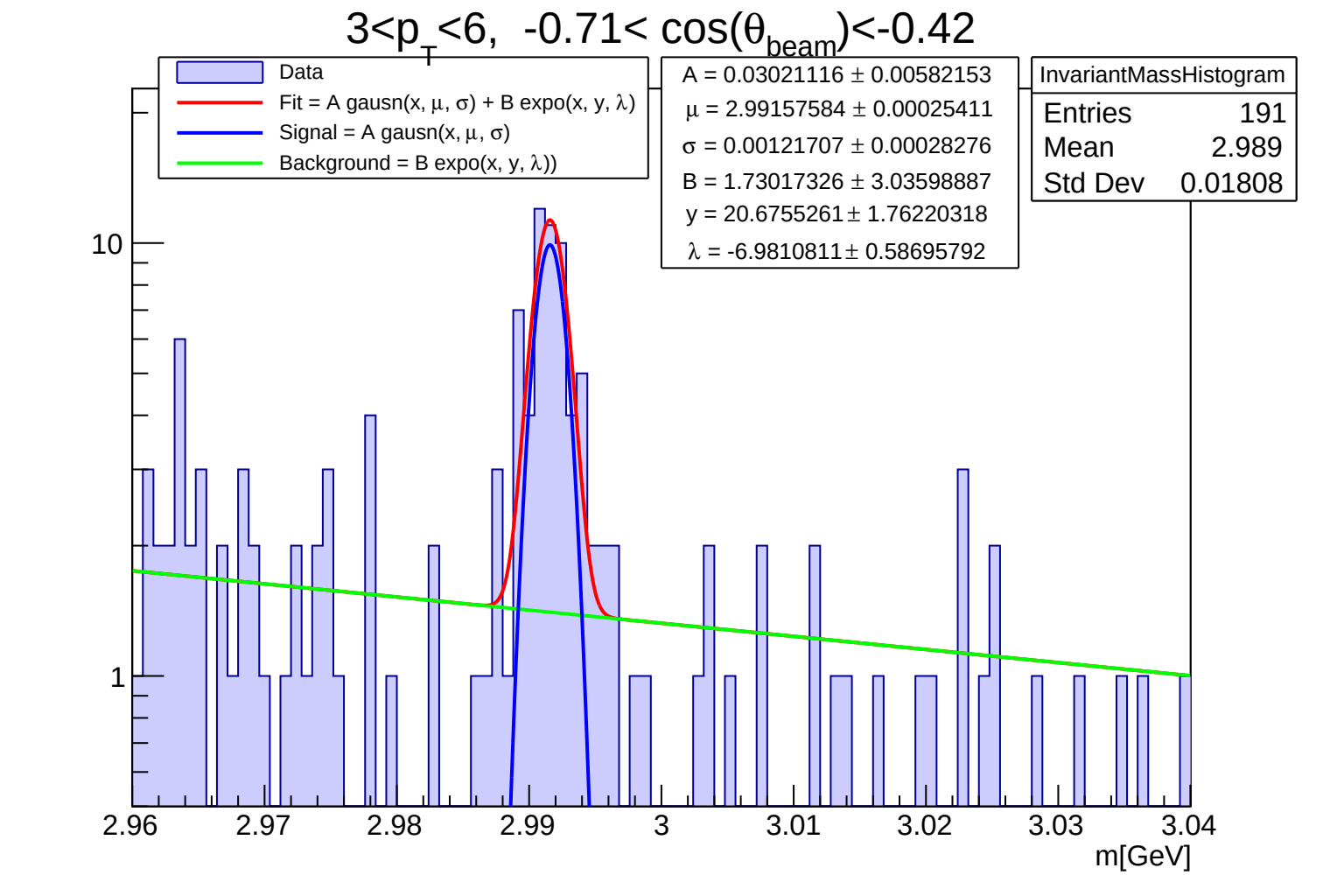
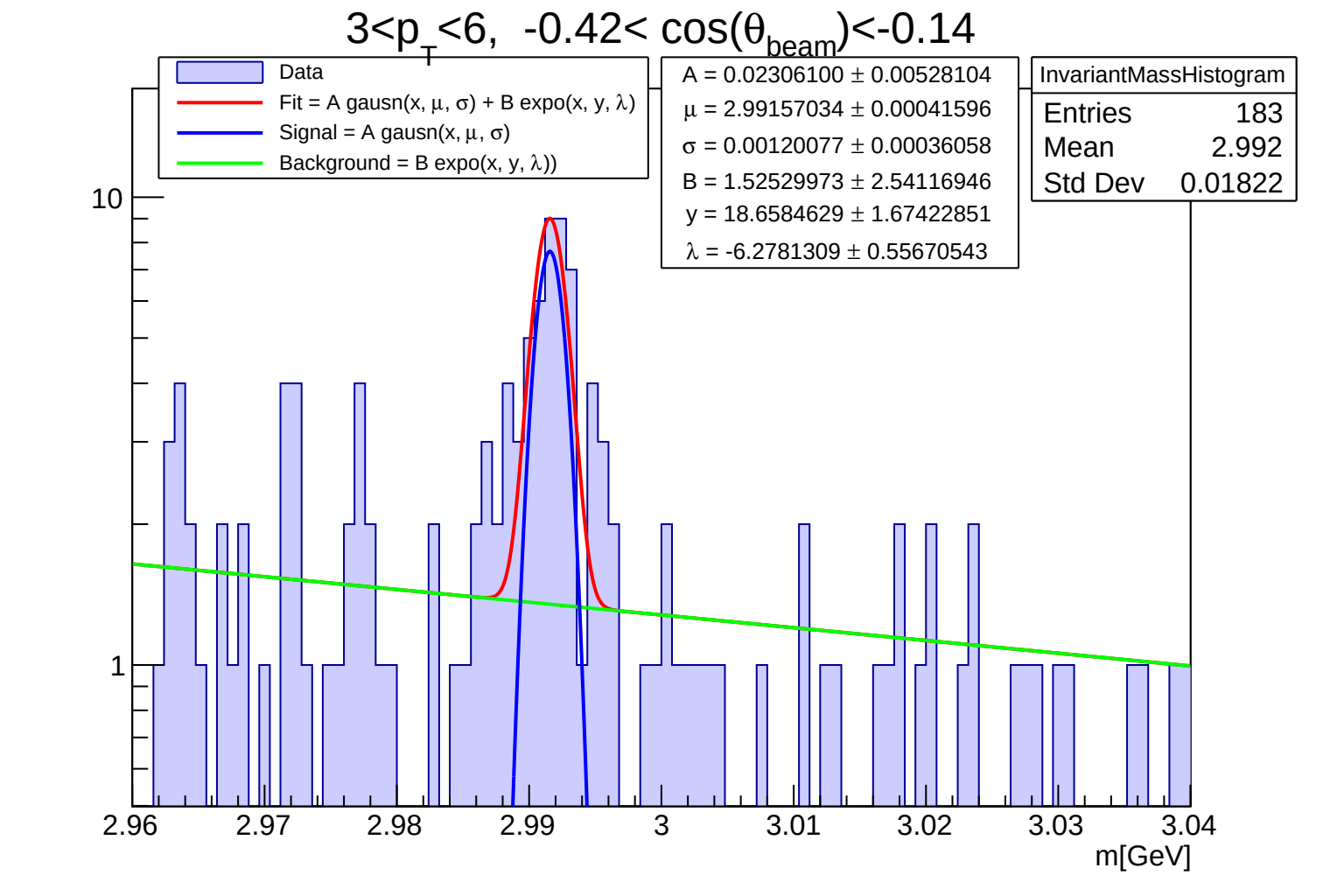
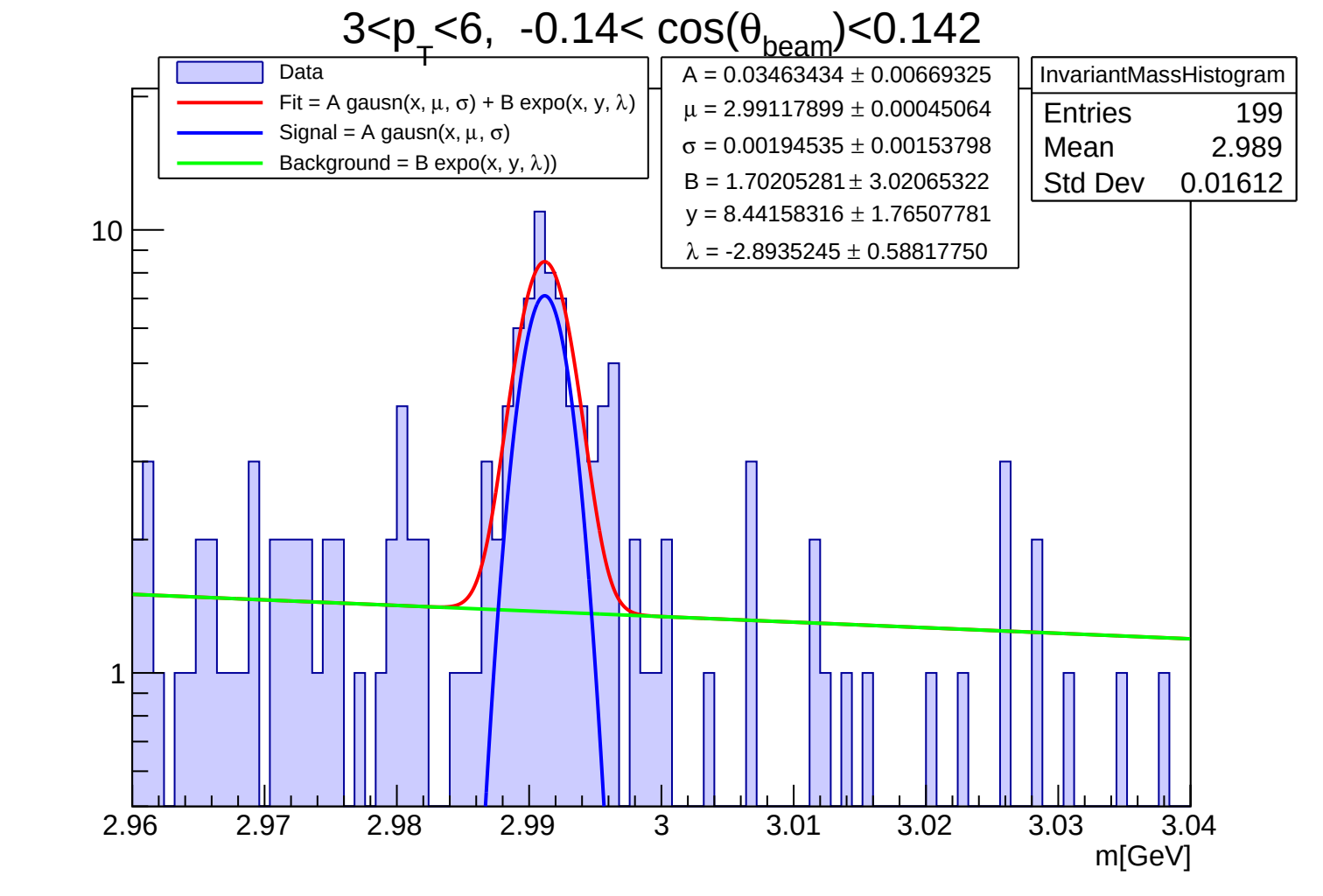
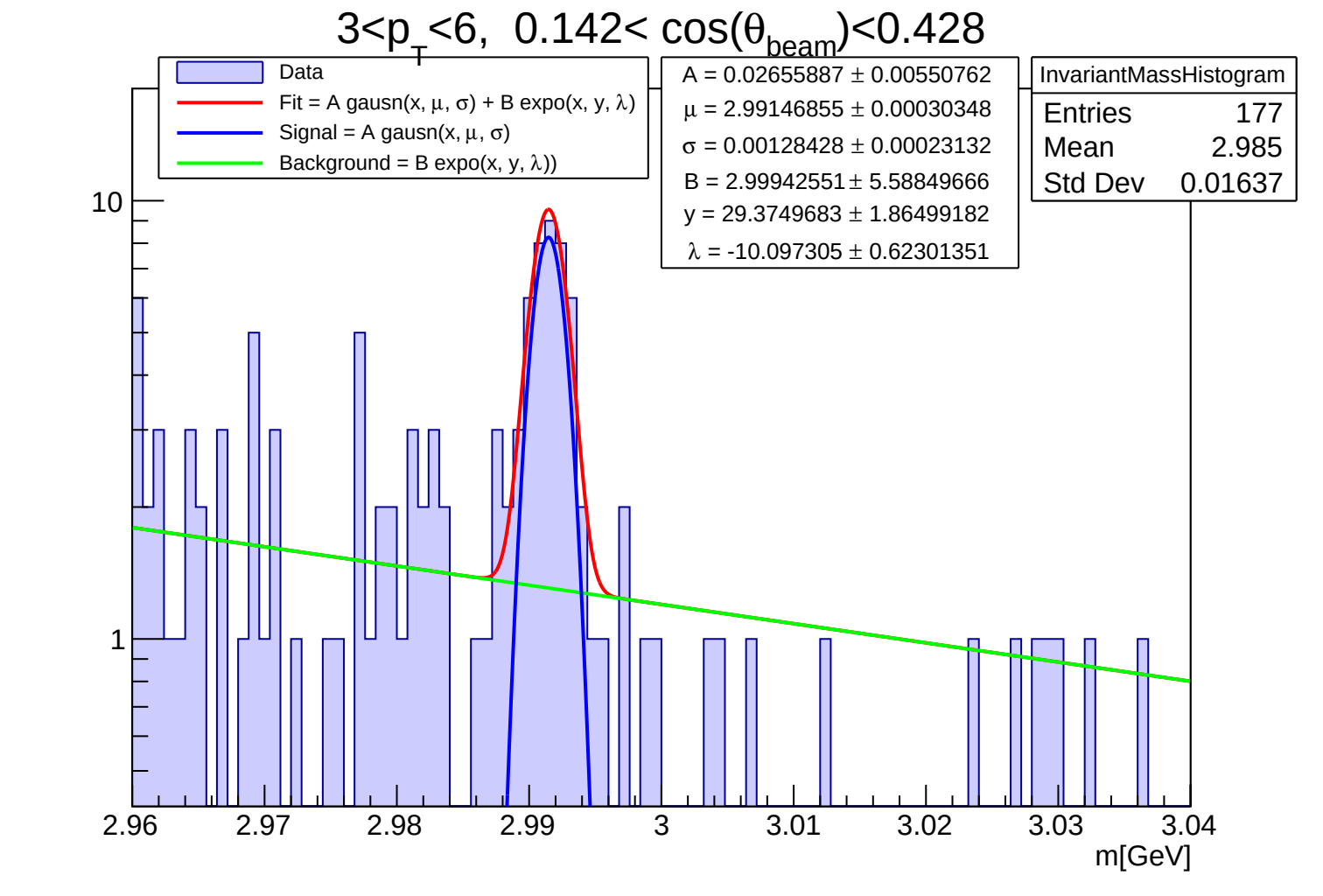

cos(theta*)_wrt_beam
CosThetaHistogram
Entries 1348
Mean −0.02043
Std Dev 0.5805
25
20
15
10
5
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1

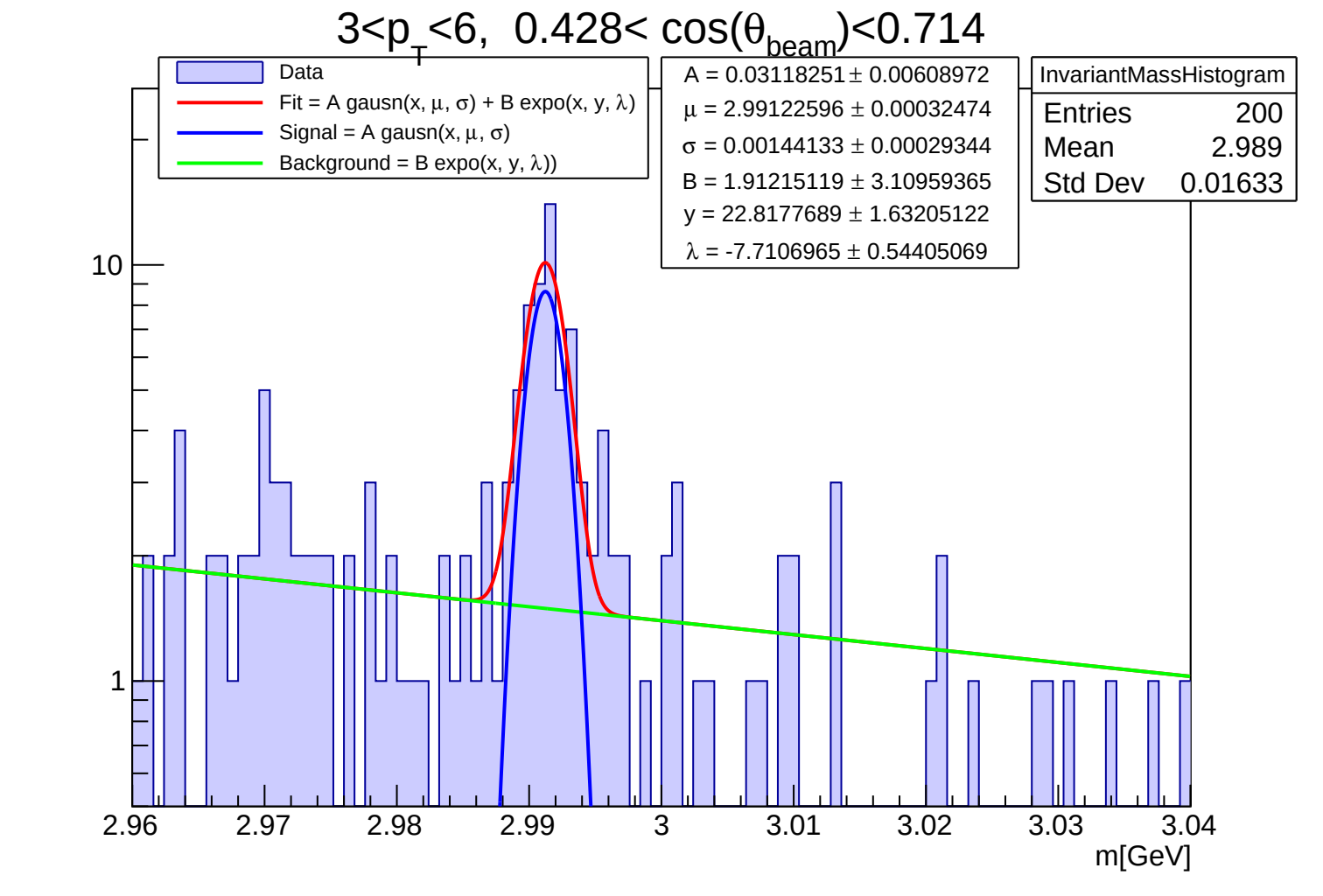

3<p_T<6, -1.0< cos(θ_beam)<-0.71
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.04787713 ± 0.00703381
μ = 2.99221815 ± 0.00037506
σ = 0.00199999 ± 0.00023201
B = 1.74391846 ± 3.18238016
y = 9.35216729 ± 1.83370562
λ = -3.2276274 ± 0.61005129
InvariantMassHistogram
Entries 217
Mean 2.991
Std Dev 0.01687
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

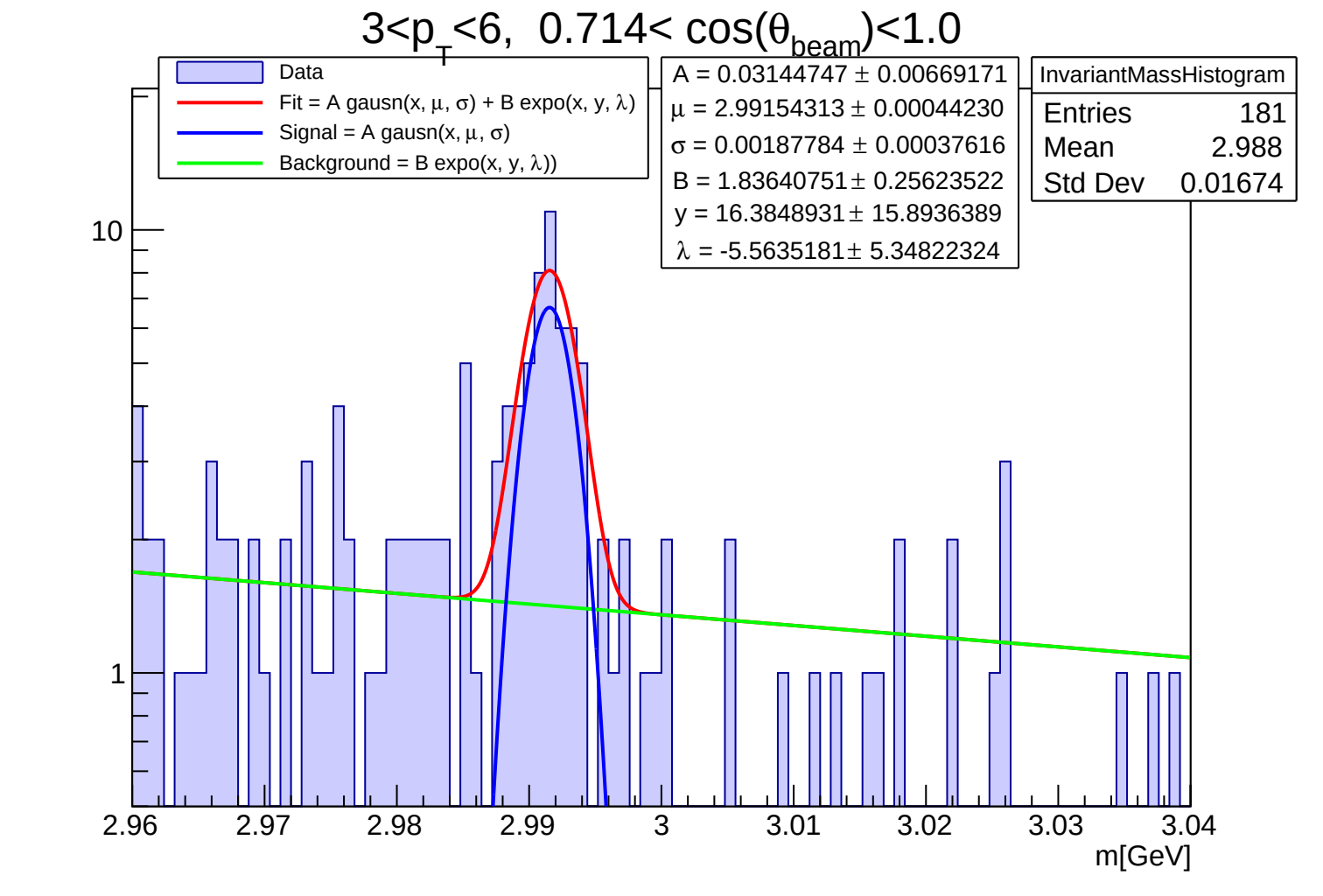

3<p_T<6, -0.71< cos(θ_beam)<-0.42
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03021116 ± 0.00582153
μ = 2.99157584 ± 0.00025411
σ = 0.00121707 ± 0.00028276
B = 1.73017326 ± 3.03598887
y = 20.6755261 ± 1.76220318
λ = -6.9810811 ± 0.58695792
InvariantMassHistogram
Entries 191
Mean 2.989
Std Dev 0.01808
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

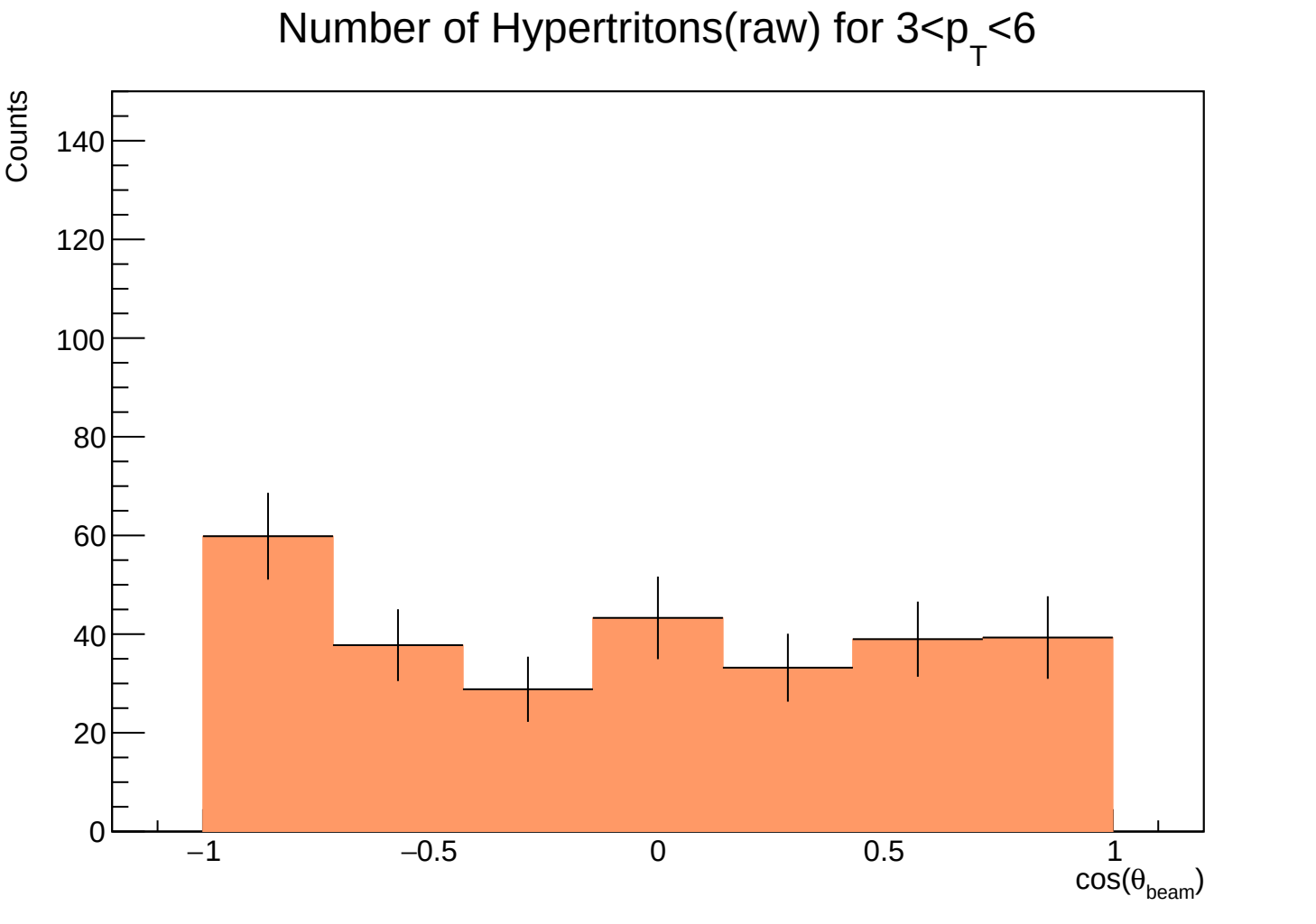

3<p_T<6, -0.42< cos(θ_beam)<-0.14
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.02306100 ± 0.00528104
μ = 2.99157034 ± 0.00041596
σ = 0.00120077 ± 0.00036058
B = 1.52529973 ± 2.54116946
y = 18.6584629 ± 1.67422851
λ = -6.2781309 ± 0.55670543
InvariantMassHistogram
Entries 183
Mean 2.992
Std Dev 0.01822
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

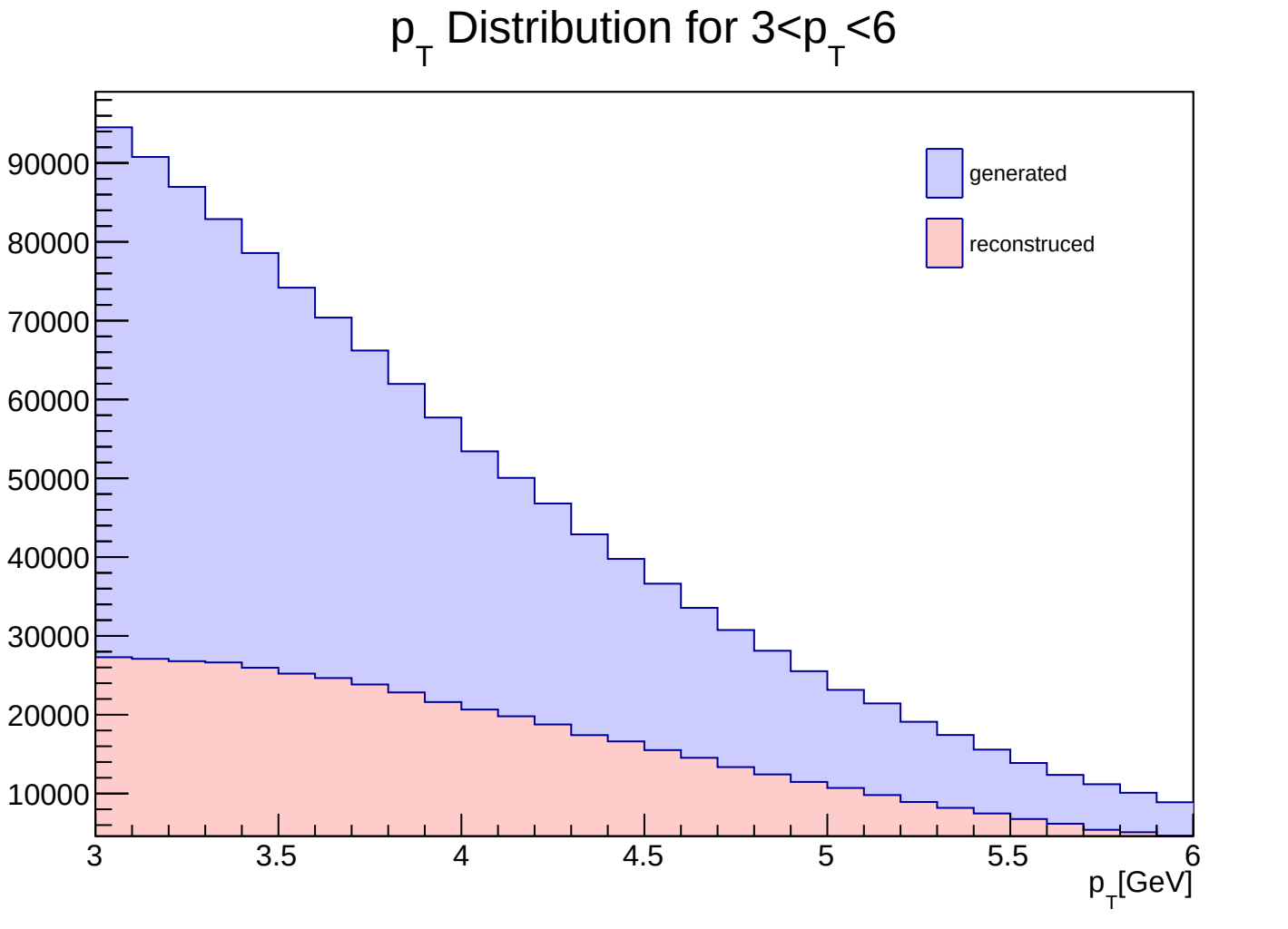

3<p_T<6, -0.14< cos(θ_beam)<0.142
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03463434 ± 0.00669325
μ = 2.99117899 ± 0.00045064
σ = 0.00194535 ± 0.00153798
B = 1.70205281 ± 3.02065322
y = 8.44158316 ± 1.76507781
λ = -2.8935245 ± 0.58817750
InvariantMassHistogram
Entries 199
Mean 2.989
Std Dev 0.01612
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

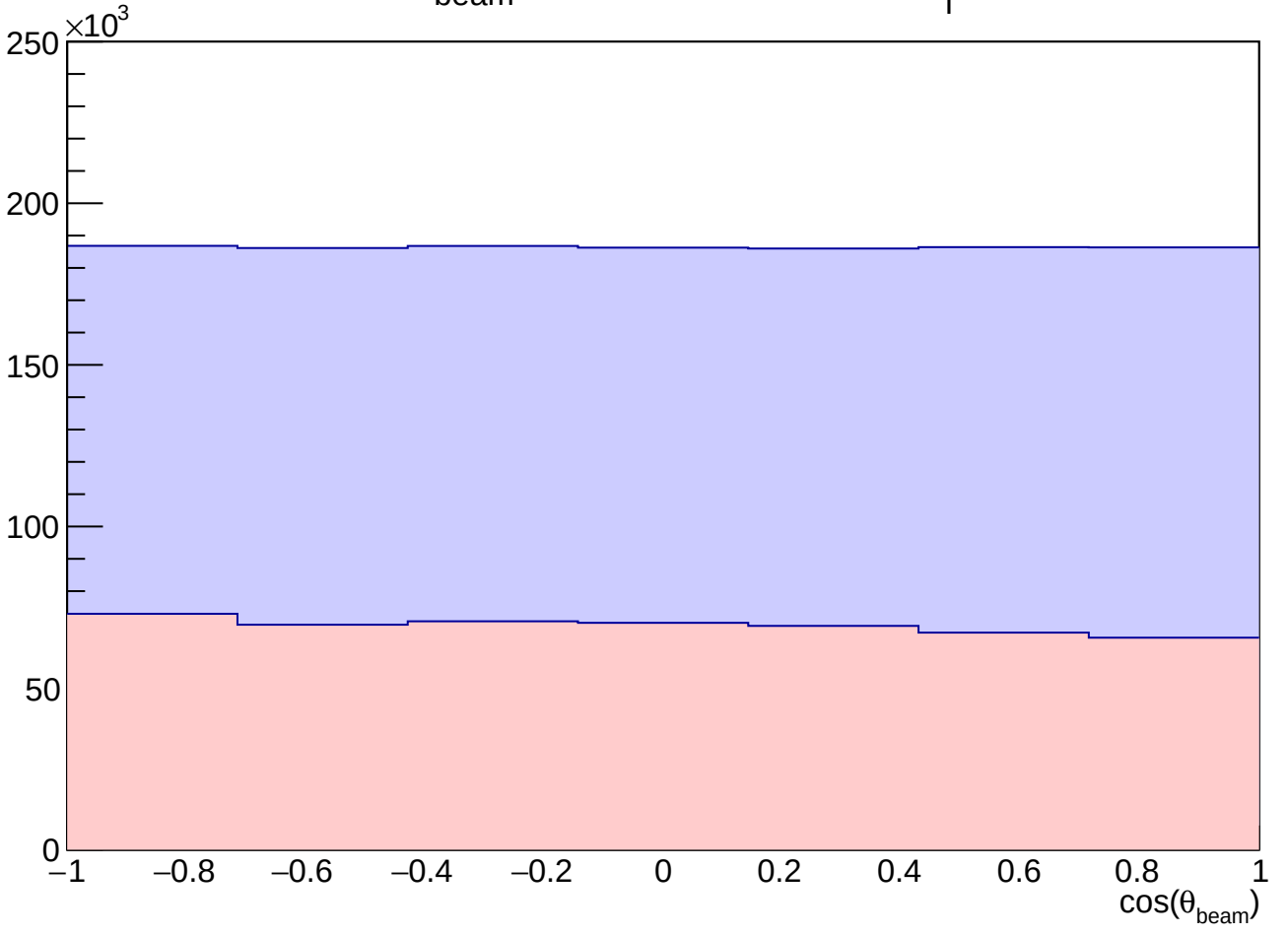

3<p_T<6, 0.142< cos(θ_beam)<0.428
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.02655887 ± 0.00550762
μ = 2.99146855 ± 0.00030348
σ = 0.00128428 ± 0.00023132
B = 2.99942551 ± 5.58849666
y = 29.3749683 ± 1.86499182
λ = -10.097305 ± 0.62301351
InvariantMassHistogram
Entries 177
Mean 2.985
Std Dev 0.01637
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

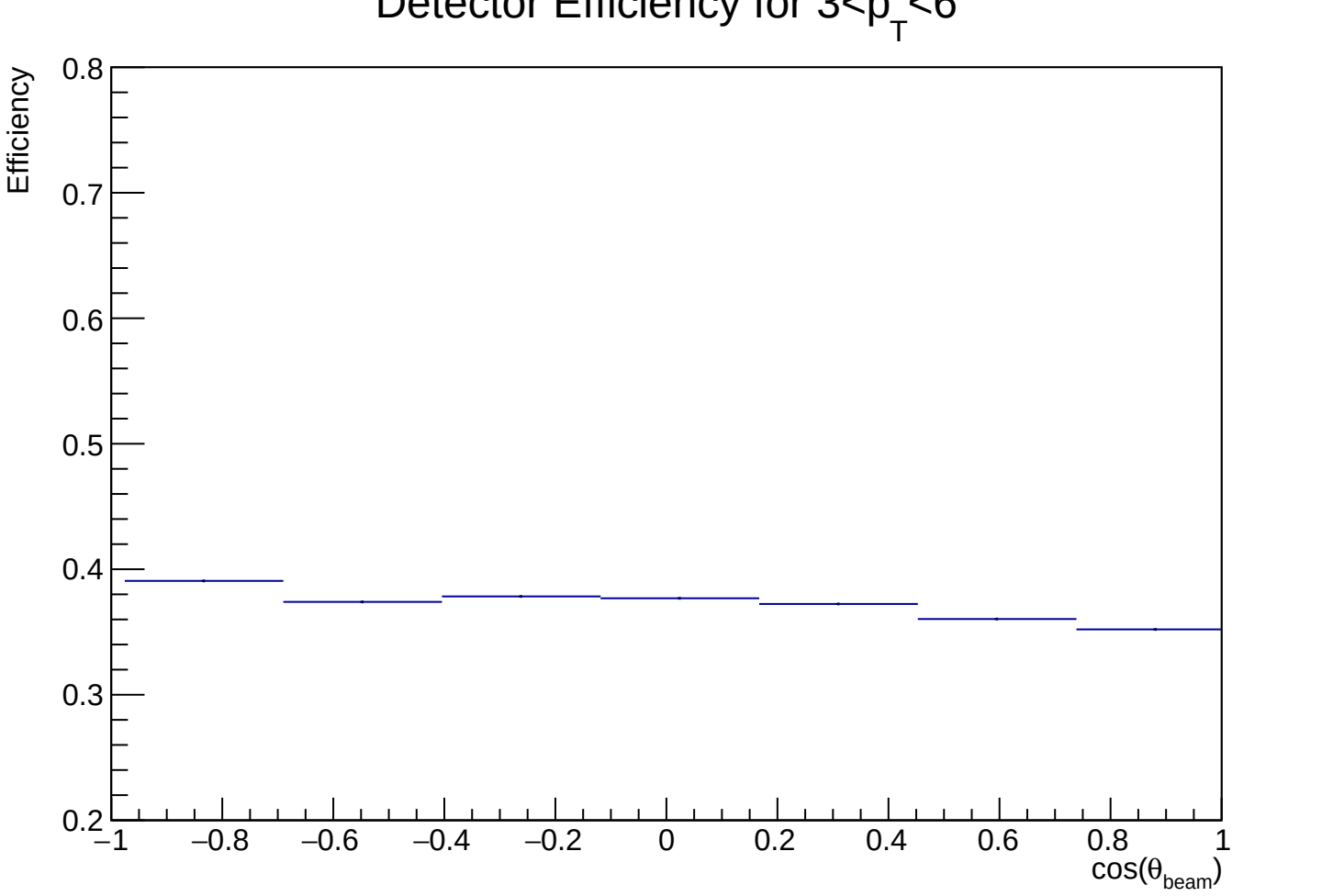

3<p_T<6, 0.428< cos(θ_beam)<0.714
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03118251 ± 0.00608972
μ = 2.99122596 ± 0.00032474
σ = 0.00144133 ± 0.00029344
B = 1.91215119 ± 3.10959365
y = 22.8177689 ± 1.63205122
λ = -7.7106965 ± 0.54405069
InvariantMassHistogram
Entries 200
Mean 2.989
Std Dev 0.01633
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

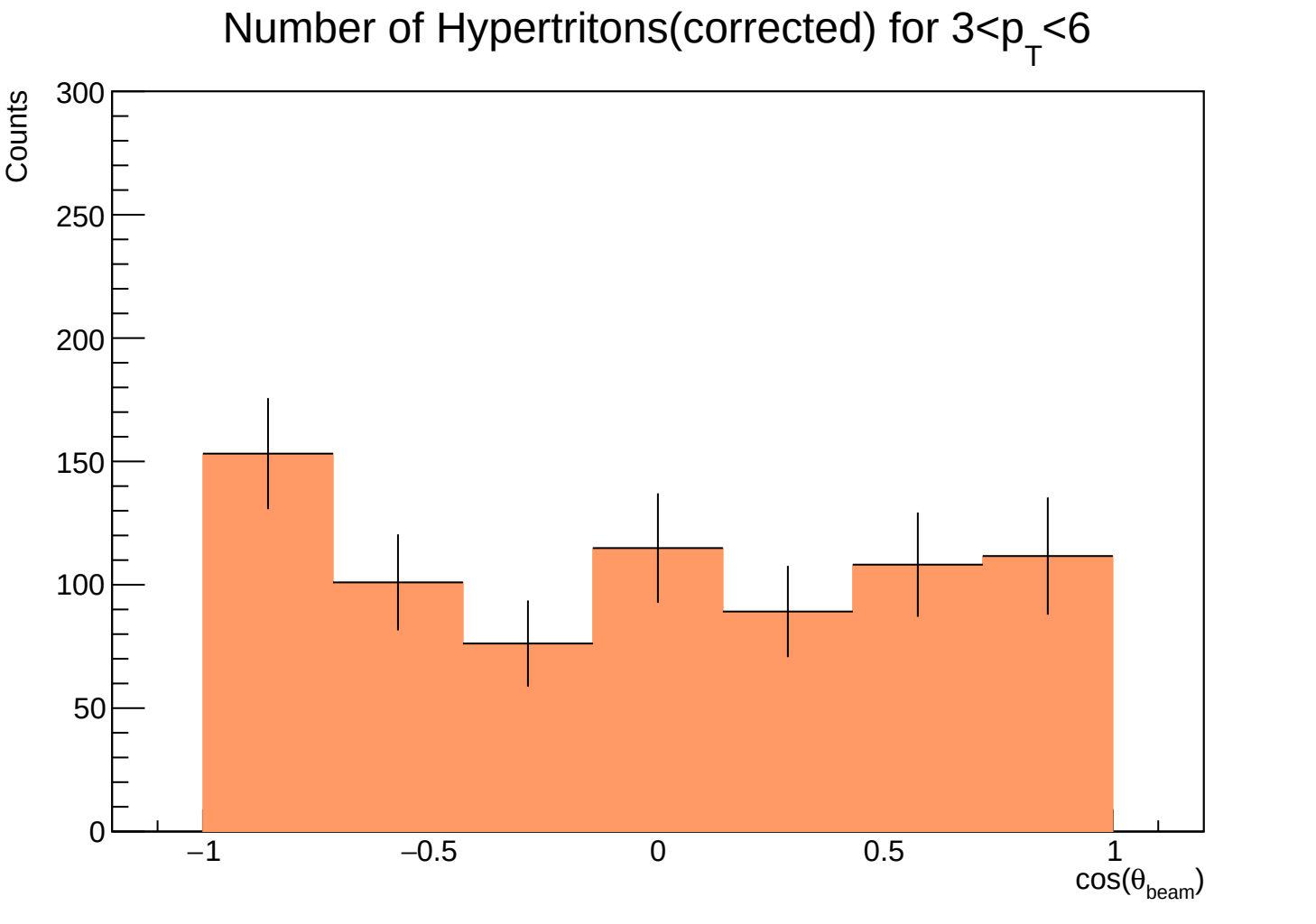

3<p_T<6, 0.714< cos(θ_beam)<1.0
Data
Fit = A gausn(x, μ, σ) + B expo(x, y, λ)
Signal = A gausn(x, μ, σ)
Background = B expo(x, y, λ))
A = 0.03144747 ± 0.00669171
μ = 2.99154313 ± 0.00044230
σ = 0.00187784 ± 0.00037616
B = 1.83640751 ± 0.25623522
y = 16.3848931 ± 15.8936389
λ = -5.5635181 ± 5.34822324
InvariantMassHistogram
Entries 181
Mean 2.988
Std Dev 0.01674
10
1
2.96
2.97
2.98
2.99
3
3.01
3.02
3.03
3.04
m[GeV]

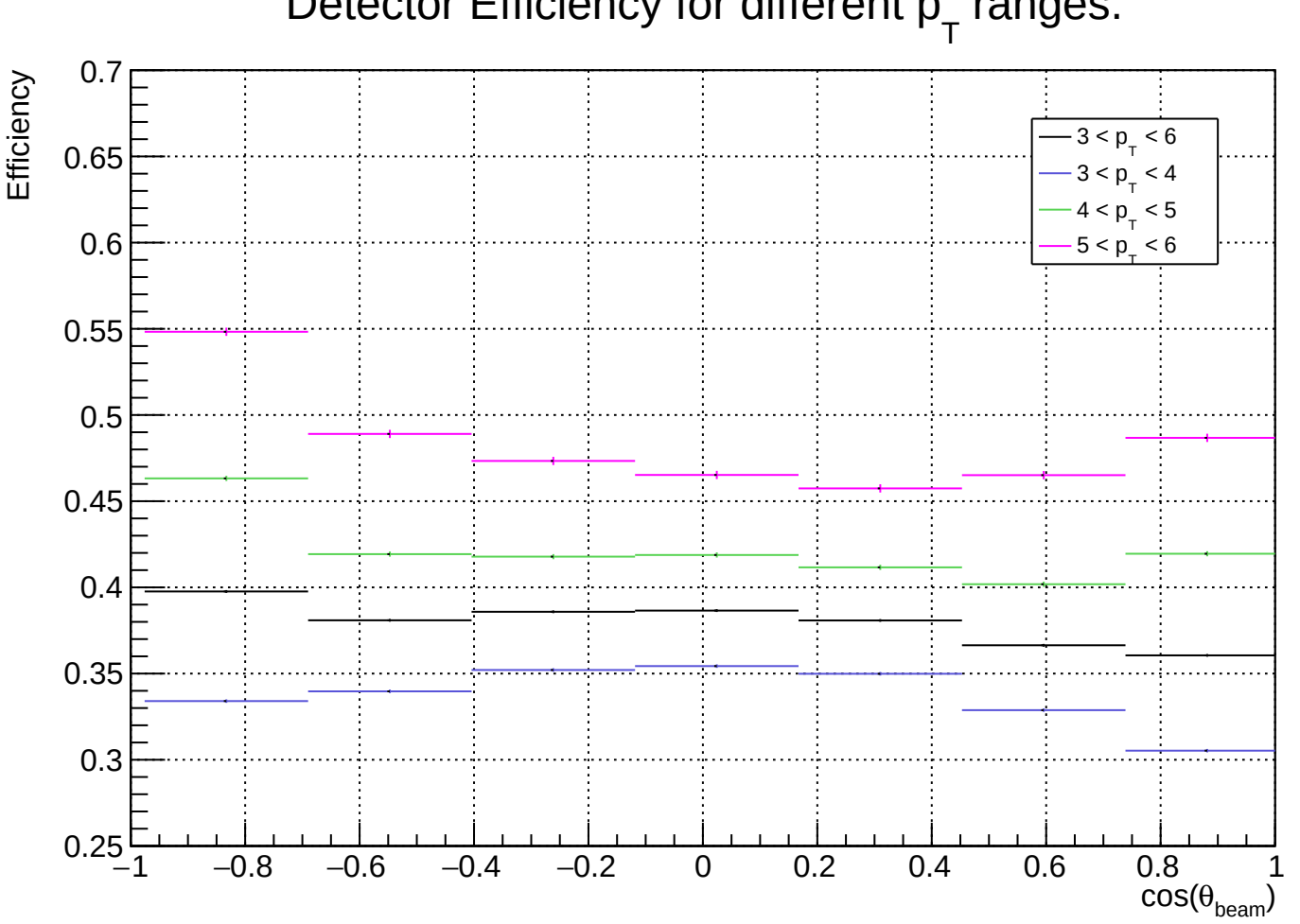

Number of Hypertritons(raw) for 3<p_T<6
Counts
140
120
100
80
60
40
20
0
−1
−0.5
0
0.5
1
cos(θ_beam)


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