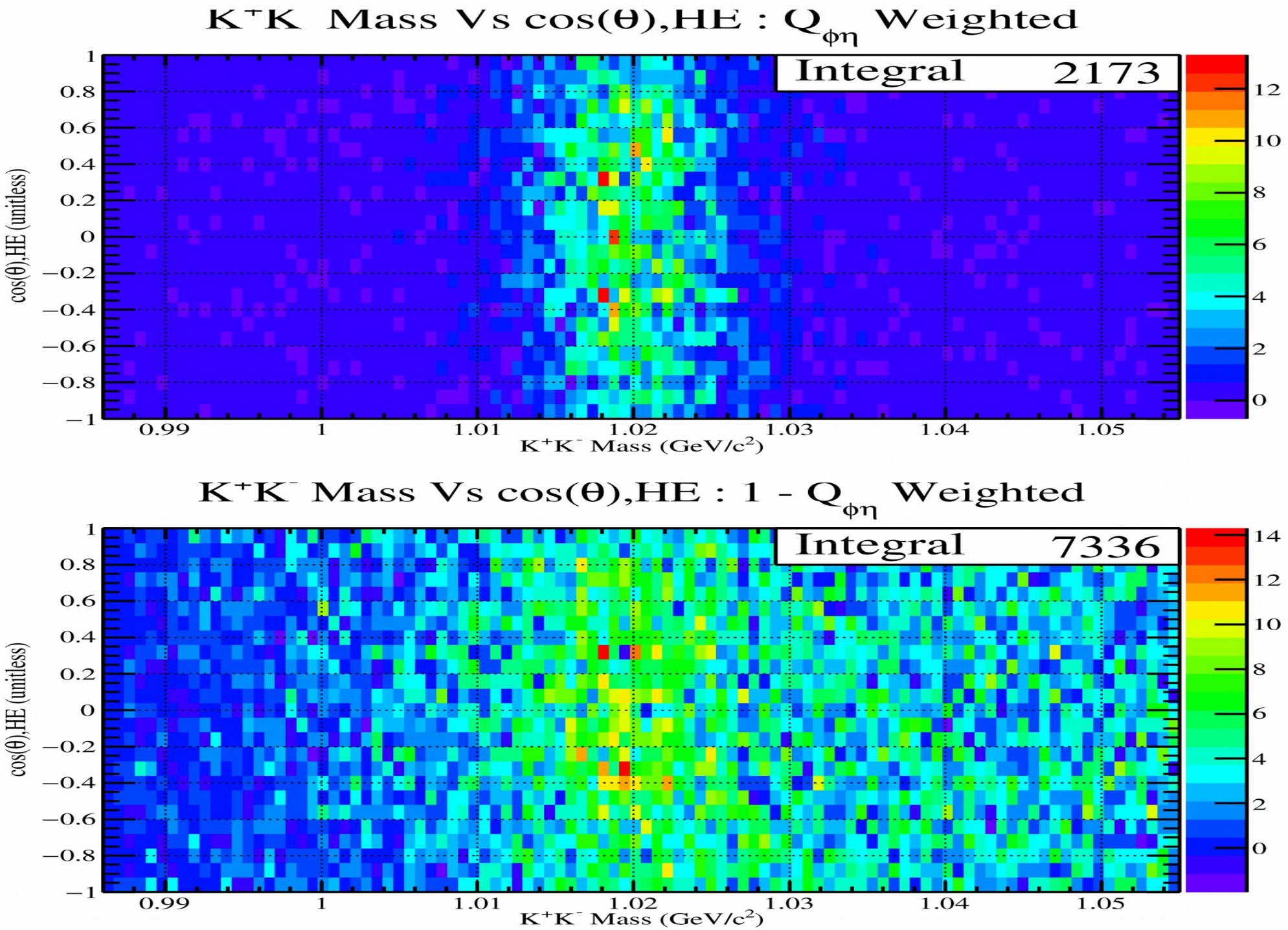
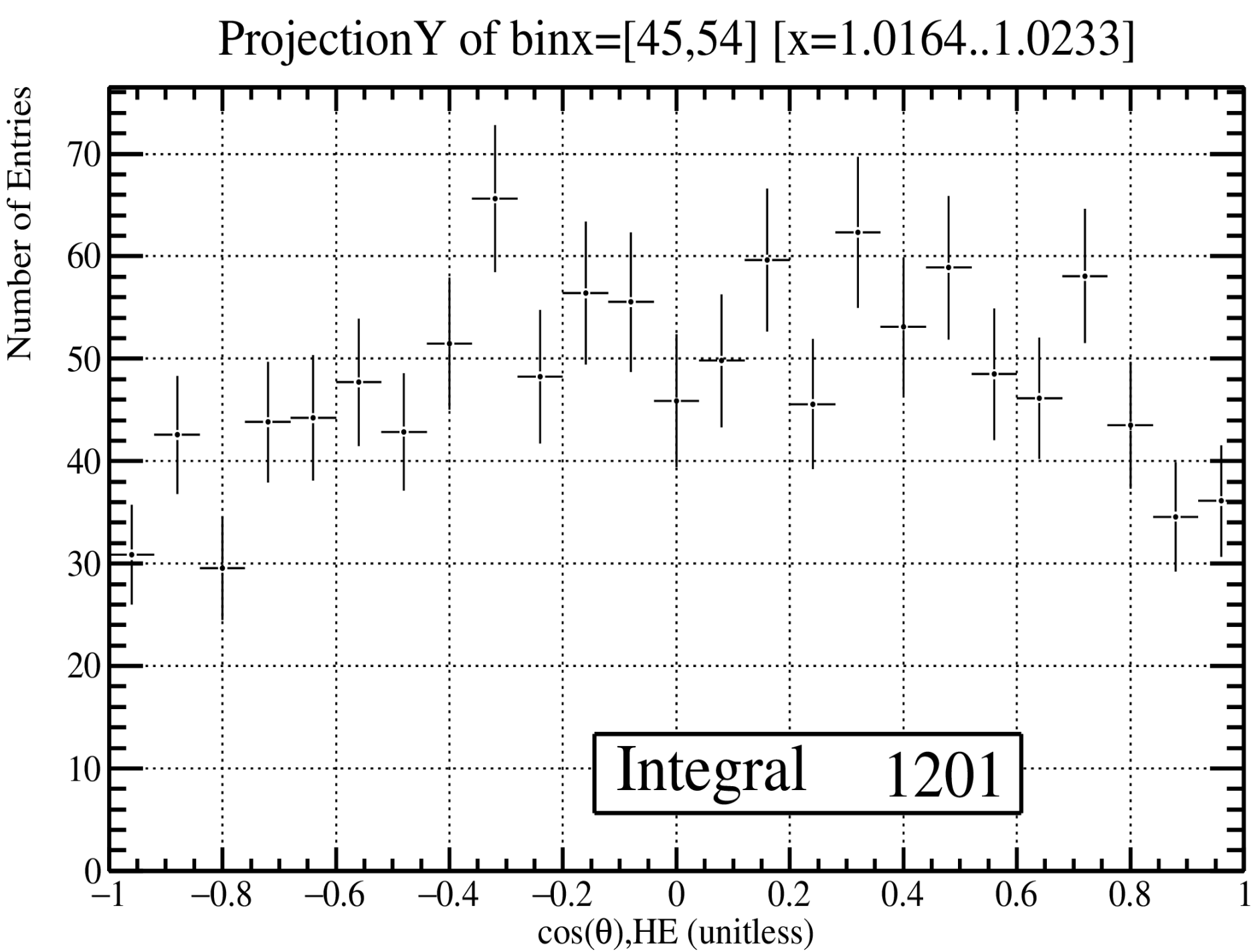
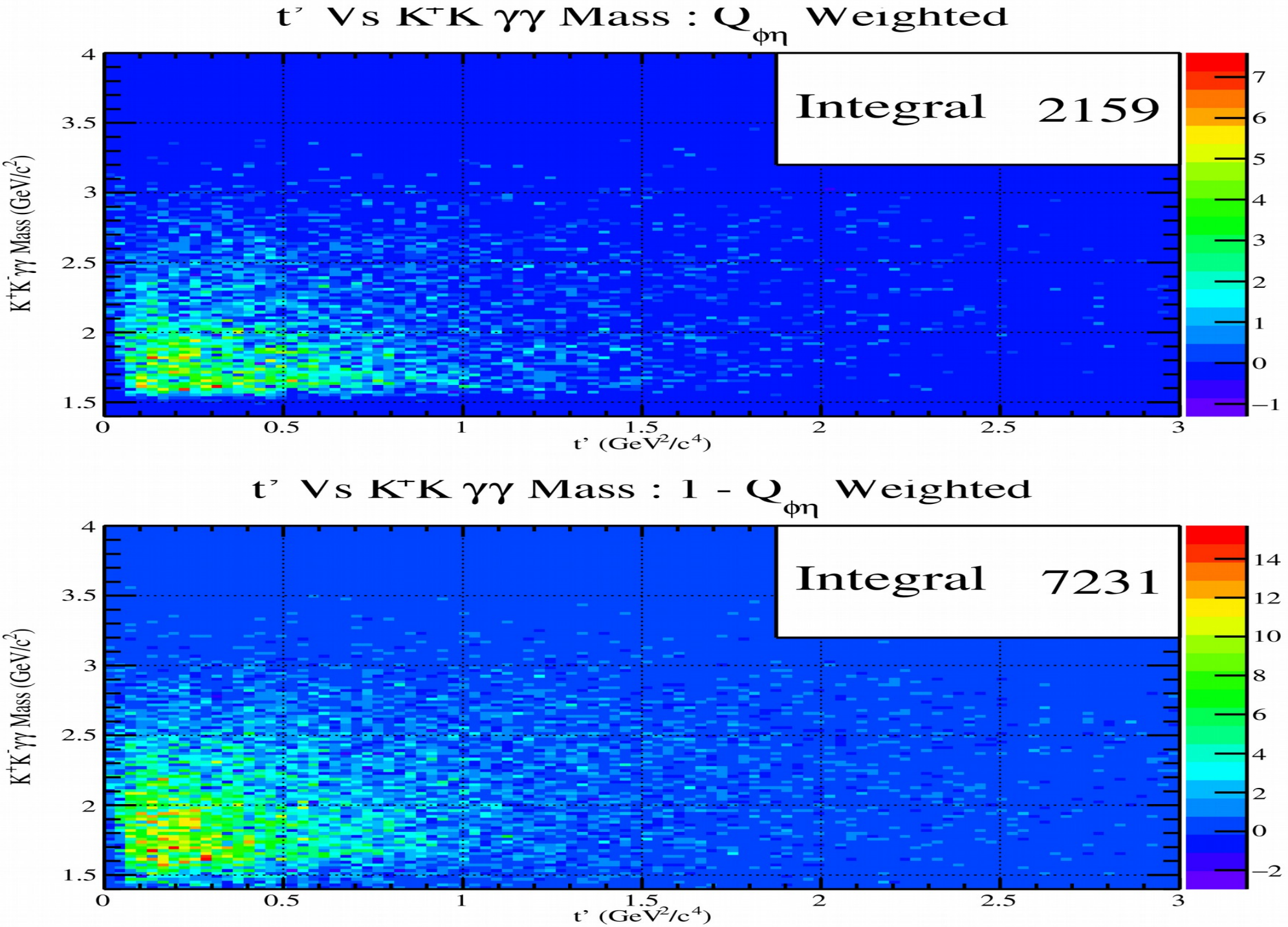
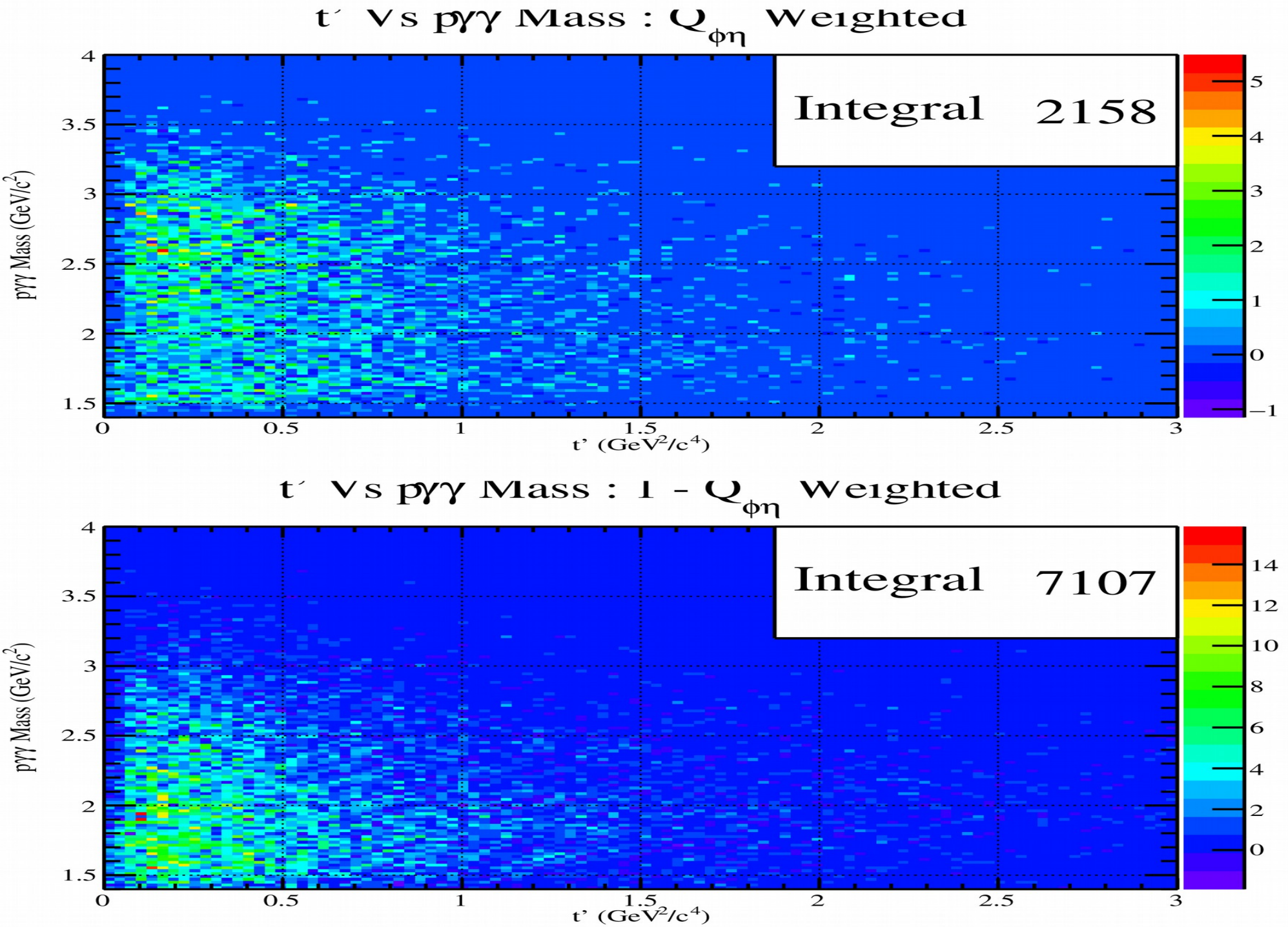
A Closer look at possible baryonic backgrounds

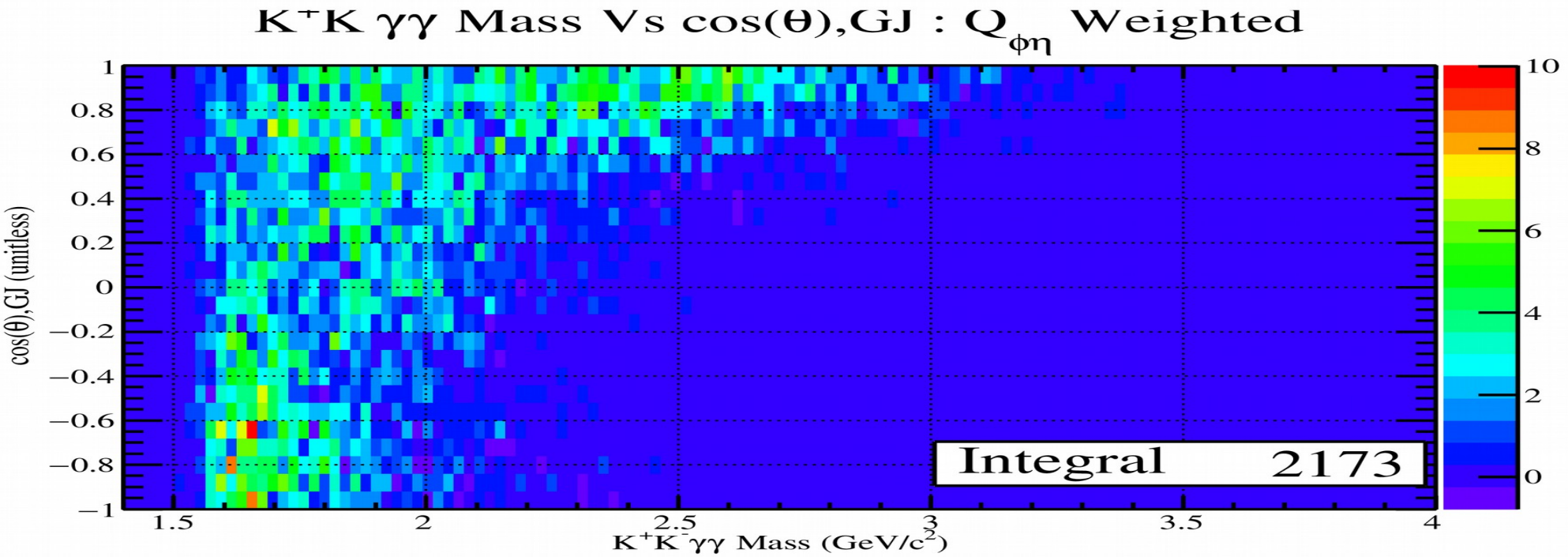
- There will be 2 slides in this talk showing Cos(theta),HE for the K+
- Does a t' cut separate baryonic background from the meson signals?
- What does Cos(theta),GJ look like as a function of mass?
- How does a N* mass cut alter the signal distributions?
- What does the new data look like with no Beam cut?

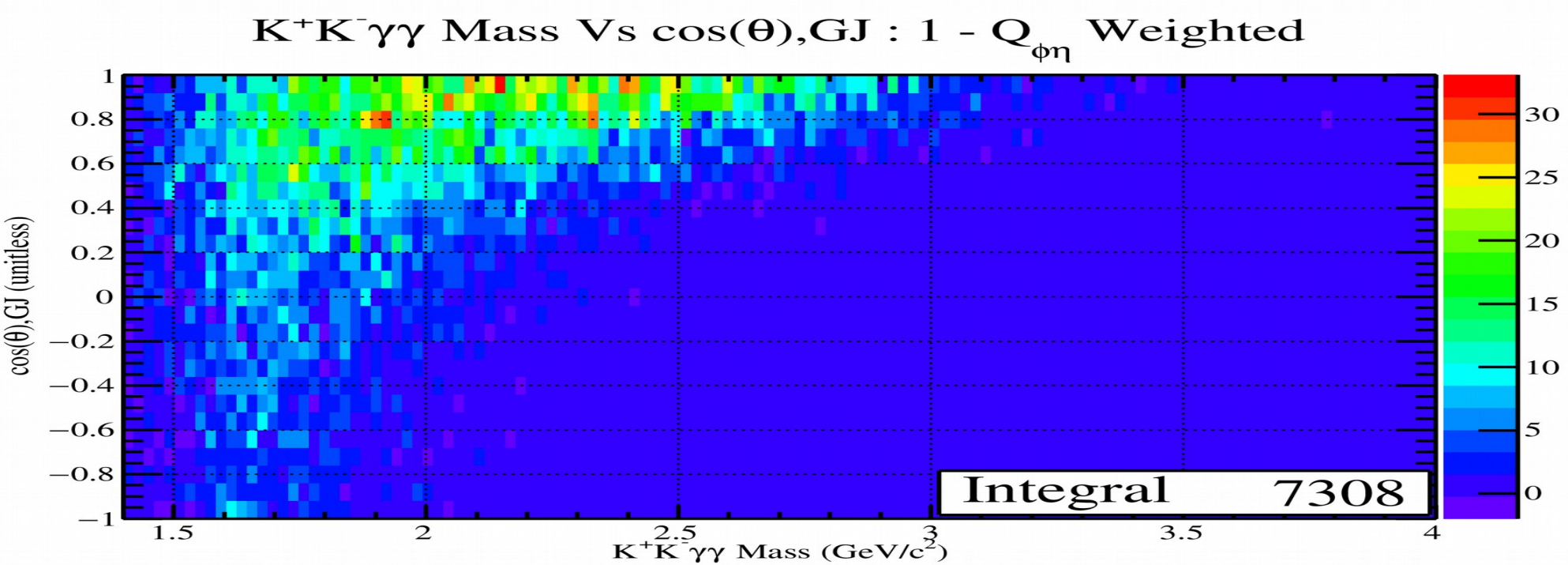

K⁺K⁻ Mass Vs cos(θ),HE : Q_φη Weighted
Integral 2173
cos(θ),HE (unitless)
K⁺K⁻ Mass (GeV/c²)
K⁺K⁻ Mass Vs cos(θ),HE : 1 - Q_φη Weighted
Integral 7336
cos(θ),HE (unitless)
K⁺K⁻ Mass (GeV/c²)

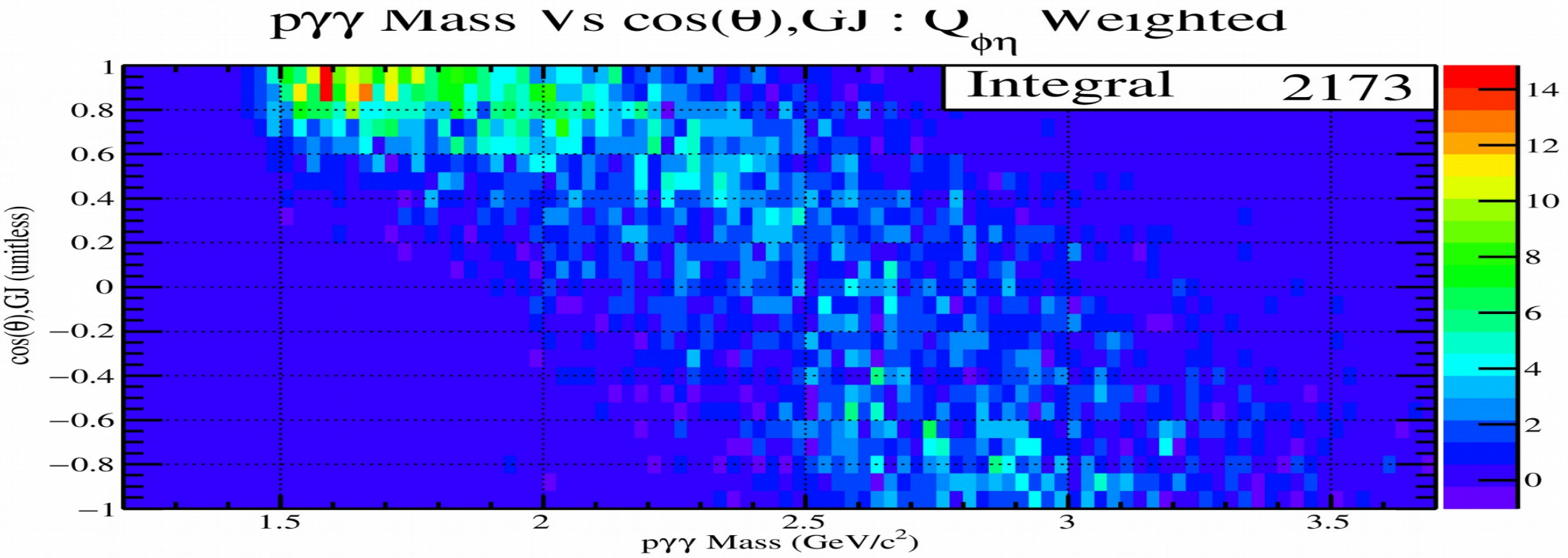

ProjectionY of binx=[45,54] [x=1.0164..1.0233]
Number of Entries
70
60
50
40
30
20
10
0
–1
–0.8
–0.6
–0.4
–0.2
0
0.2
0.4
0.6
0.8
1
cos(θ),HE (unitless)
Integral 1201

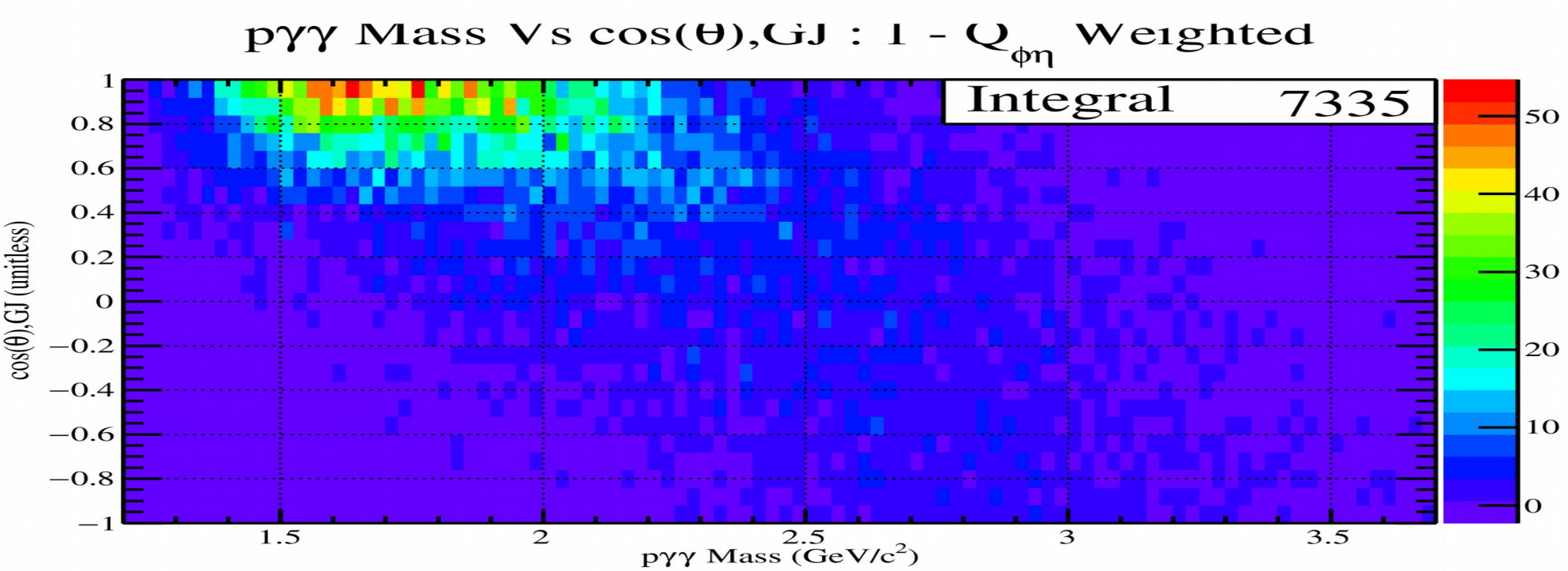

t' Vs K⁺K γγ Mass : Q_φη Weighted
Integral 2159
K⁺K⁻ γγ Mass (GeV/c²)
t' (GeV²/c⁴)
t' Vs K⁺K γγ Mass : 1 - Q_φη Weighted
Integral 7231
K⁺K⁻ γγ Mass (GeV/c²)
t' (GeV²/c⁴)

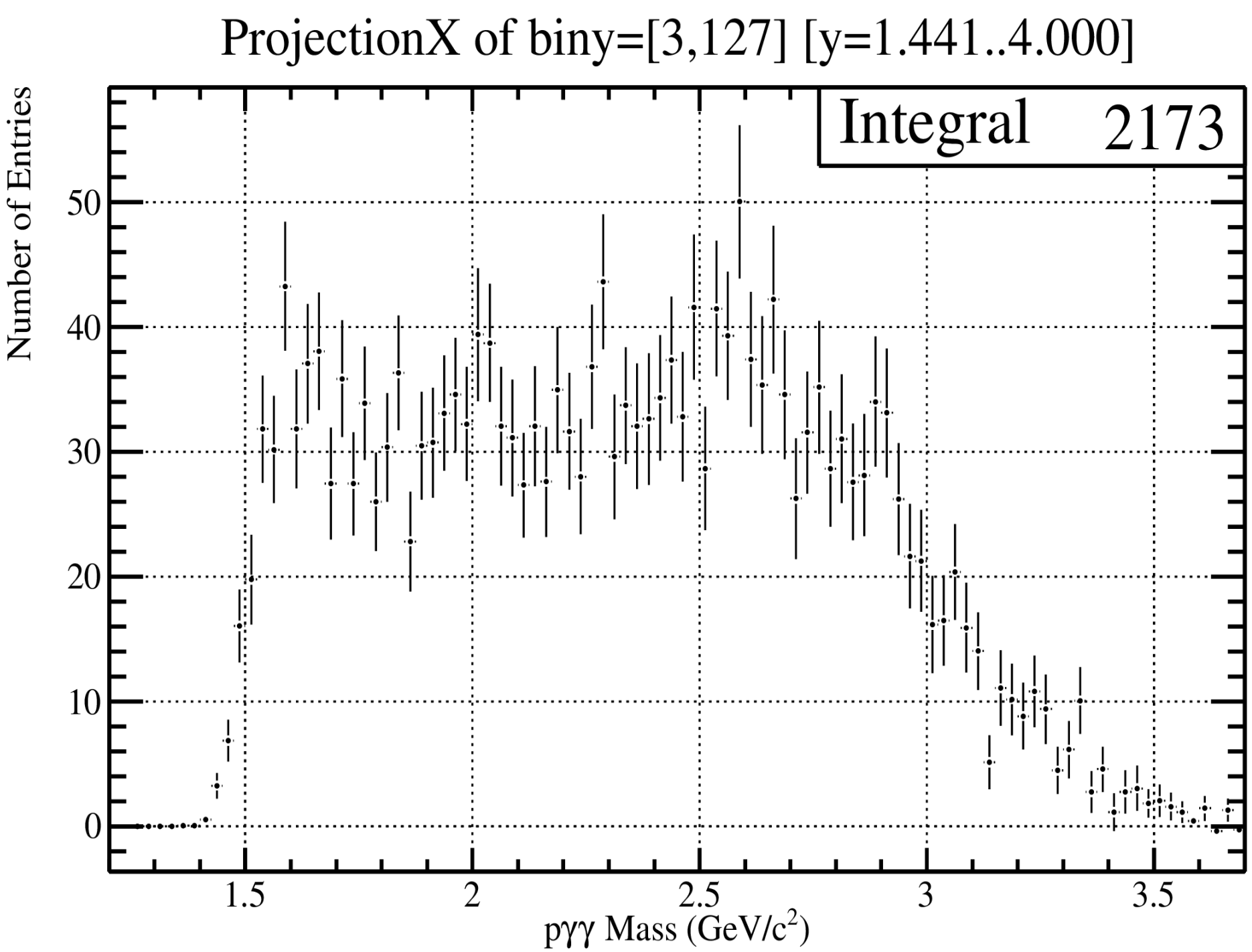

t´ Vs pγγ Mass : $Q_{\phi\eta}$ Weighted
Integral 2158
pγγ Mass (GeV/c²)
t' (GeV²/c⁴)
t´ Vs pγγ Mass : 1 - $Q_{\phi\eta}$ Weighted
Integral 7107
pγγ Mass (GeV/c²)
t' (GeV²/c⁴)


$K^+K^-\gamma\gamma$ Mass Vs cos(θ),GJ : $Q_{\phi\eta}$ Weighted
cos(θ),GJ (unitless)
$K^+K^-\gamma\gamma$ Mass (GeV/c^2)
Integral 2173

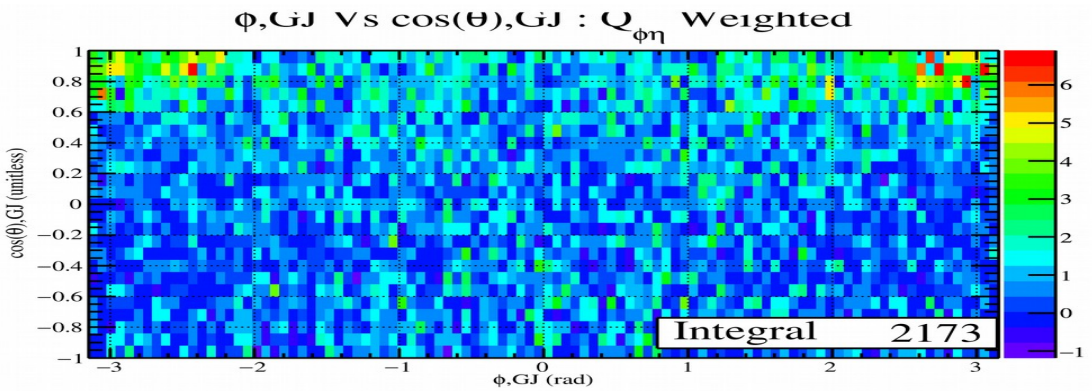

$K^+K^-\gamma\gamma$ Mass Vs cos(θ),GJ : 1 - $Q_{\phi\eta}$ Weighted
cos(θ),GJ (unitless)
$K^+K^-\gamma\gamma$ Mass (GeV/c^2)
Integral 7308

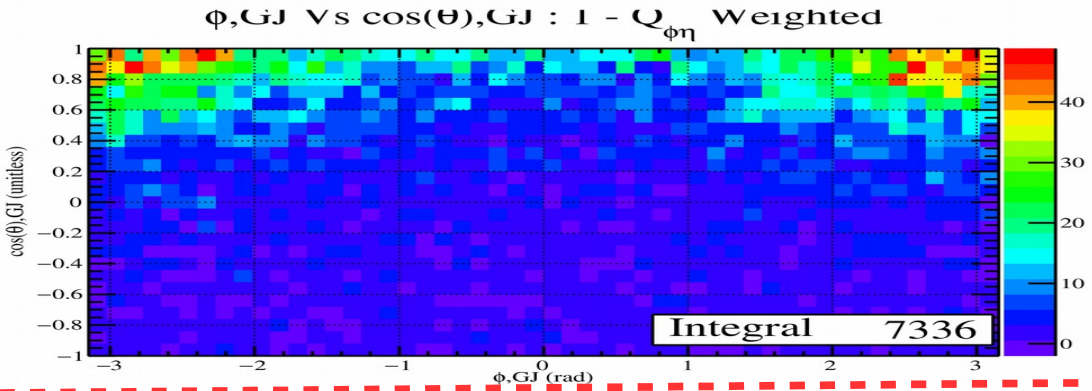

pγγ Mass Vs cos(θ),GJ : Q_φη Weighted
Integral 2173
cos(θ),GJ (unitless)
pγγ Mass (GeV/c²)


pγγ Mass Vs cos(θ),GJ : 1 - Q_φη Weighted
Integral 7335
cos(θ),GJ (unitless)
pγγ Mass (GeV/c²)

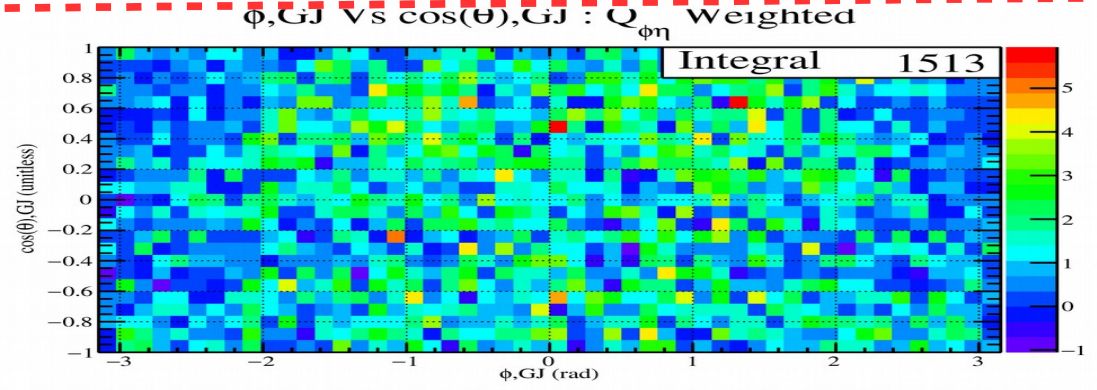

ProjectionX of biny=[3,127] [y=1.441..4.000]
Integral 2173
Number of Entries
0
10
20
30
40
50
1.5
2
2.5
3
3.5
pγγ Mass (GeV/c²)

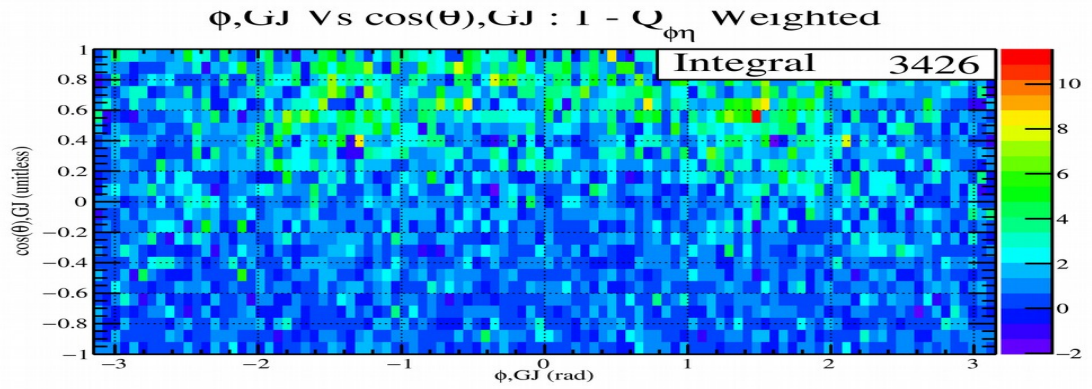
Before N* Cut



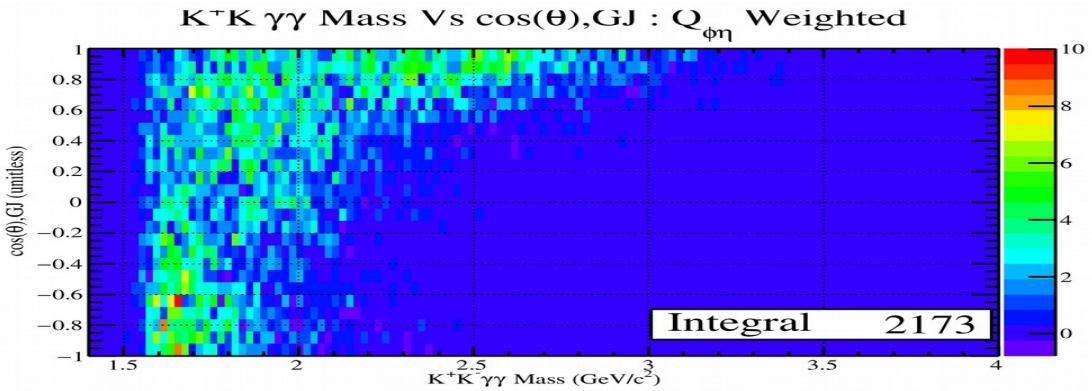


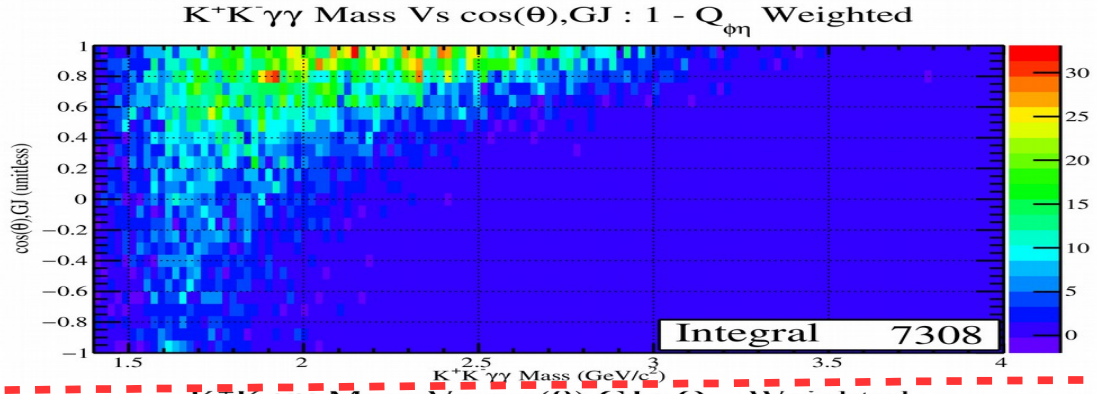
After N* Cut





Before N* Cut





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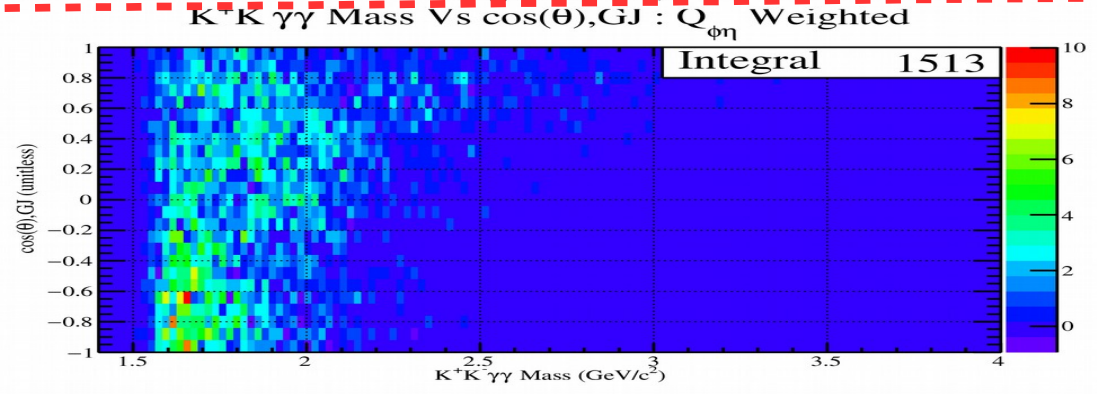
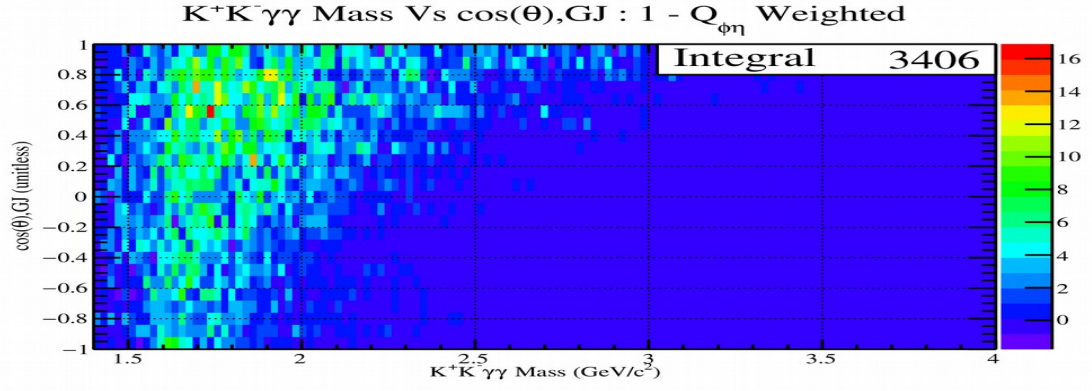
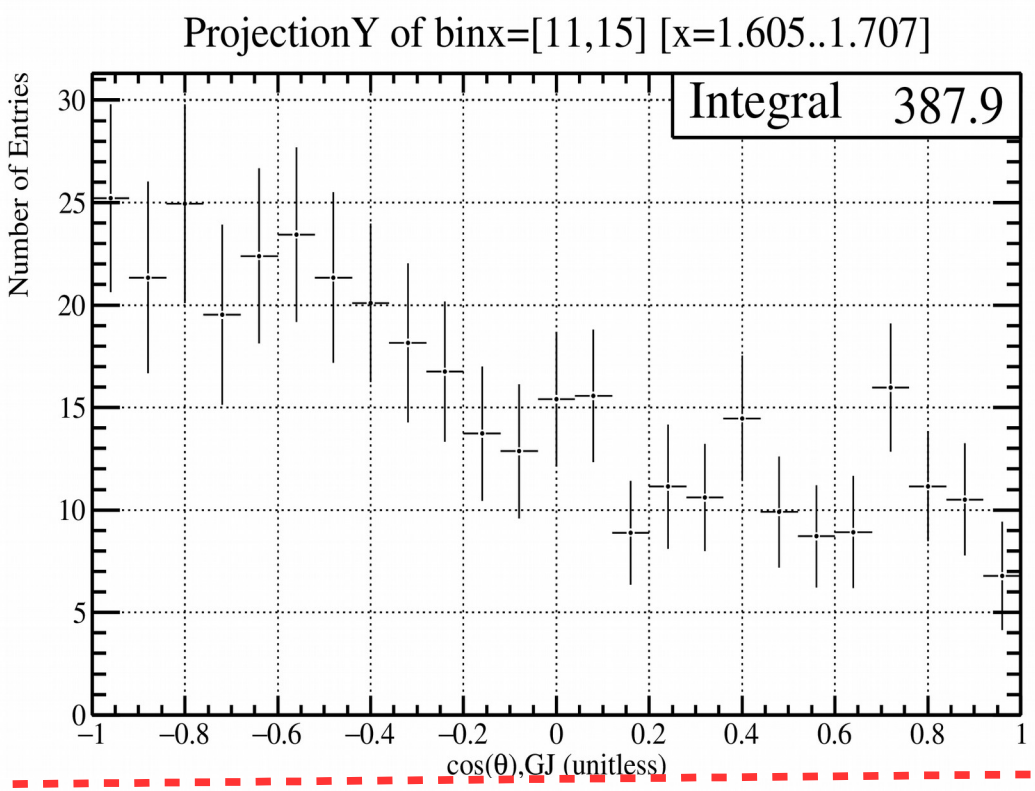




Before N* Cut



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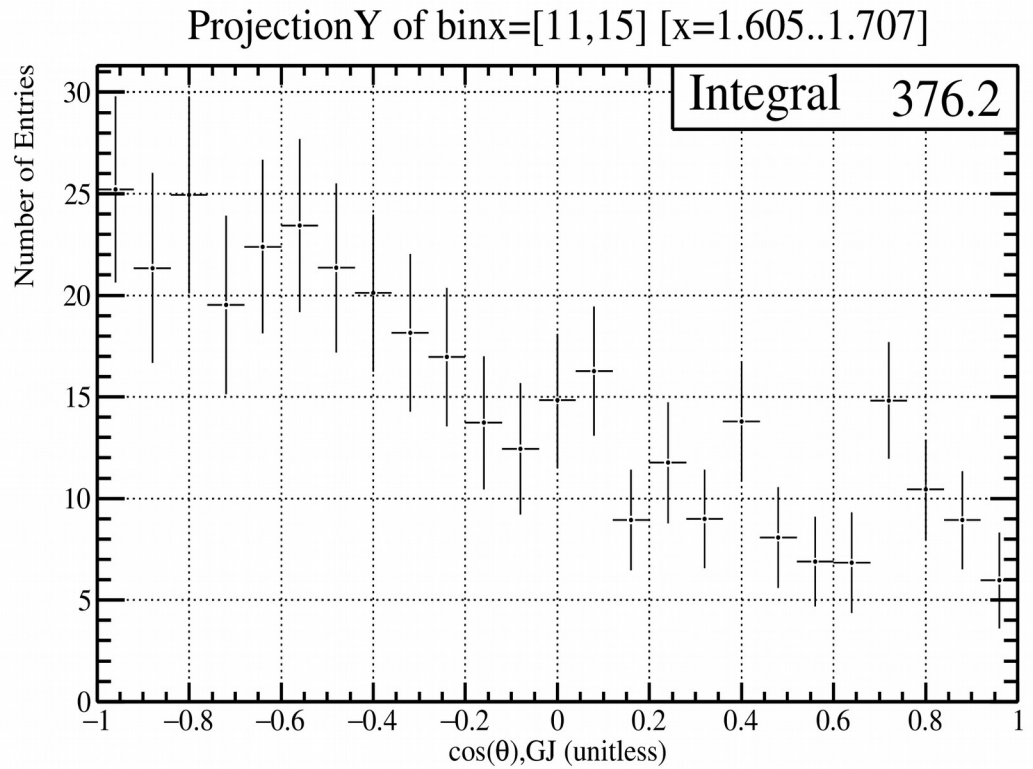

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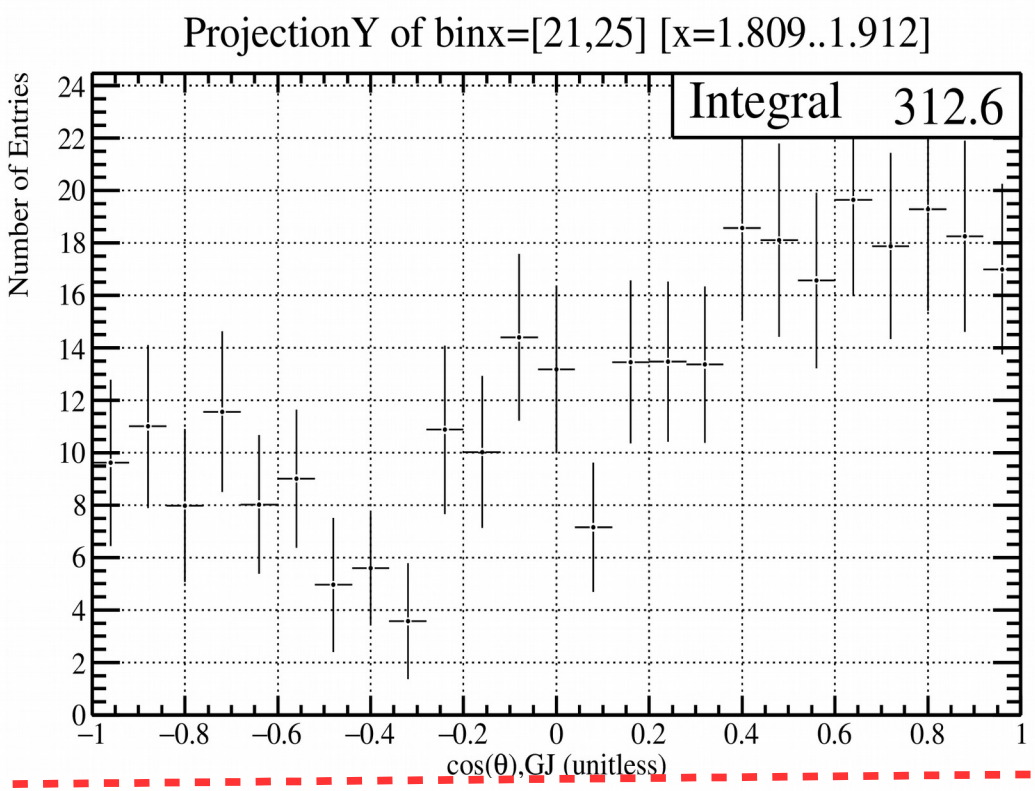
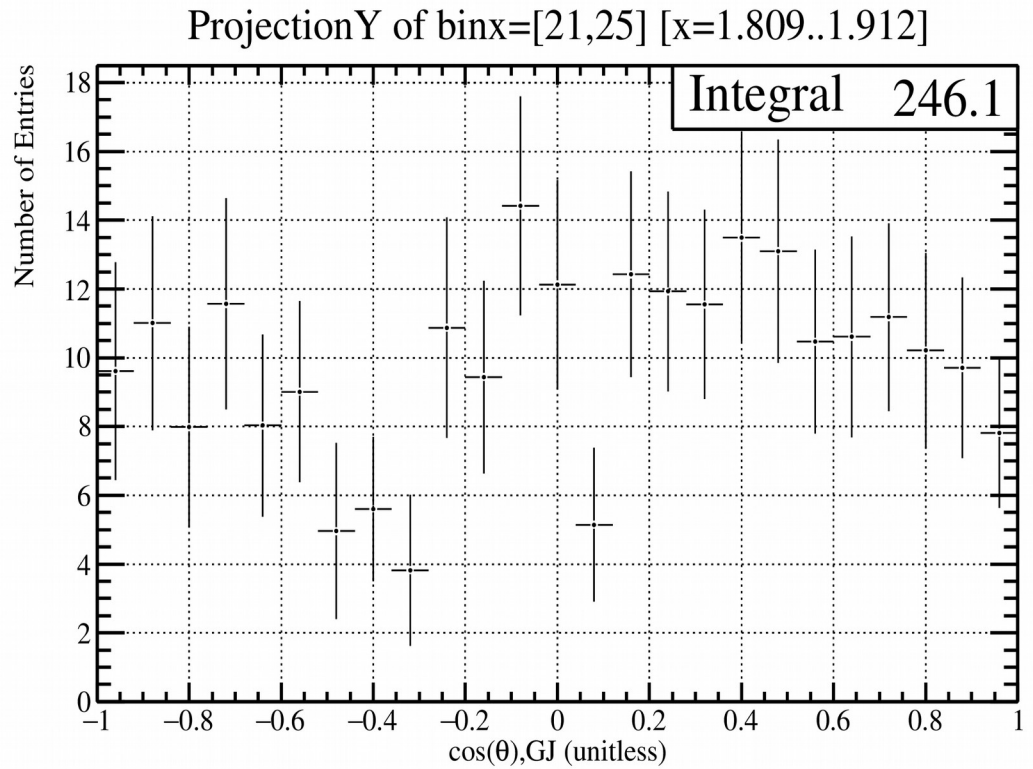
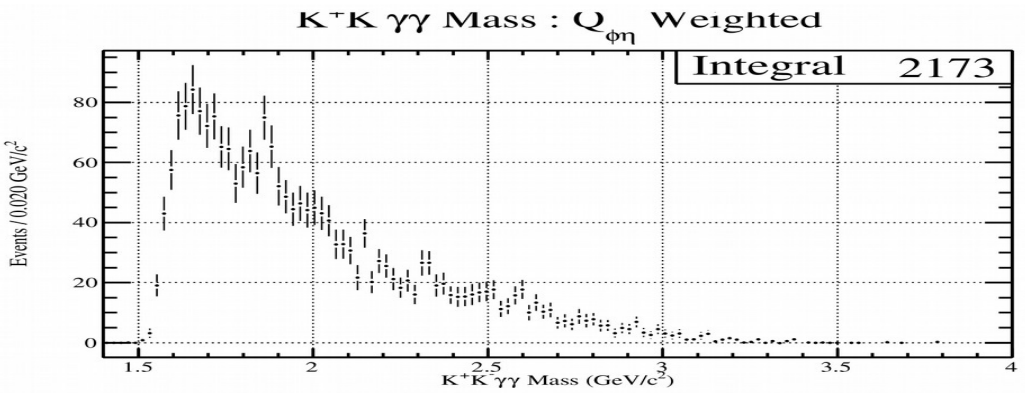
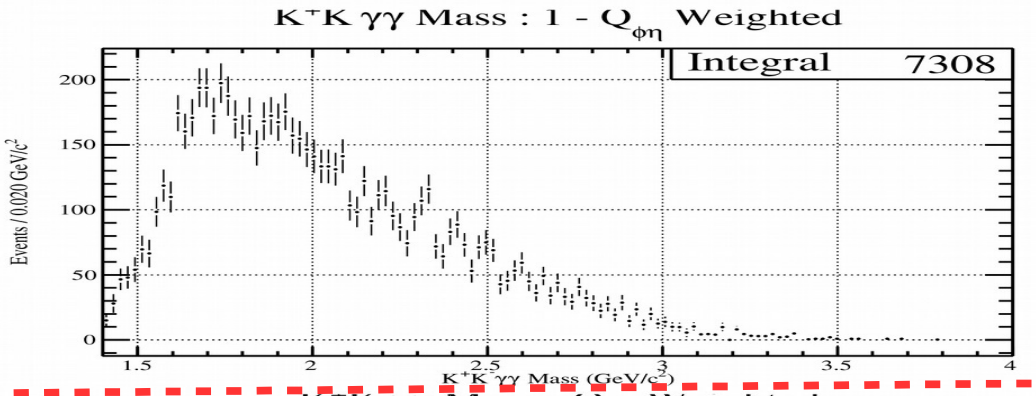


After N* Cut

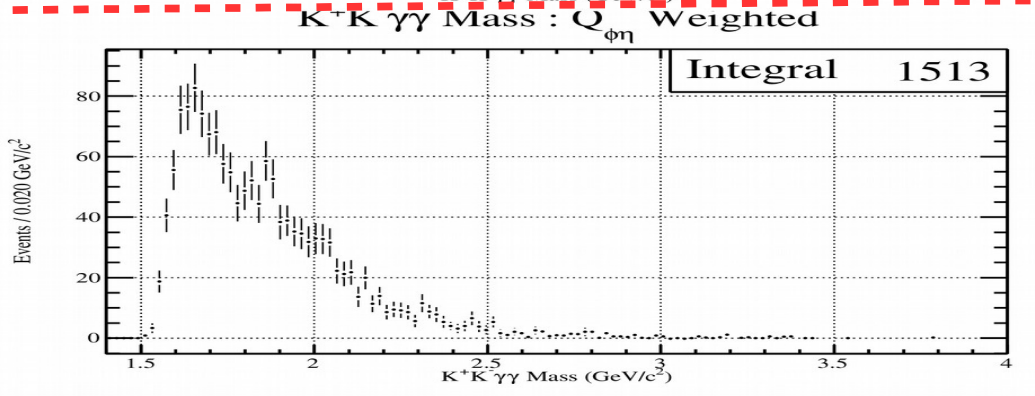


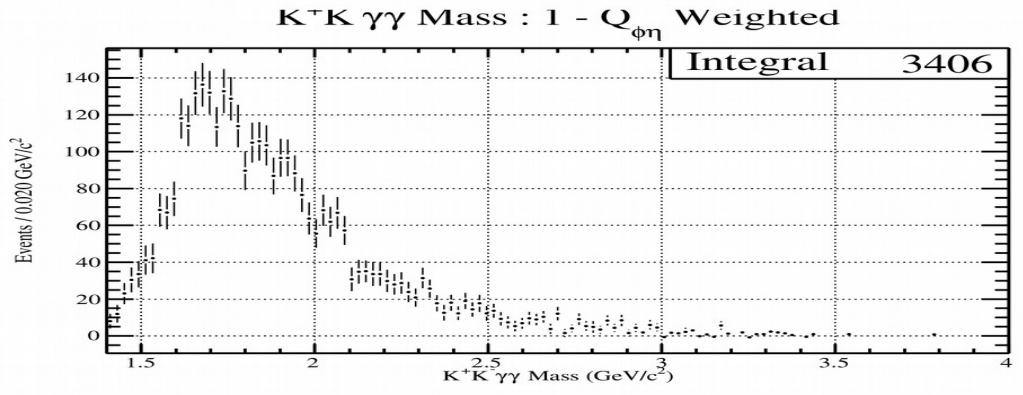
Before N* Cut



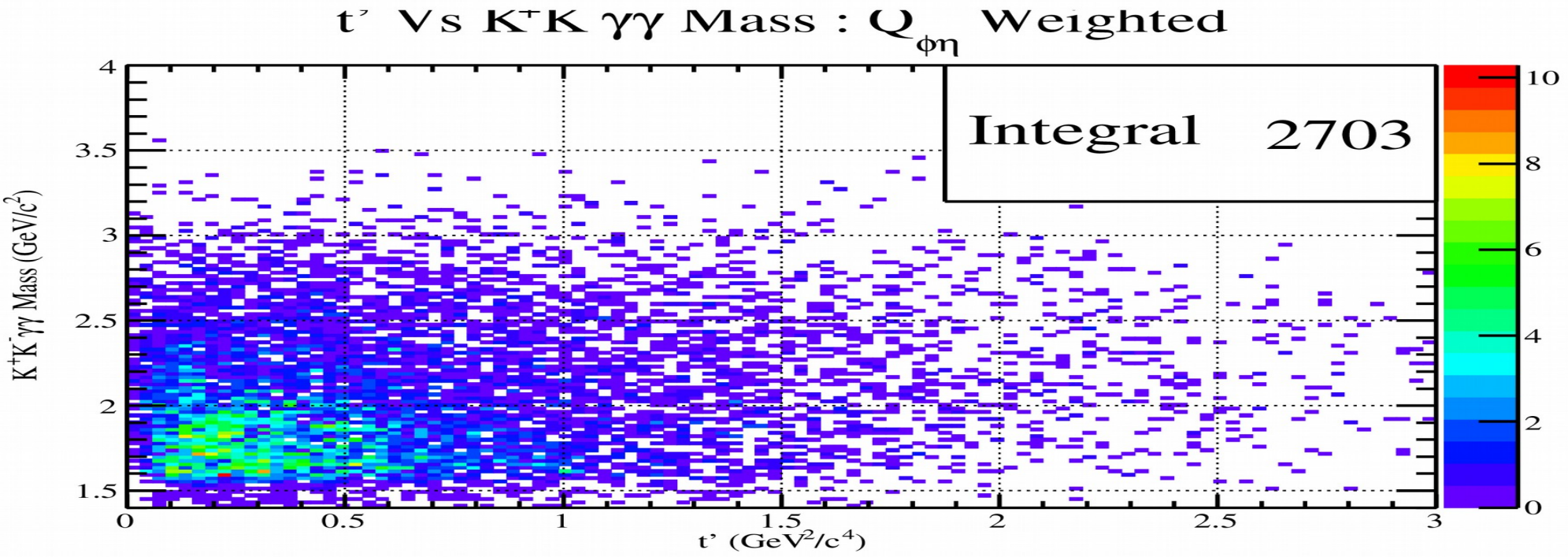


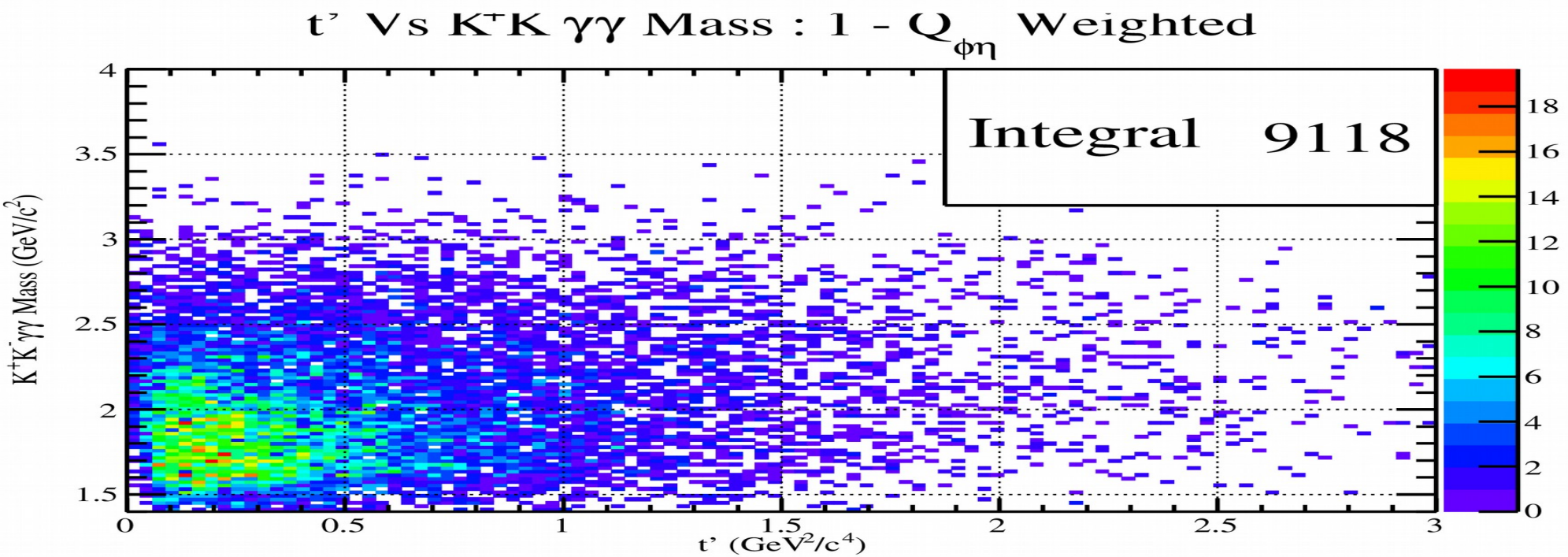
After N* Cut

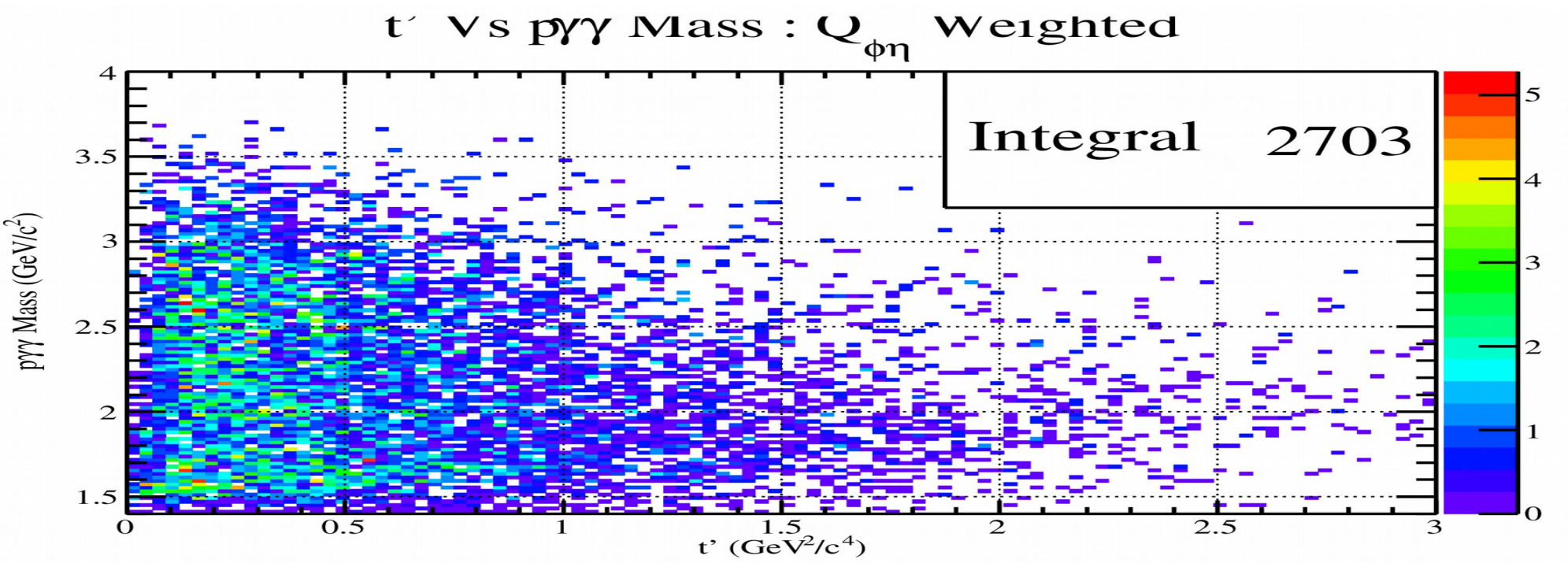


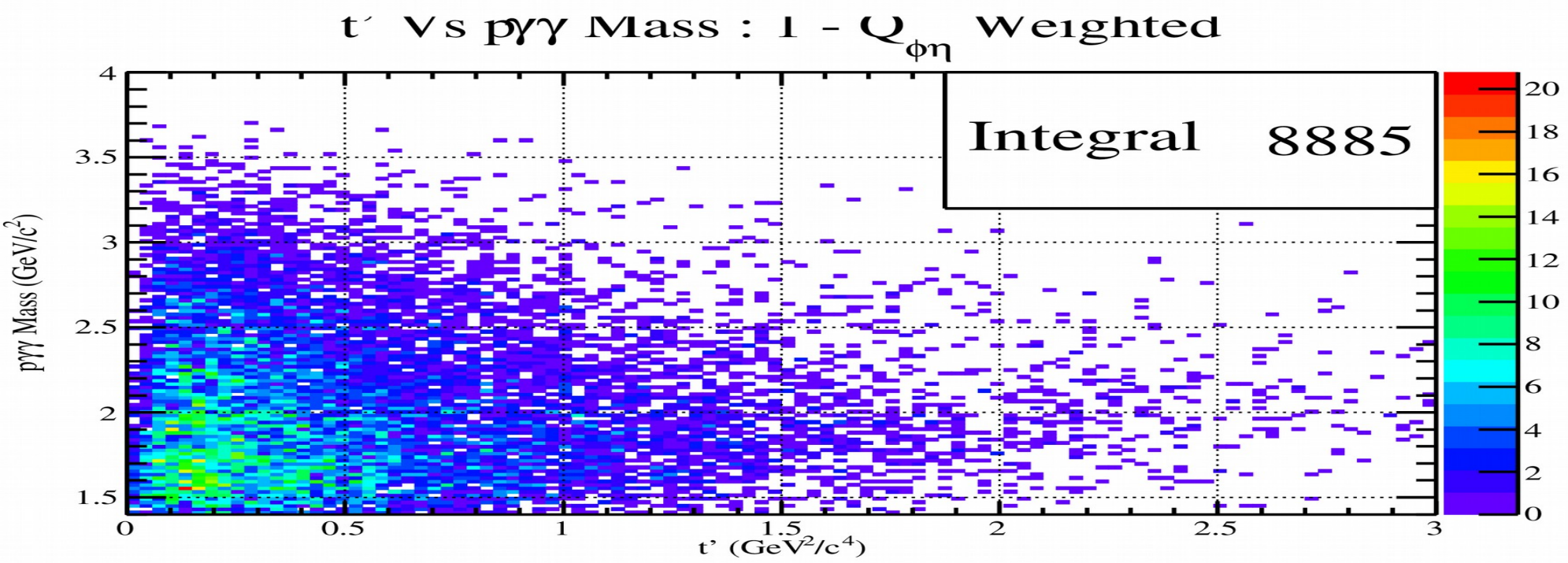


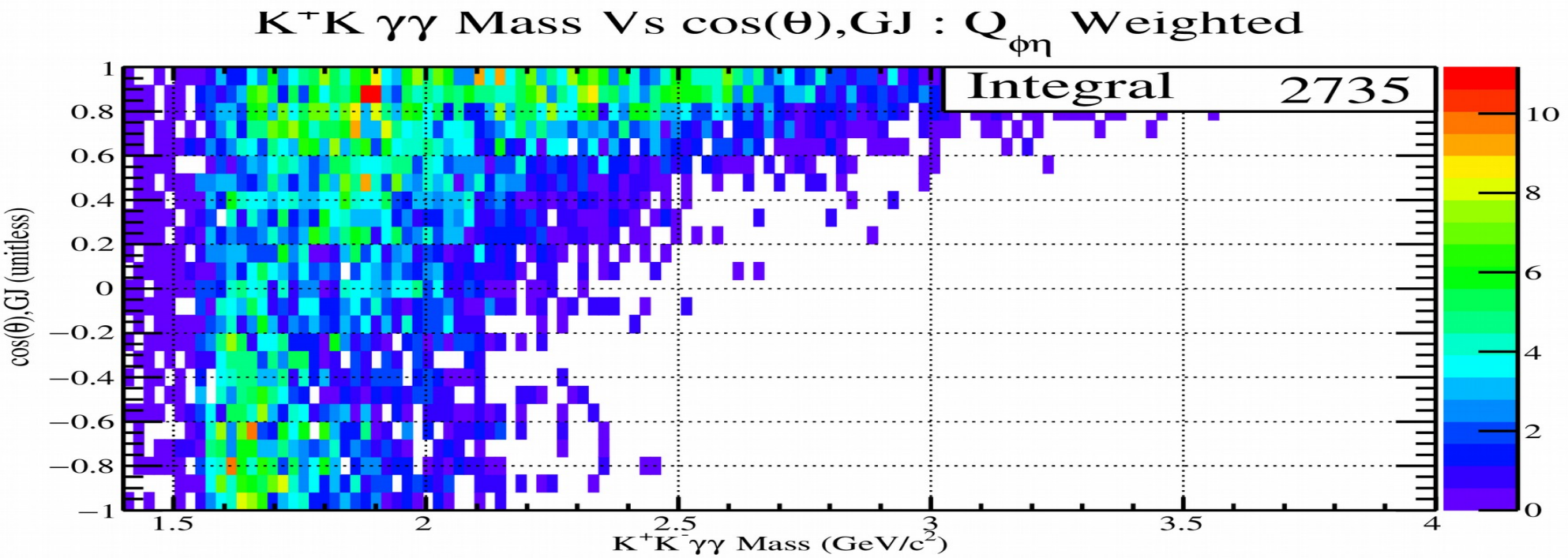
New Data

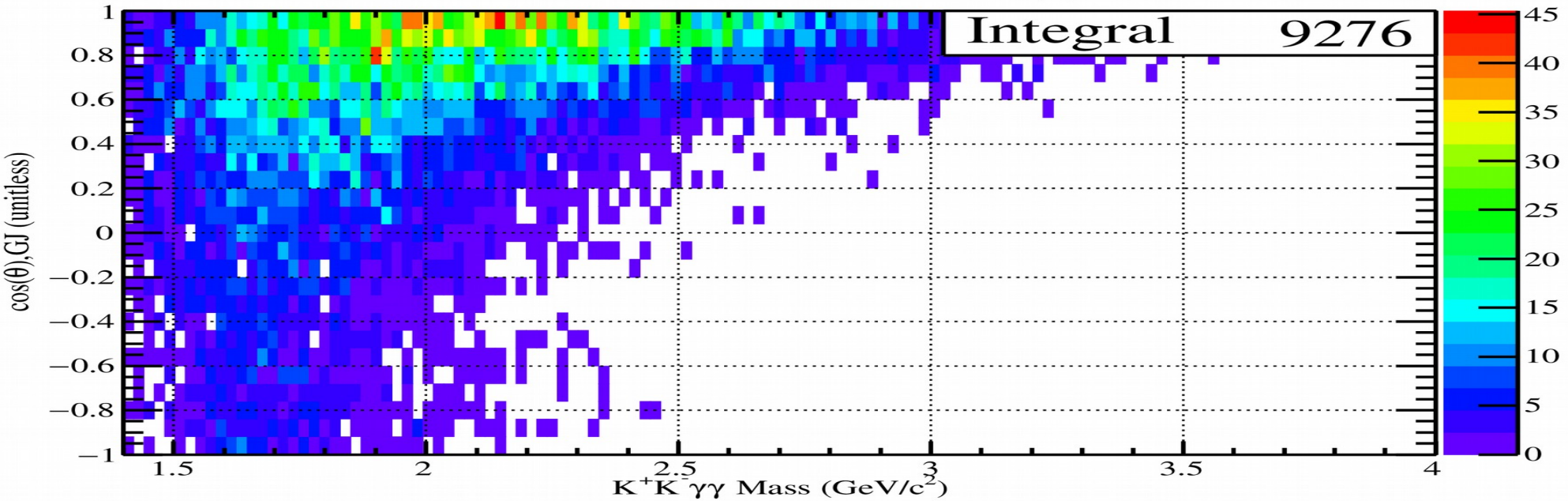

t' Vs K⁺K⁻γγ Mass : Q_φη Weighted
Integral 2703
K⁺K⁻γγ Mass (GeV/c²)
t' (GeV²/c⁴)

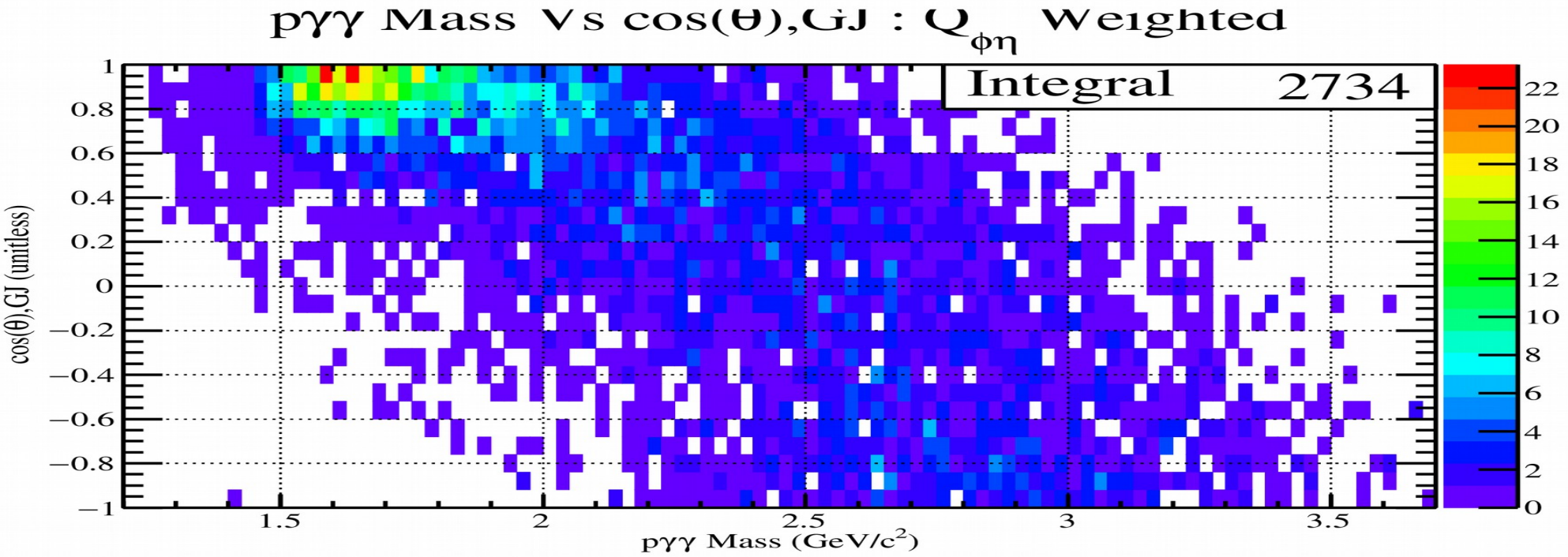

t' Vs K⁺K⁻γγ Mass : 1 - Q_φη Weighted
Integral 9118
K⁺K⁻γγ Mass (GeV/c²)
t' (GeV²/c⁴)

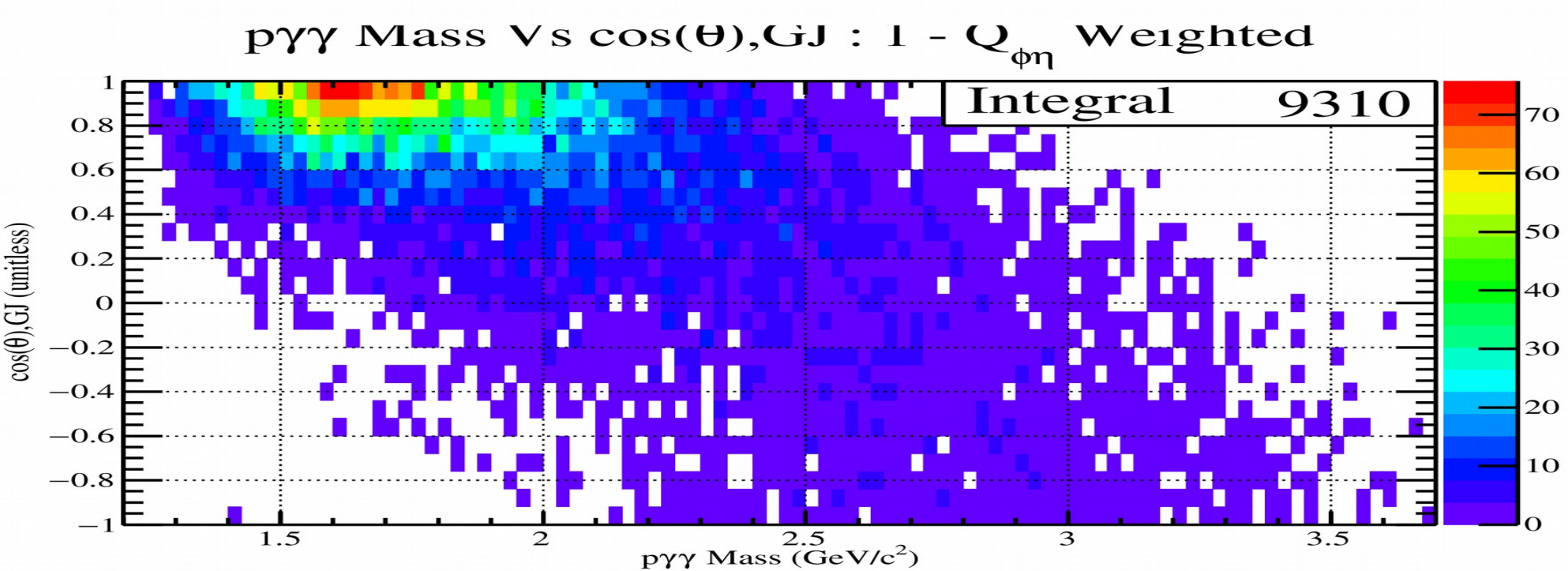

t´ Vs pγγ Mass : $Q_{\phi\eta}$ Weighted
Integral 2703
pγγ Mass (GeV/c²)
t' (GeV²/c⁴)

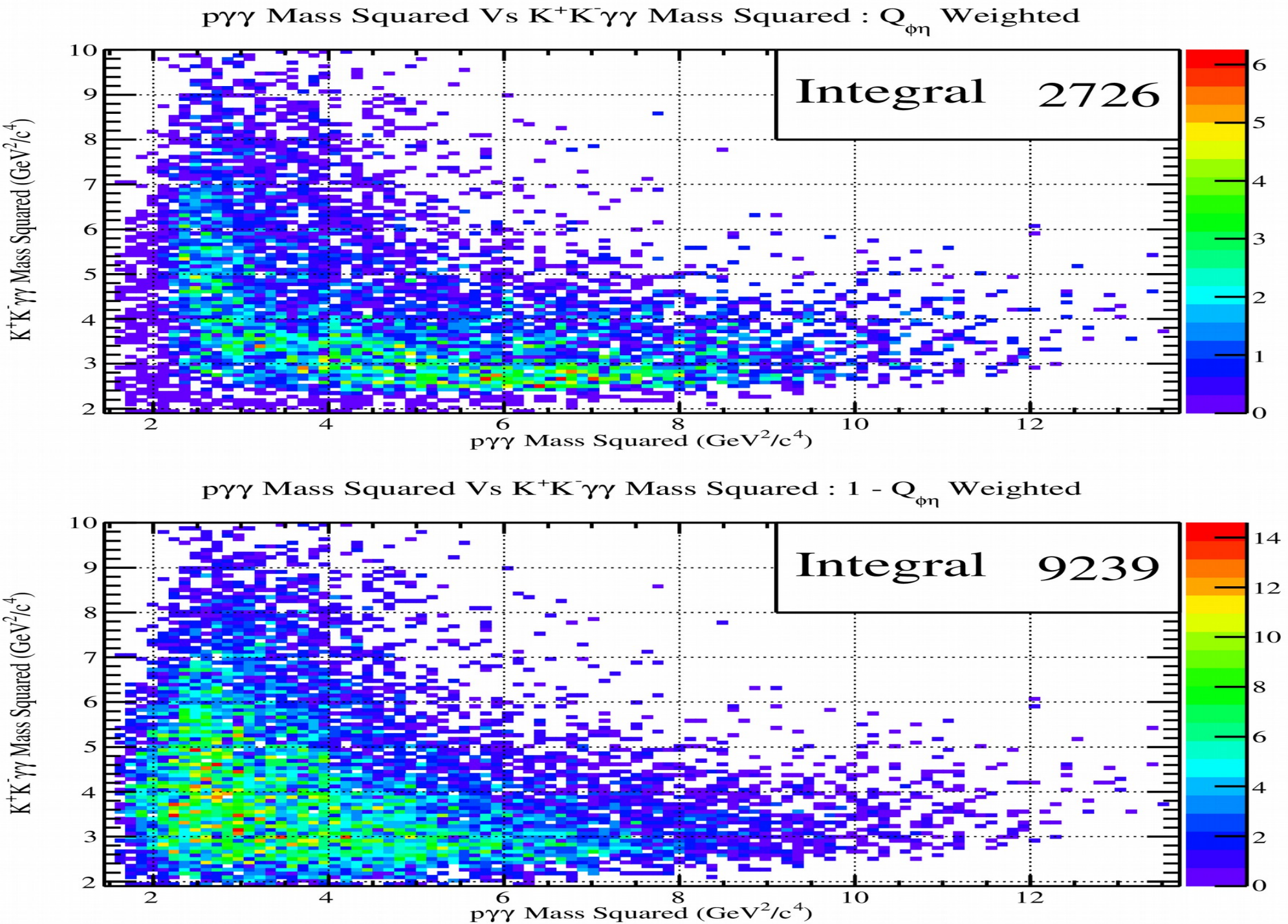

t´ Vs pγγ Mass : 1 - $Q_{\phi\eta}$ Weighted
Integral 8885
pγγ Mass (GeV/c²)
t' (GeV²/c⁴)

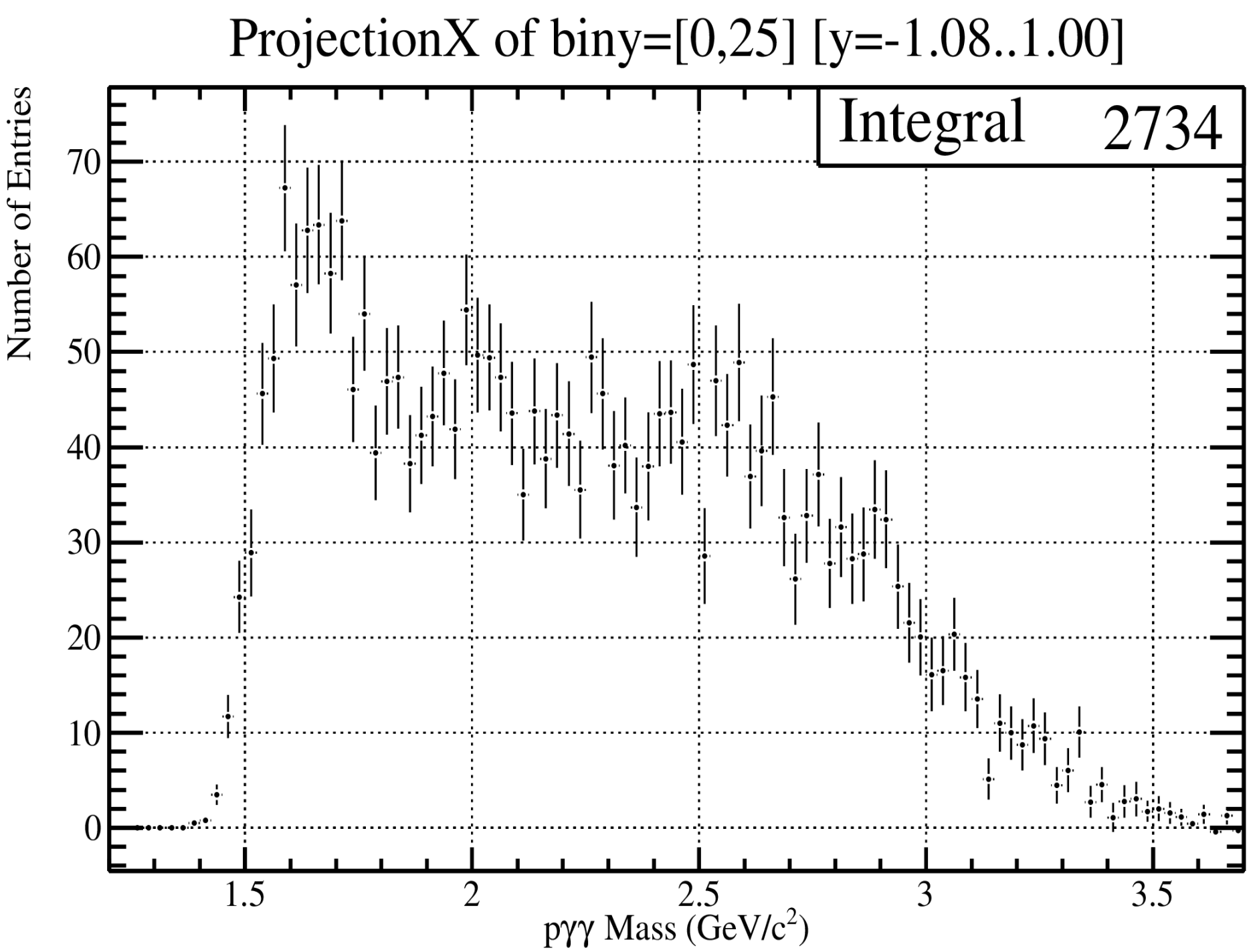

K⁺K⁻γγ Mass Vs cos(θ),GJ : Q_φη Weighted
Integral 2735
cos(θ),GJ (unitless)
K⁺K⁻γγ Mass (GeV/c²)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
1.5
2
2.5
3
3.5
4
10
8
6
4
2
0

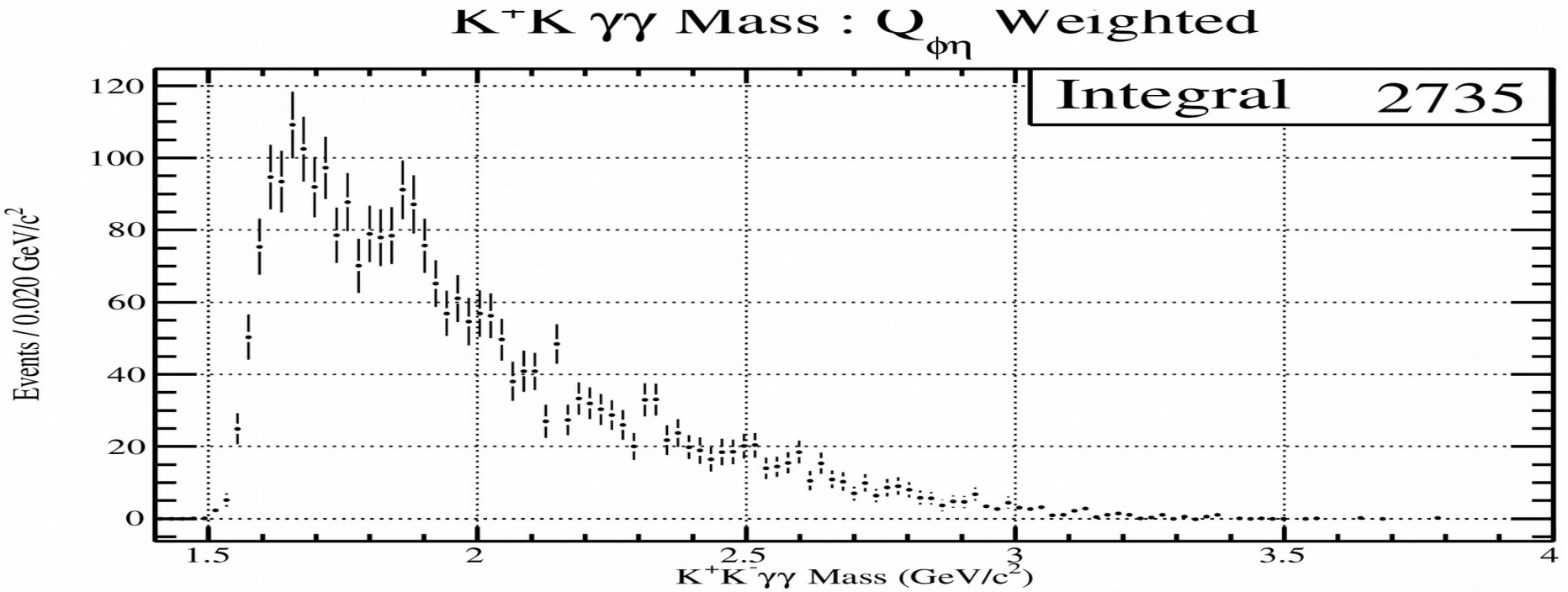

K⁺K⁻γγ Mass Vs cos(θ),GJ : 1 - Q_φη Weighted
Integral 9276
cos(θ),GJ (unitless)
K⁺K⁻γγ Mass (GeV/c²)
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1
1.5
2
2.5
3
3.5
4
45
40
35
30
25
20
15
10
5
0

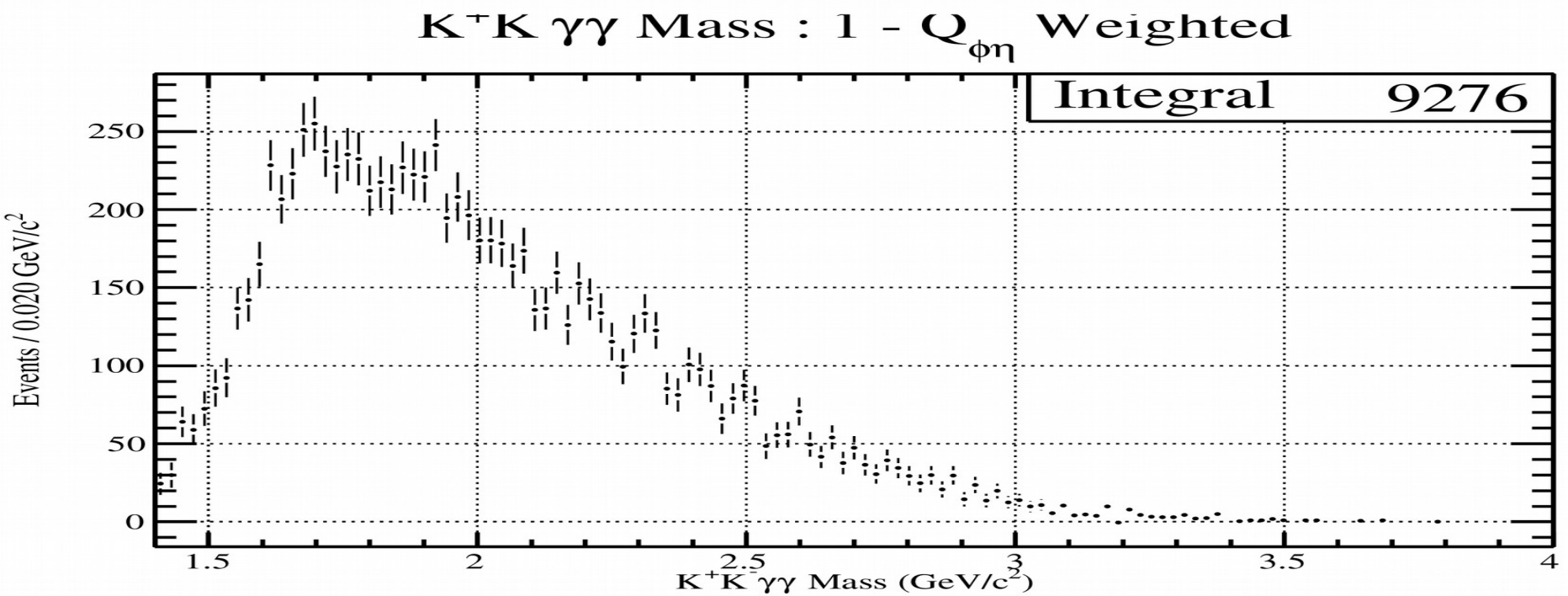

pγγ Mass Vs cos(θ),GJ : Q_φη Weighted
Integral 2734
cos(θ),GJ (unitless)
pγγ Mass (GeV/c²)


pγγ Mass Vs cos(θ),GJ : 1 - Q_φη Weighted
Integral 9310
cos(θ),GJ (unitless)
pγγ Mass (GeV/c²)

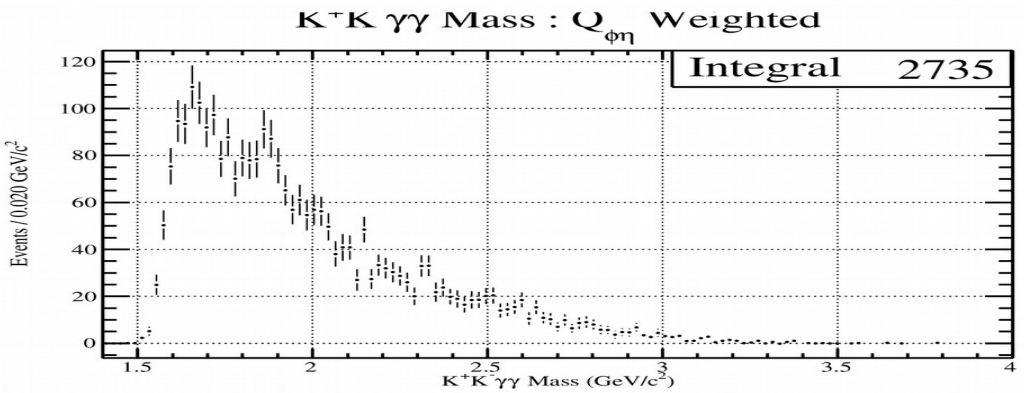

pγγ Mass Squared Vs K⁺K⁻γγ Mass Squared : Q_φη Weighted
Integral 2726
K⁺K⁻γγ Mass Squared (GeV²/c⁴)
pγγ Mass Squared (GeV²/c⁴)
pγγ Mass Squared Vs K⁺K⁻γγ Mass Squared : 1 - Q_φη Weighted
Integral 9239
K⁺K⁻γγ Mass Squared (GeV²/c⁴)
pγγ Mass Squared (GeV²/c⁴)

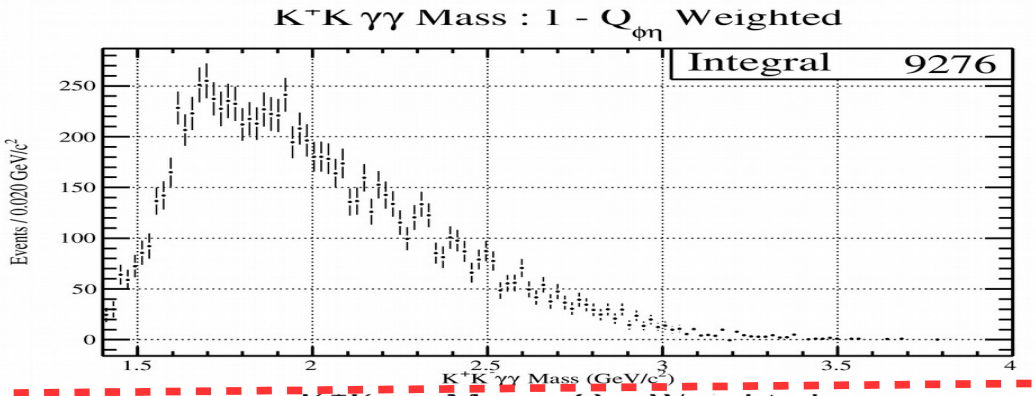

ProjectionX of biny=[0,25] [y=-1.08..1.00]
Integral 2734
Number of Entries
0
10
20
30
40
50
60
70
1.5
2
2.5
3
3.5
pγγ Mass (GeV/c²)


$K^+K^-\gamma\gamma$ Mass : $Q_{\phi\eta}$ Weighted
Integral 2735
Events / 0.020 GeV/c^2
$K^+K^-\gamma\gamma$ Mass (GeV/c^2)

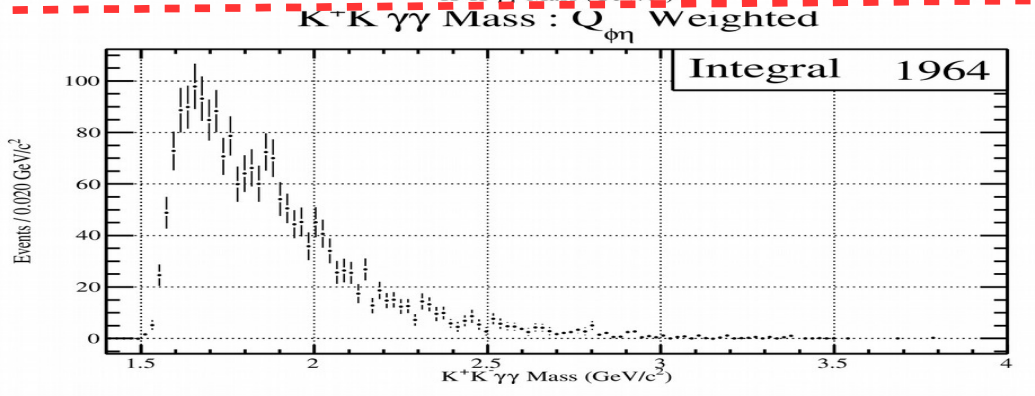

$K^+K^-\gamma\gamma$ Mass : 1 - $Q_{\phi\eta}$ Weighted
Integral 9276
Events / 0.020 GeV/c^2
$K^+K^-\gamma\gamma$ Mass (GeV/c^2)

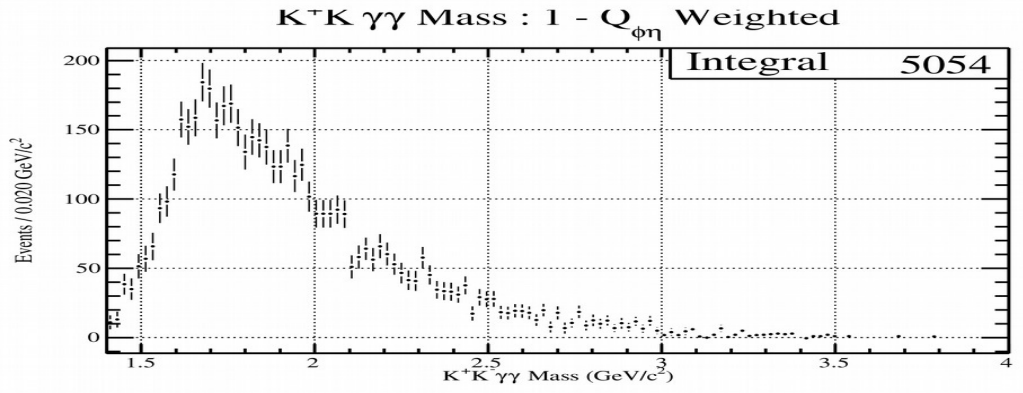
Before N* Cut



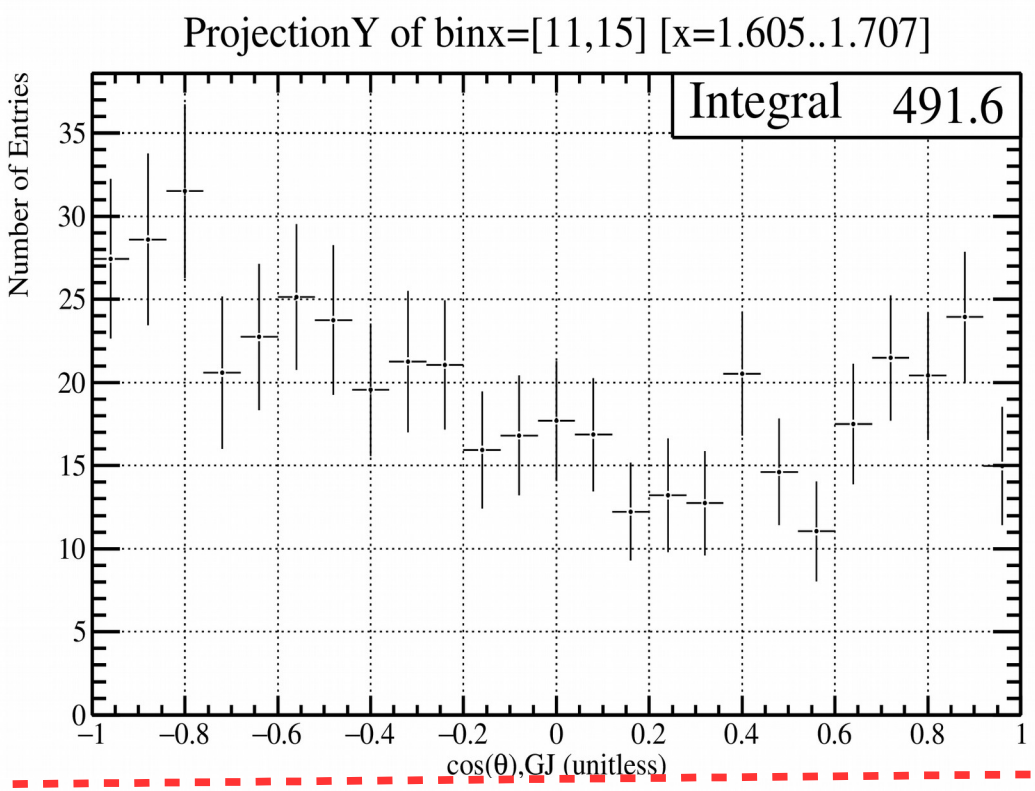


After N* Cut

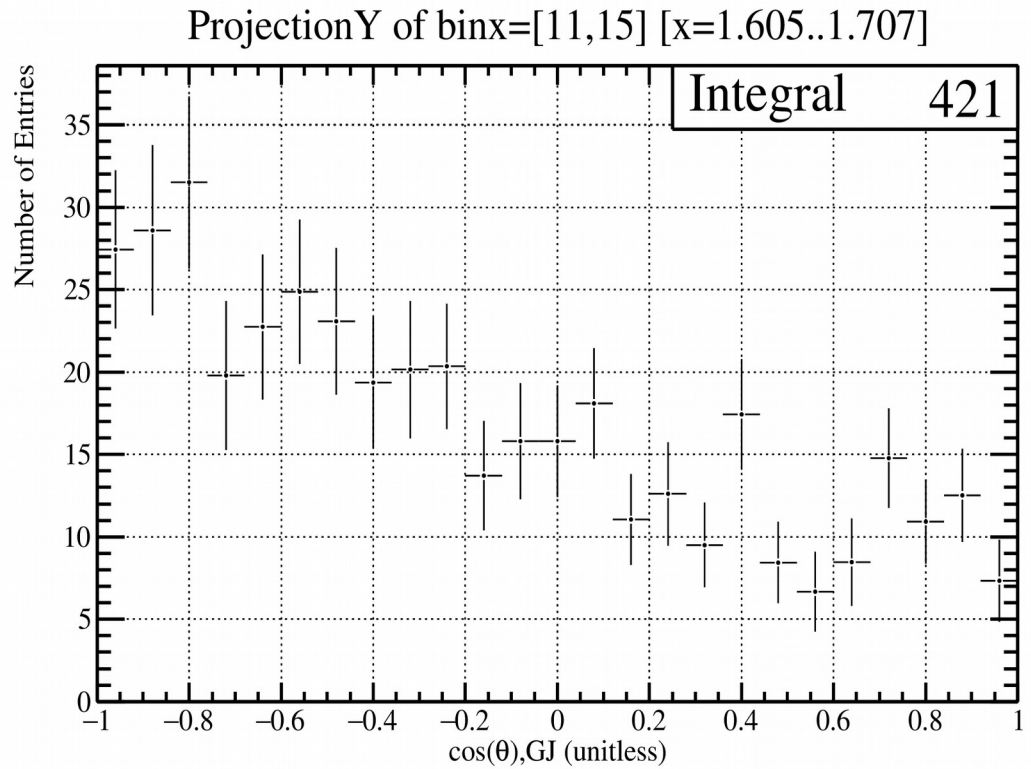




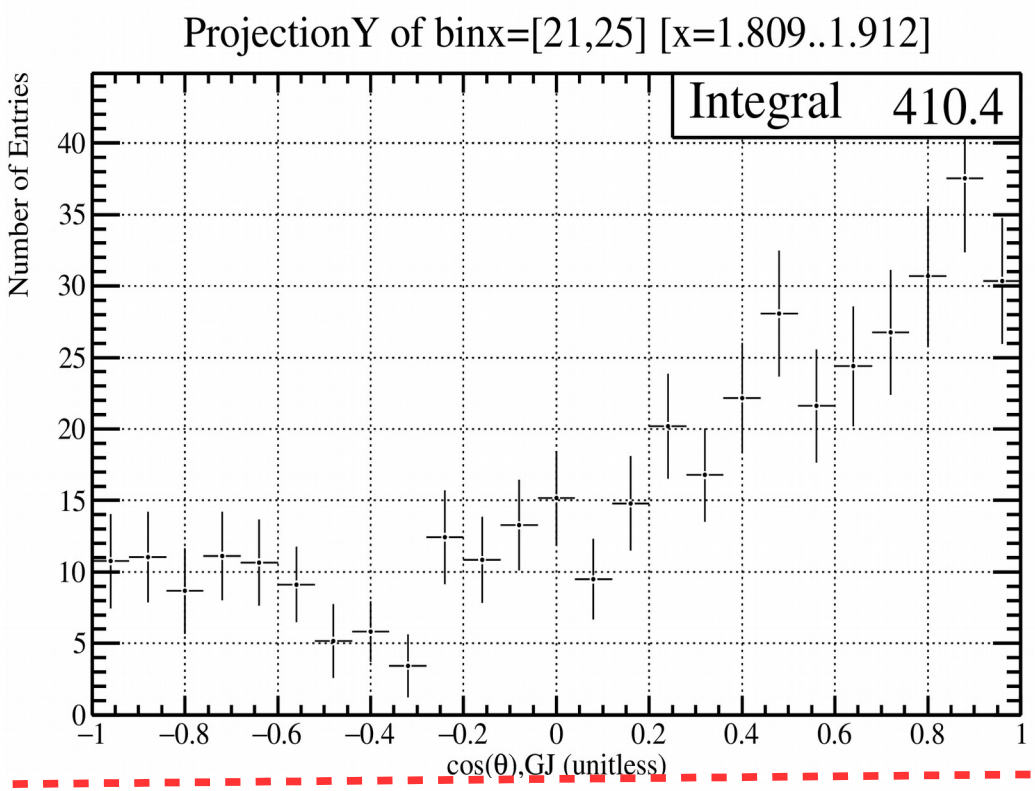
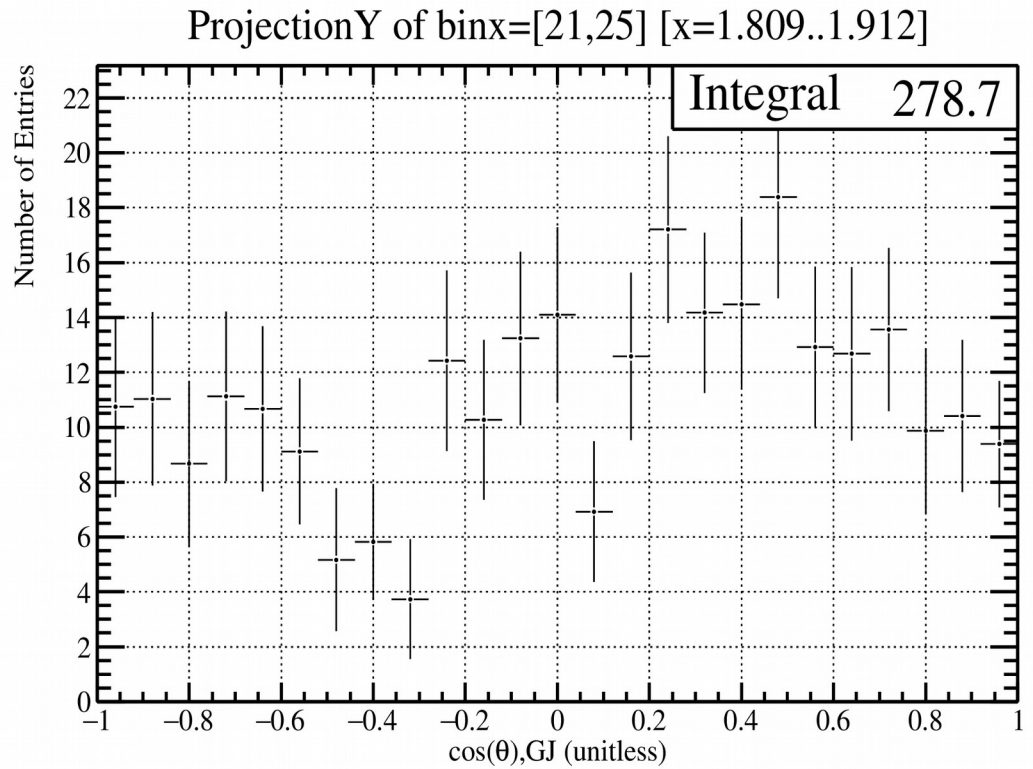
Before N* Cut



After N* Cut



Before N* Cut



After N* Cut