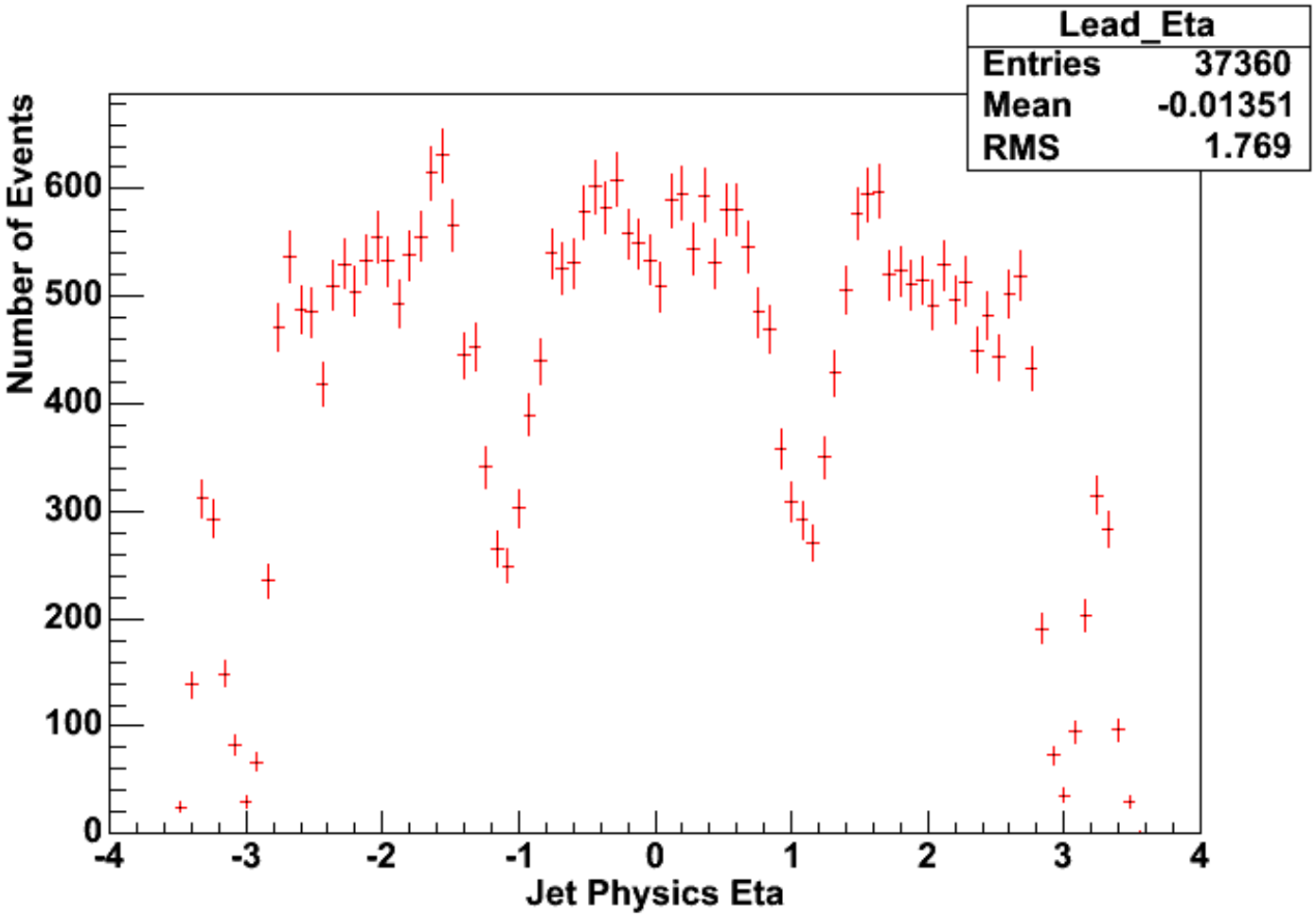
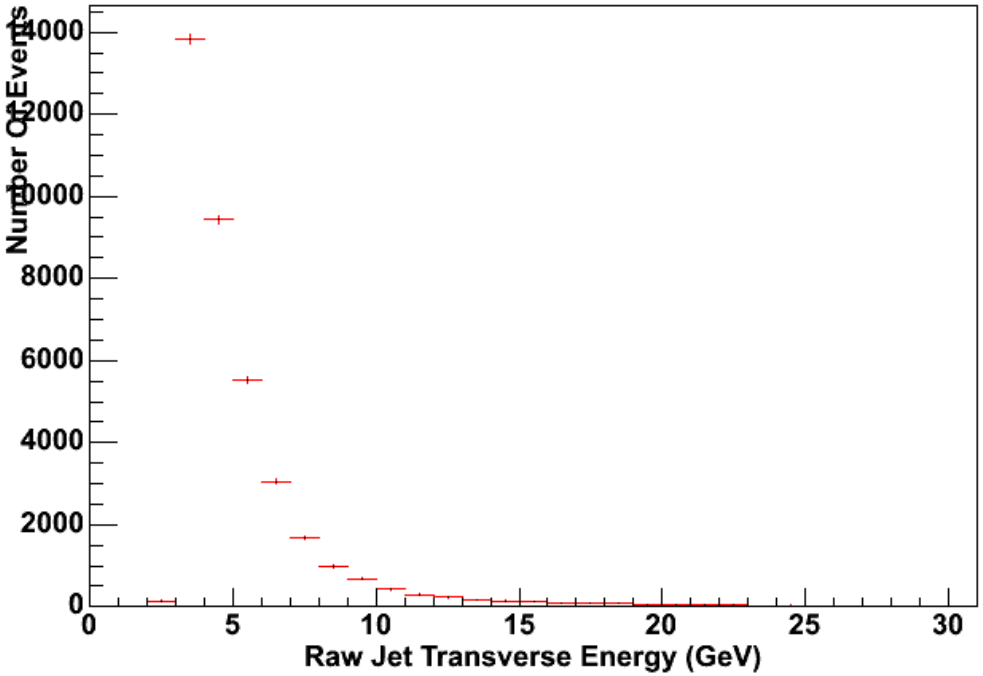
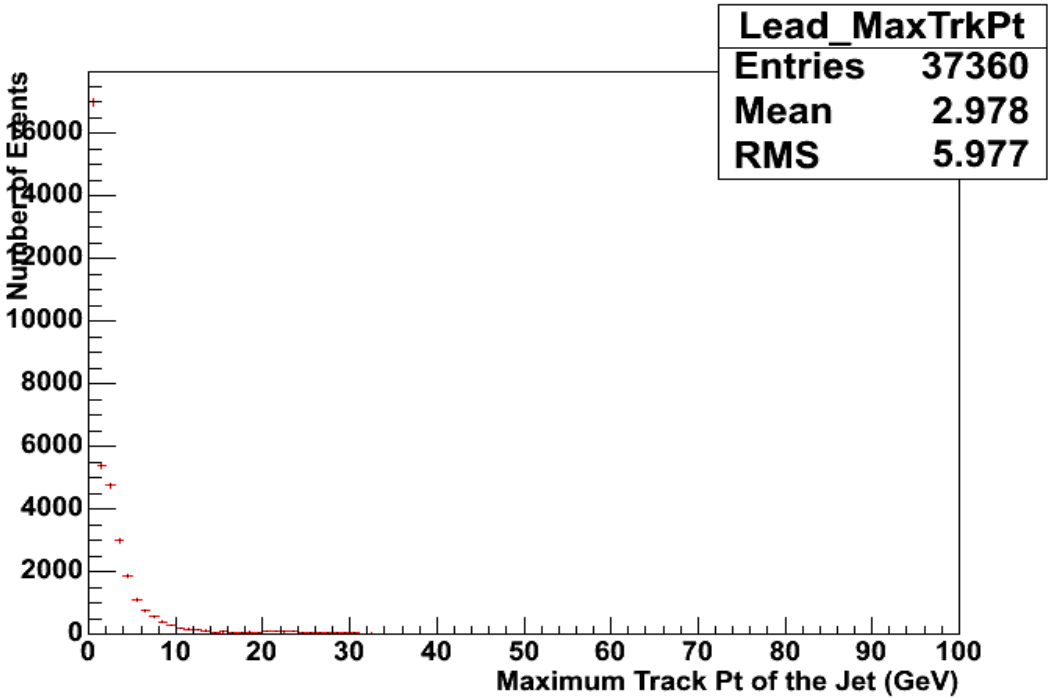
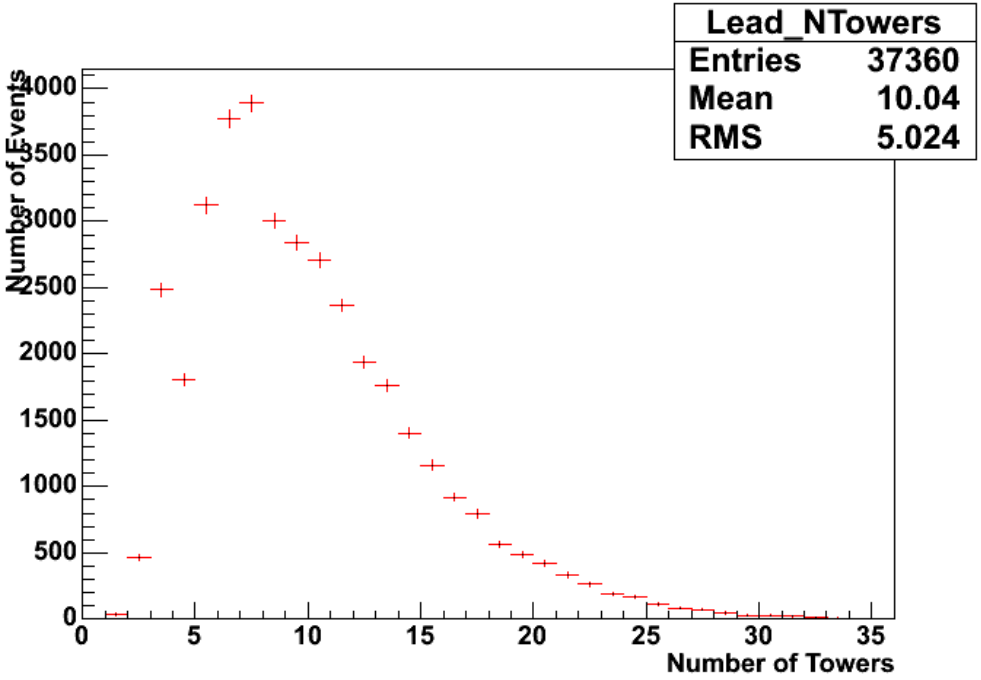
After the Tight Electron is Selected and MET >30 GeV and M T >20 is applied

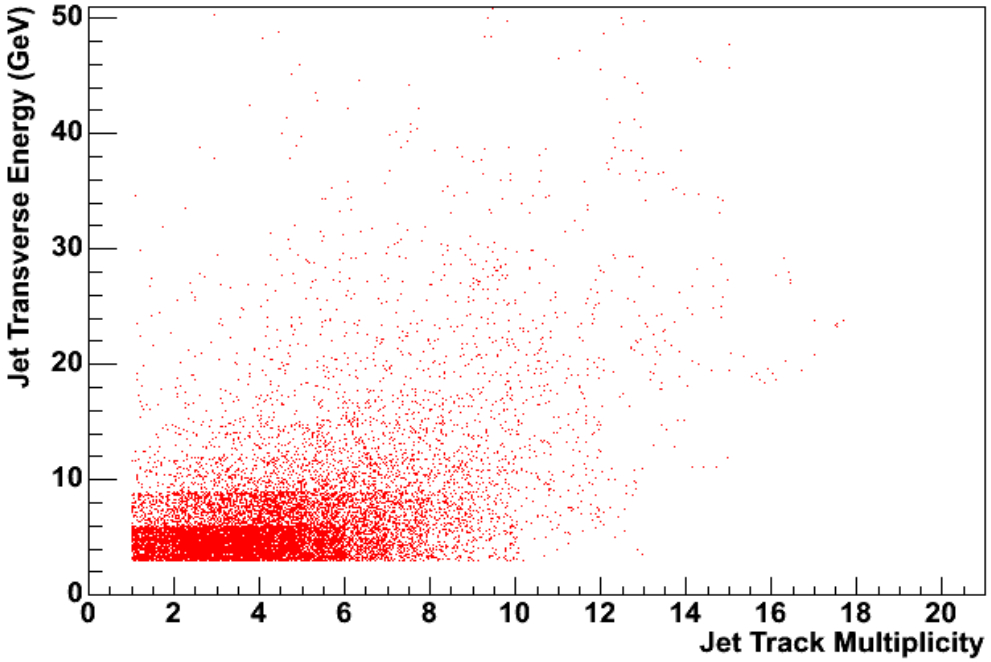
- Number of Events processed was 16 million events ~ 260 inv pb

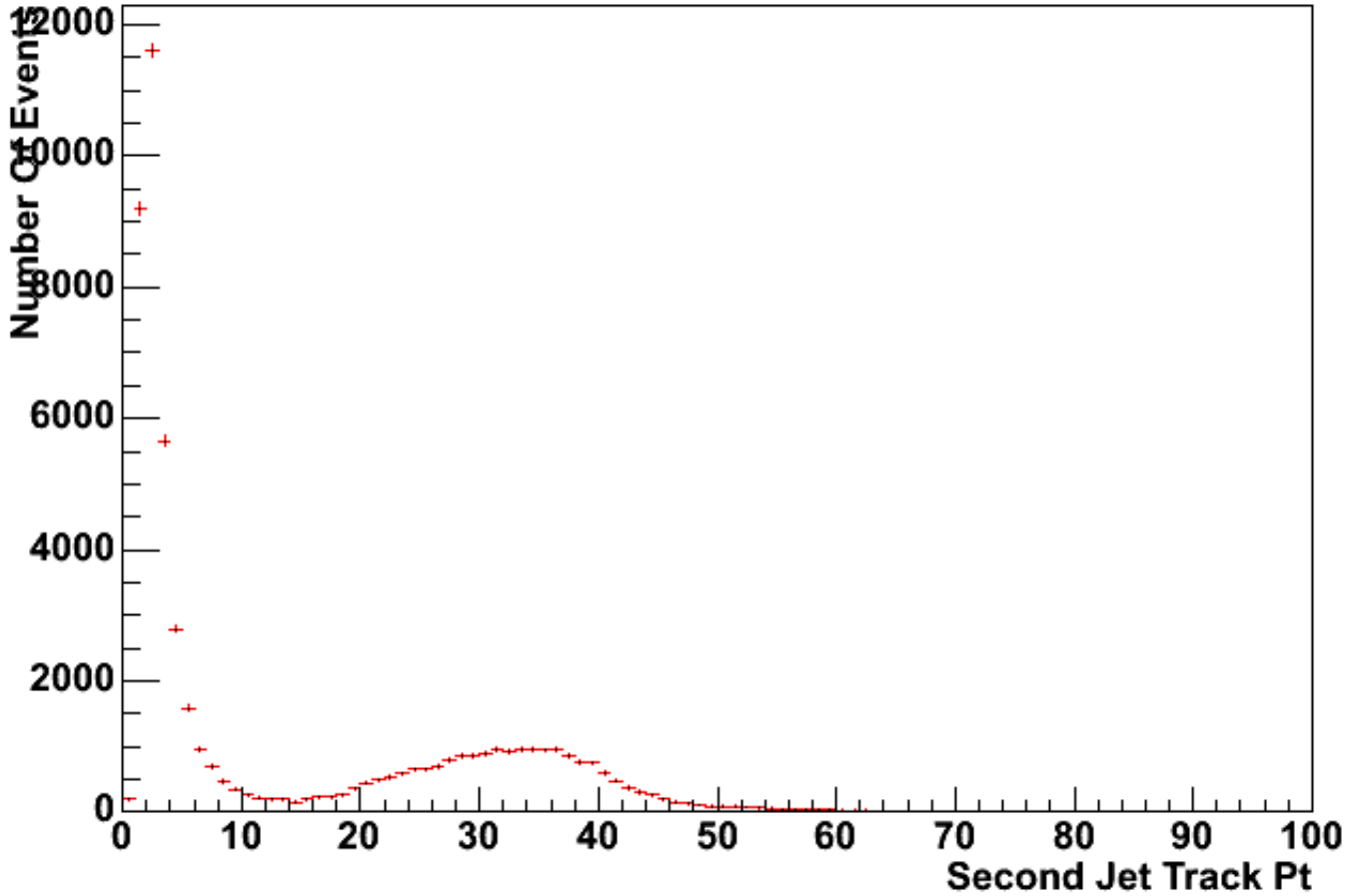



Number Of Events
14000
12000
10000
8000
6000
4000
2000
0
0
5
10
15
20
25
30
Raw Jet Transverse Energy (GeV)

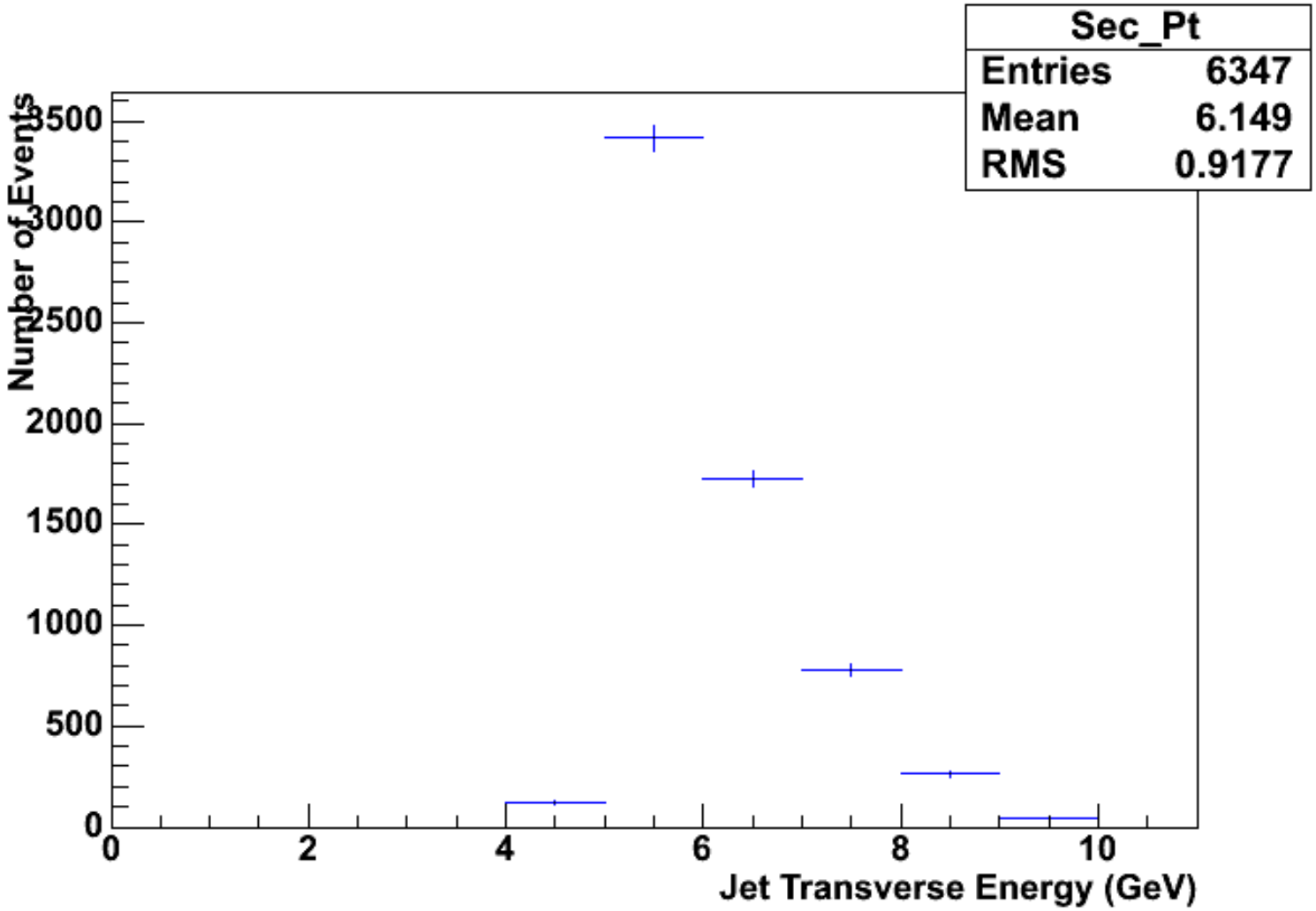

Lead_MaxTrkPt
Entries 37360
Mean 2.978
RMS 5.977
Number of Events
16000
14000
12000
10000
8000
6000
4000
2000
0
0
10
20
30
40
50
60
70
80
90
100
Maximum Track Pt of the Jet (GeV)

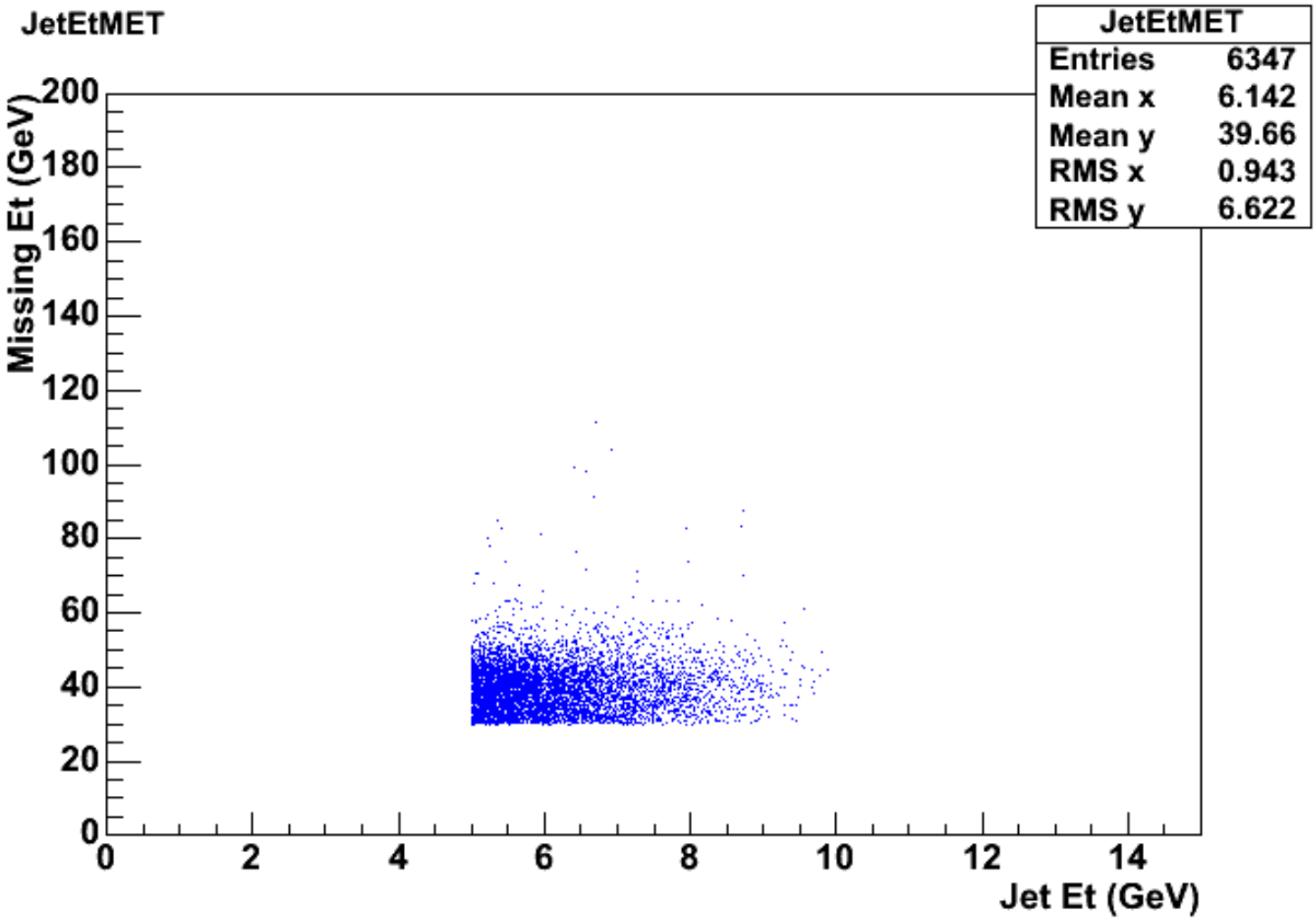

Lead_NTowers
Entries 37360
Mean 10.04
RMS 5.024
Number of Events
Number of Towers

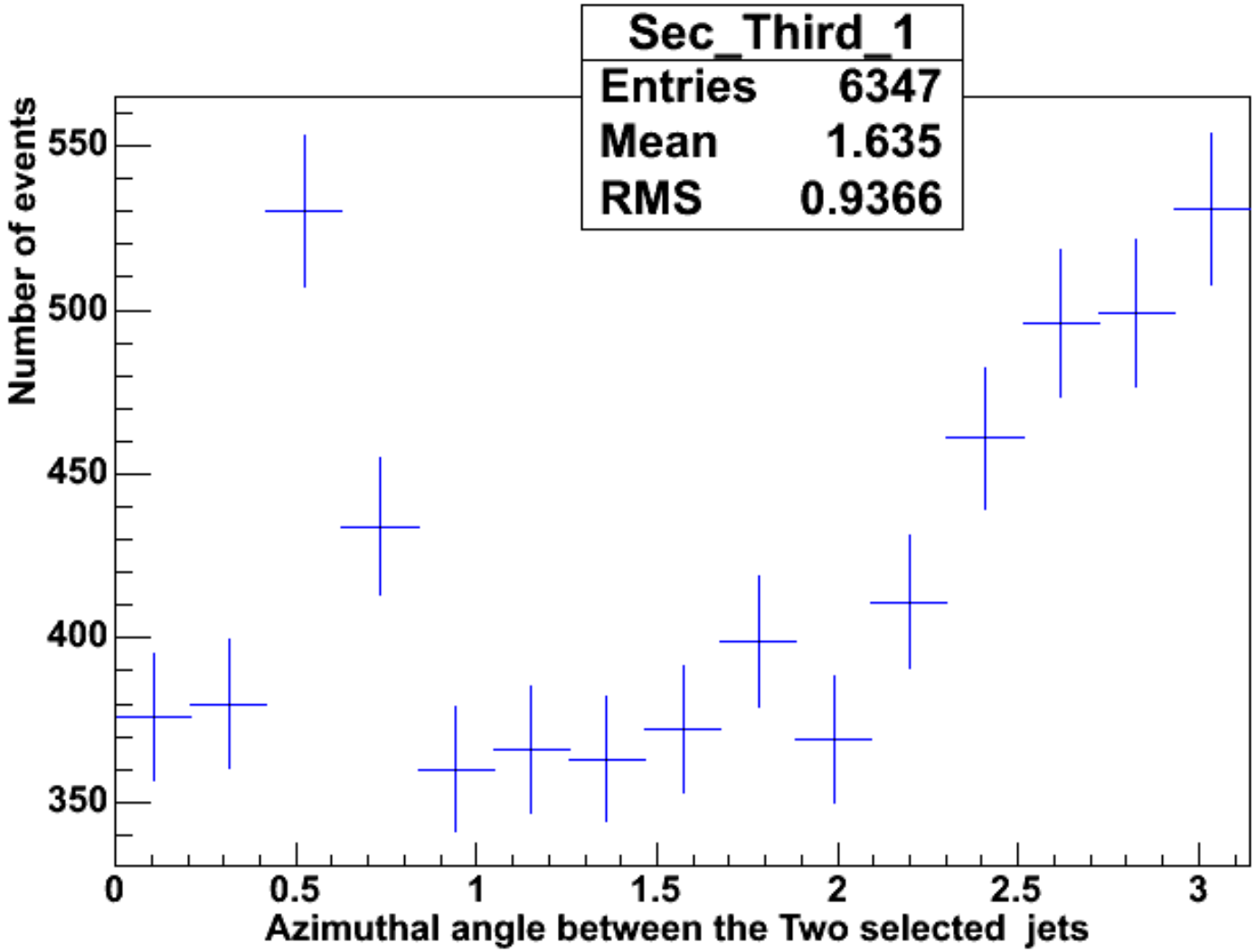

Jet Transverse Energy (GeV)
Jet Track Multiplicity

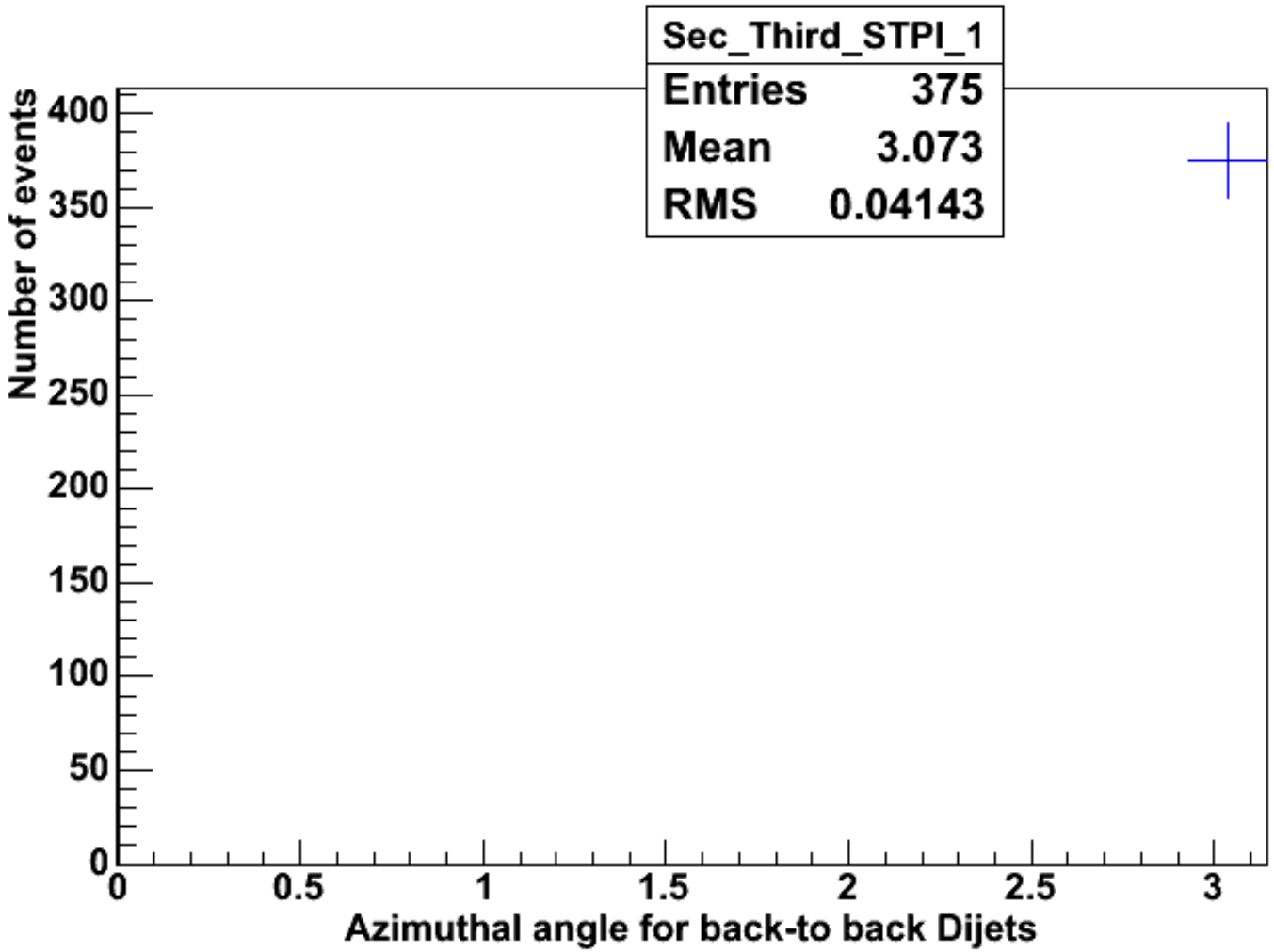

Number Of Events
12000
10000
8000
6000
4000
2000
0
0
10
20
30
40
50
60
70
80
90
100
Second Jet Track Pt

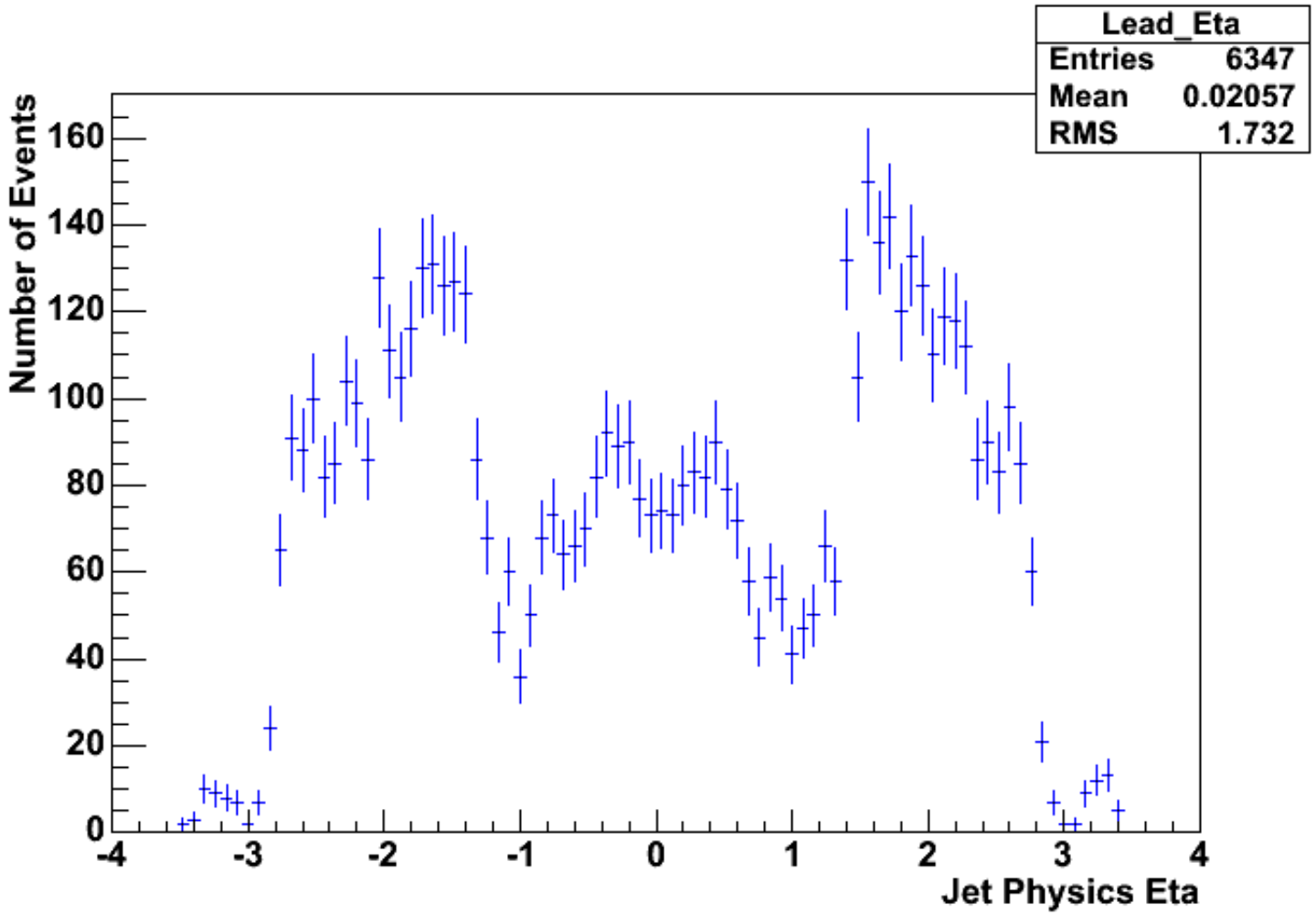
After the Tight Electron is Selected and MET >30 GeV and M T >20 is applied + Jet Et > 5 GeV and < 10 GeV is also applied

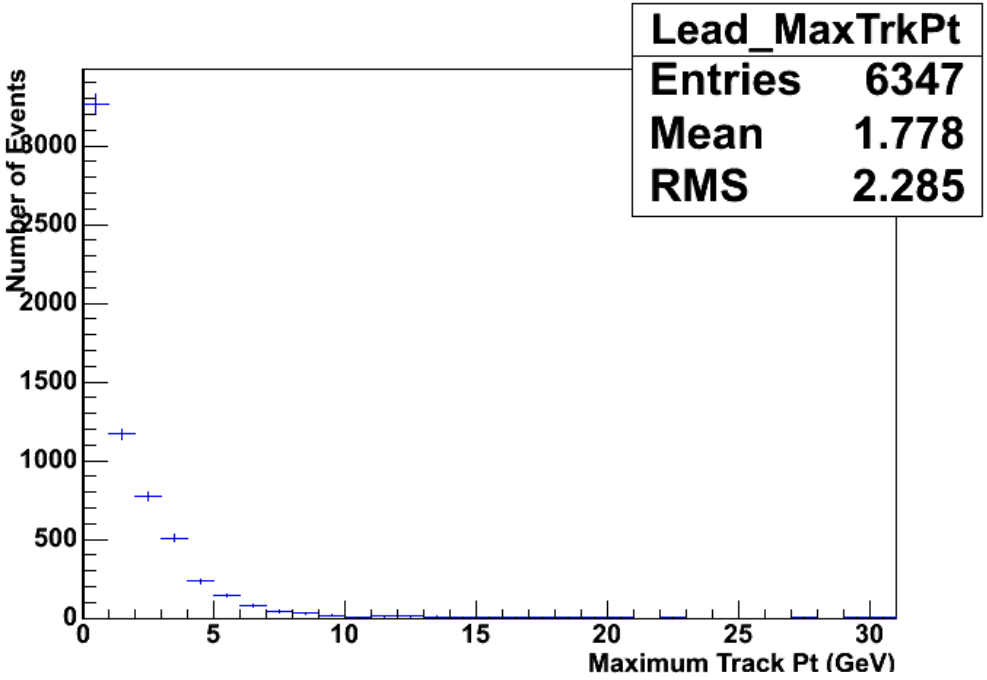


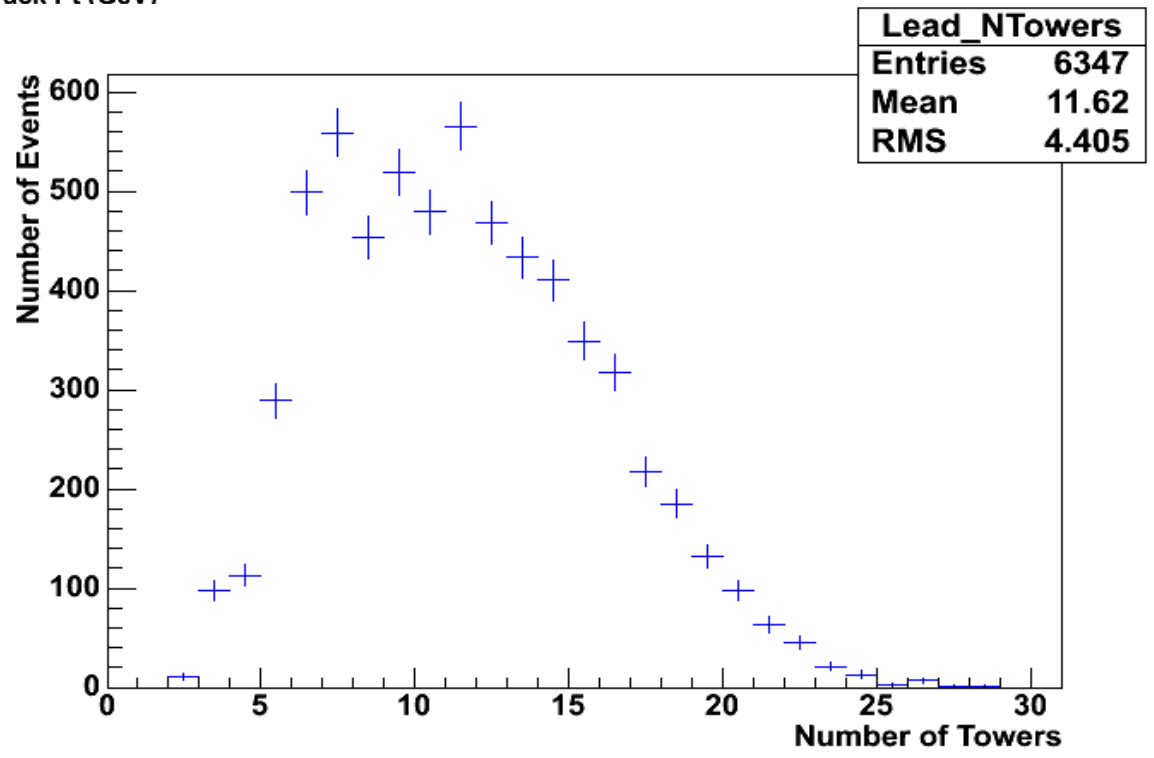

JetEtMET
JetEtMET
Entries 6347
Mean x 6.142
Mean y 39.66
RMS x 0.943
RMS y 6.622
Missing Et (GeV)
Jet Et (GeV)
0
20
40
60
80
100
120
140
160
180
200
0
2
4
6
8
10
12
14

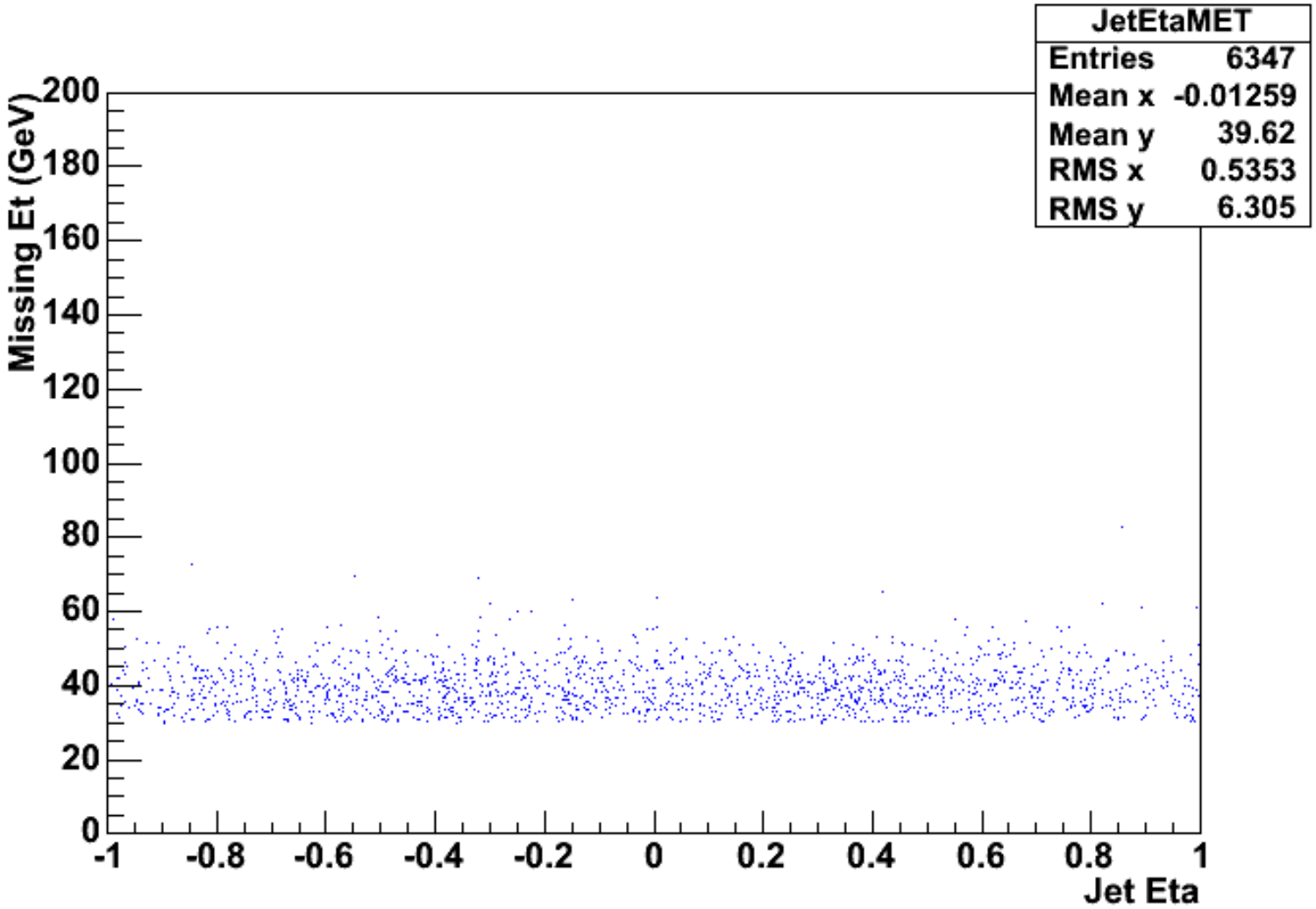

Sec_Third_1
Entries 6347
Mean 1.635
RMS 0.9366
Number of events
550
500
450
400
350
0
0.5
1
1.5
2
2.5
3
Azimuthal angle between the Two selected jets


Sec_Third_STPI_1
Entries 375
Mean 3.073
RMS 0.04143
Number of events
400
350
300
250
200
150
100
50
0
0
0.5
1
1.5
2
2.5
3
Azimuthal angle for back-to back Dijets

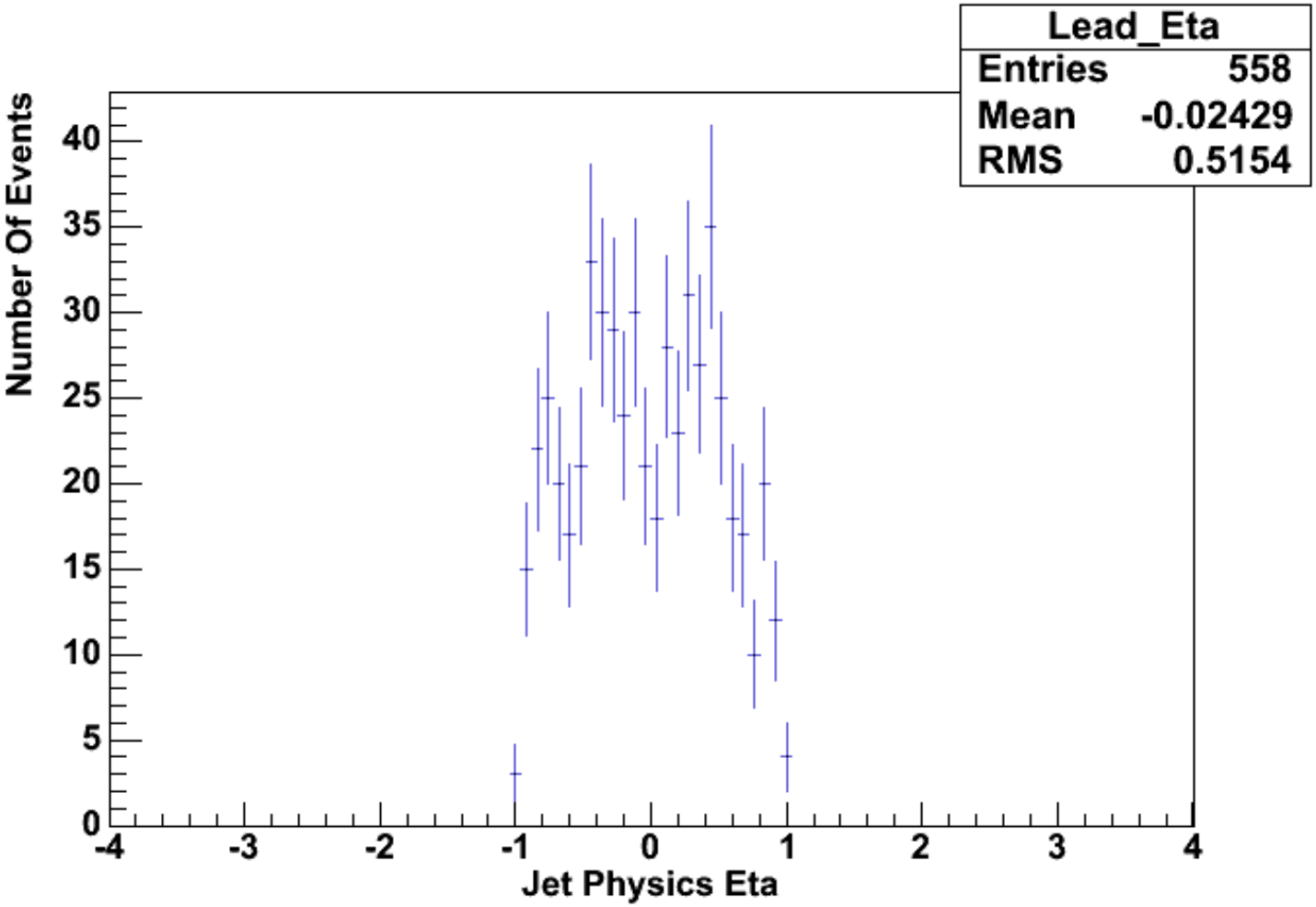

Lead_Eta
Entries 6347
Mean 0.02057
RMS 1.732
Number of Events
0
20
40
60
80
100
120
140
160
-4
-3
-2
-1
0
1
2
3
4
Jet Physics Eta

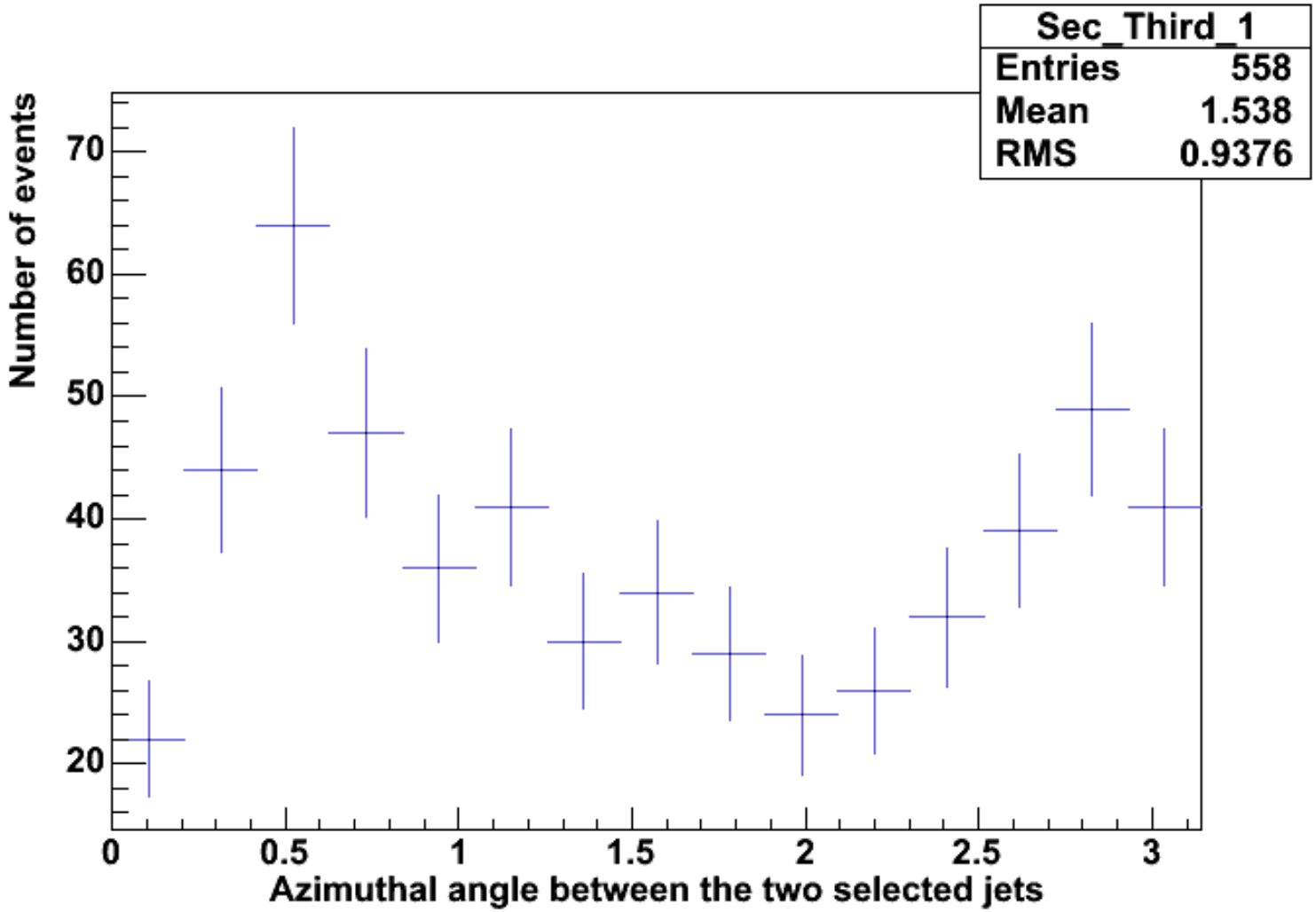

Lead_MaxTrkPt
Entries 6347
Mean 1.778
RMS 2.285
Number of Events
Maximum Track Pt (GeV)

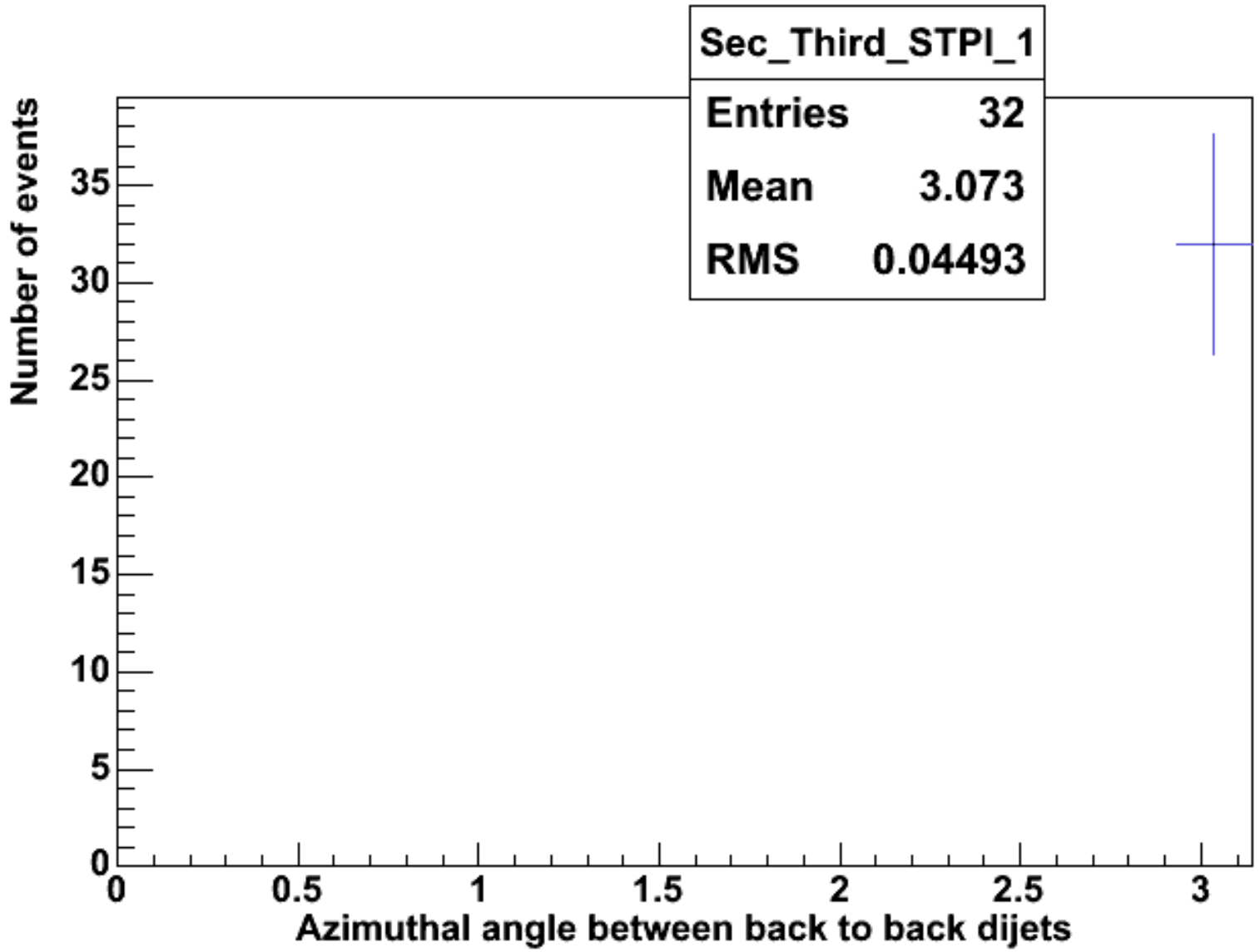

Lead_NTowers
Entries 6347
Mean 11.62
RMS 4.405
Number of Events
Number of Towers


JetEtaMET
Entries 6347
Mean x -0.01259
Mean y 39.62
RMS x 0.5353
RMS y 6.305
Missing Et (GeV)
200
180
160
140
120
100
80
60
40
20
0
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4
0.6
0.8
1
Jet Eta

After the Tight Electron is Selected and MET >30 GeV and M T >20 is applied + Jet Et > 5 GeV and < 10 GeV is also applied + Eta Cut is also applied

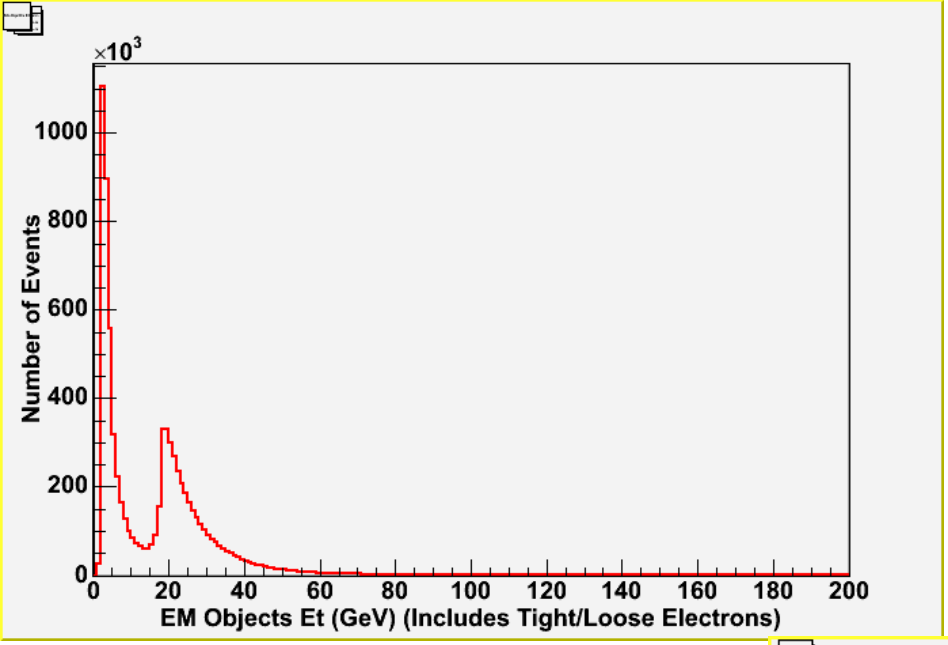


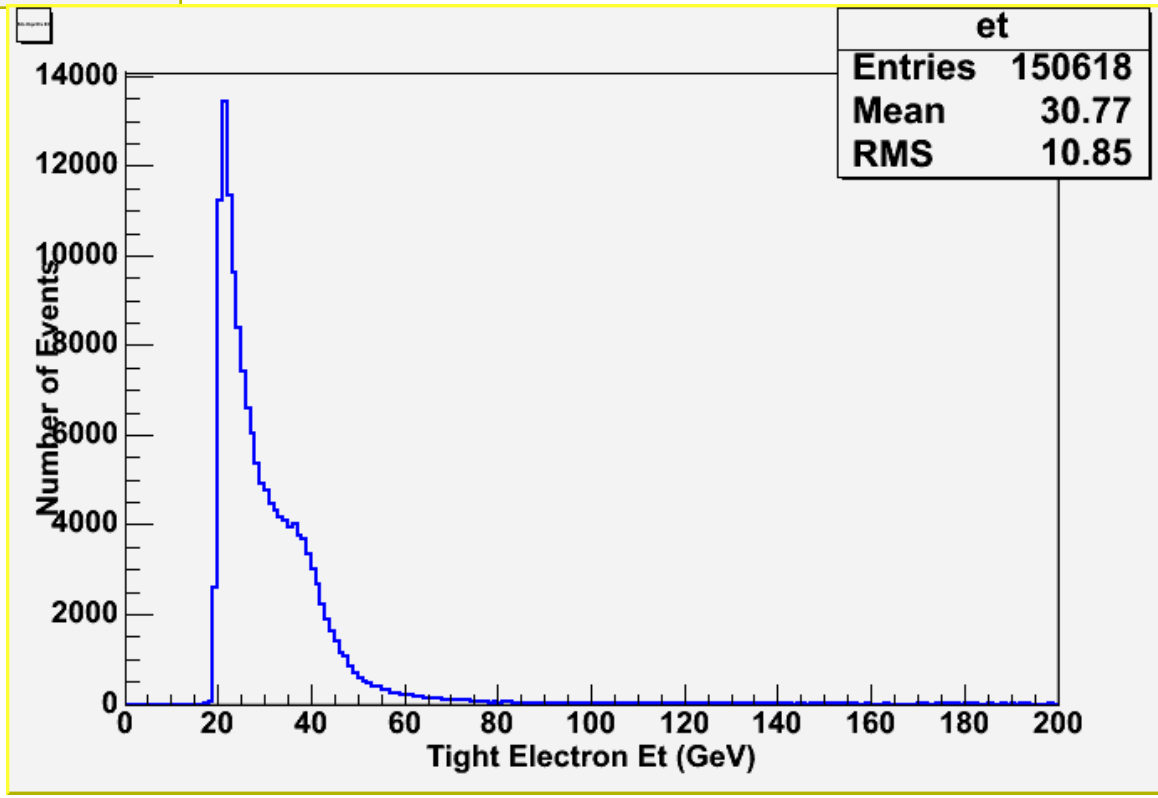

Sec_Third_1
Entries 558
Mean 1.538
RMS 0.9376
Number of events
70
60
50
40
30
20
0
0.5
1
1.5
2
2.5
3
Azimuthal angle between the two selected jets

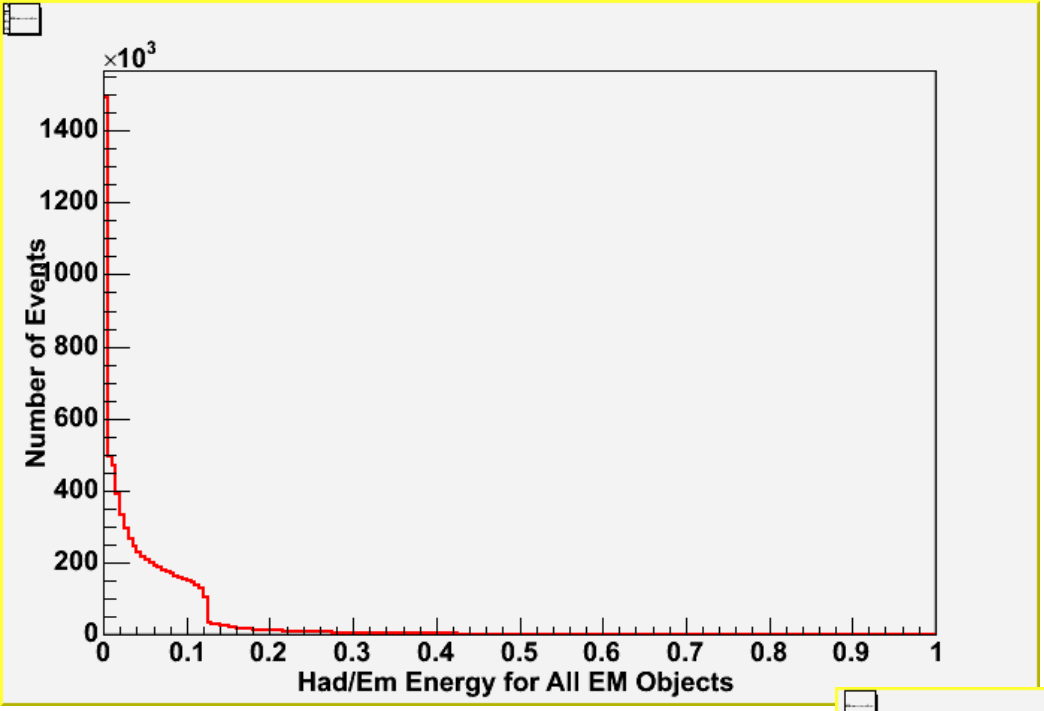

Sec_Third_STPI_1
Entries 32
Mean 3.073
RMS 0.04493
Number of events
0
5
10
15
20
25
30
35
0
0.5
1
1.5
2
2.5
3
Azimuthal angle between back to back dijets

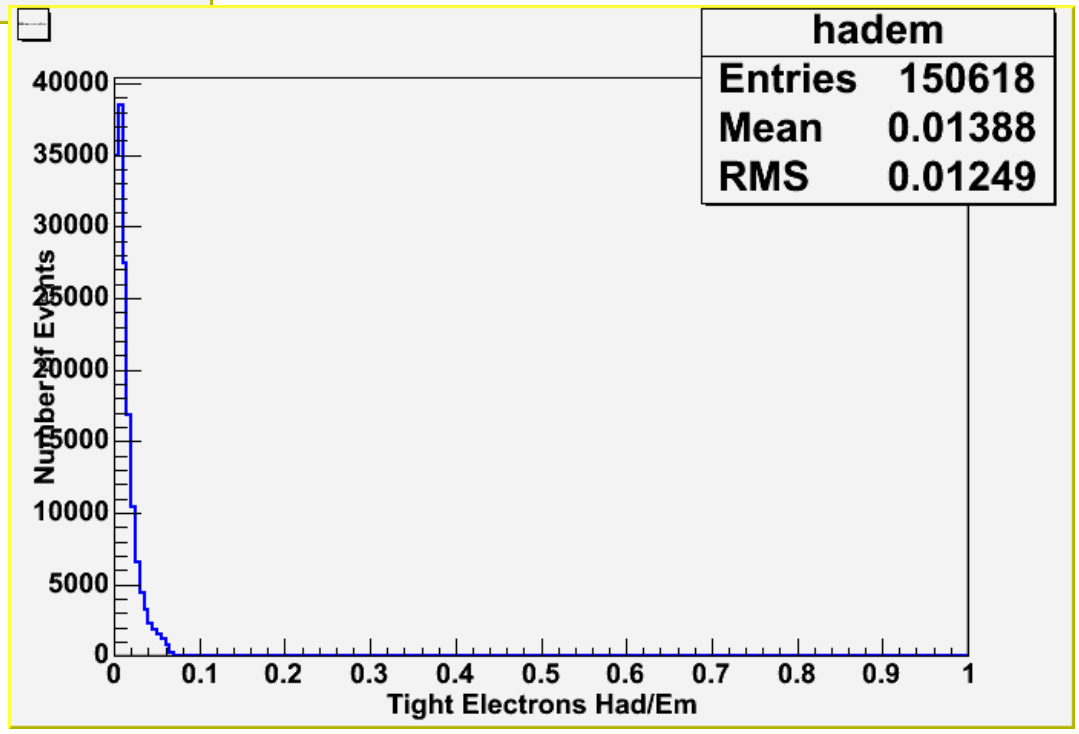
Conclusions

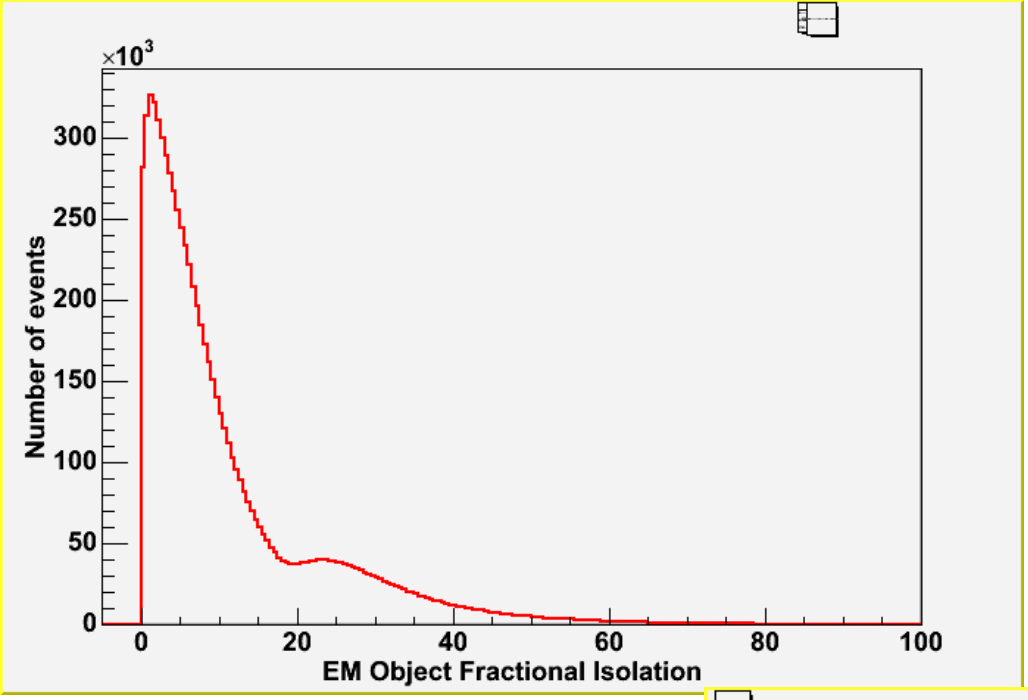
1. **The Jet variable plots for low energy makes sense.**
2. **The Jets have not been corrected for Energy scale.**
3. **We have a lot lot more data to run on and Number of back to back low energy jets will also significantly increase**

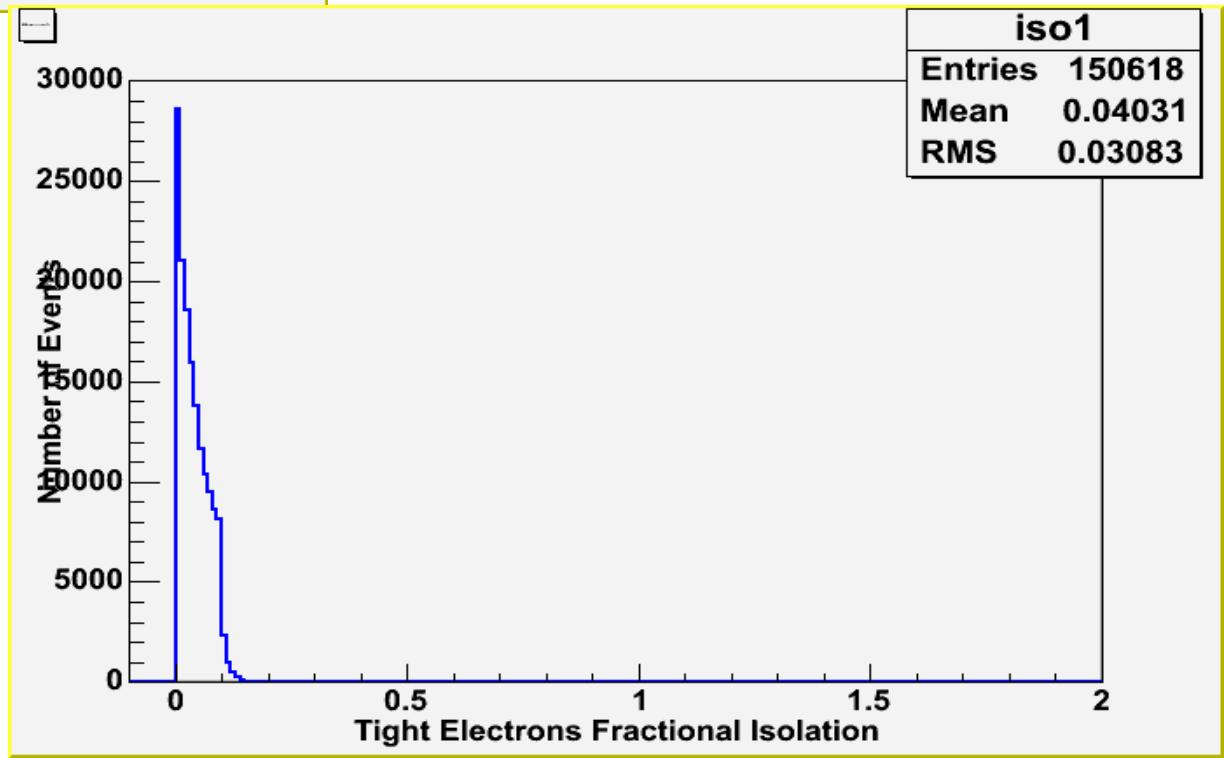

×10³
1000
800
600
400
200
0
Number of Events
0
20
40
60
80
100
120
140
160
180
200
EM Objects Et (GeV) (Includes Tight/Loose Electrons)

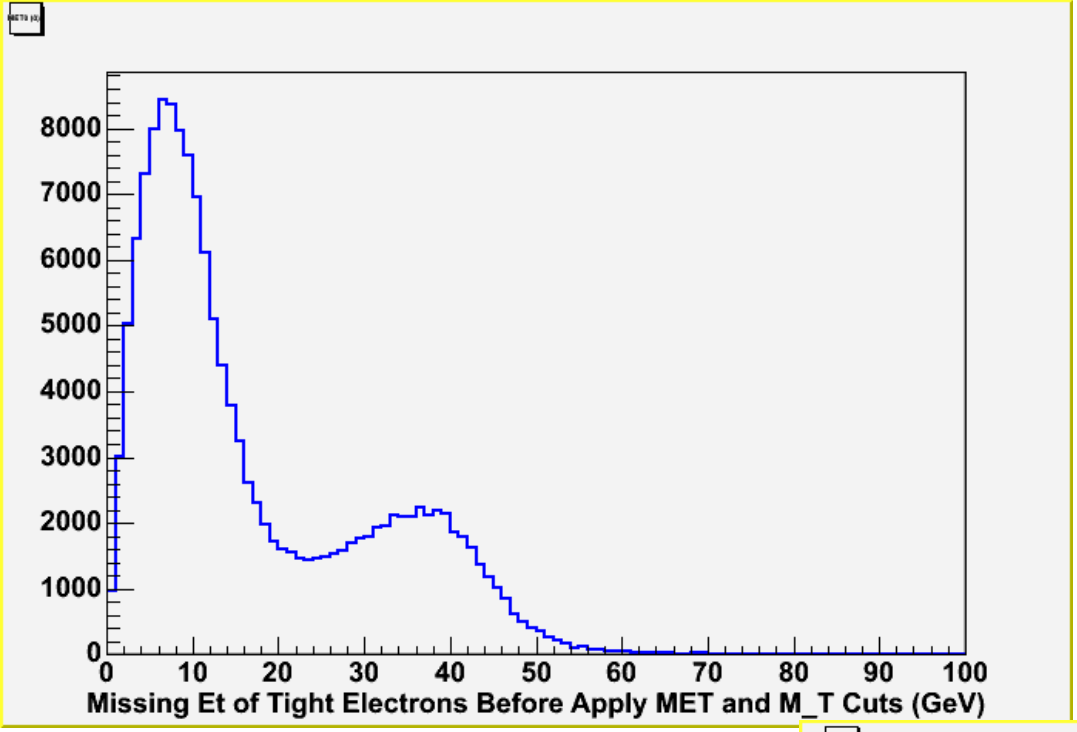

et
Entries 150618
Mean 30.77
RMS 10.85
14000
12000
10000
8000
6000
4000
2000
0
Number of Events
0
20
40
60
80
100
120
140
160
180
200
Tight Electron Et (GeV)

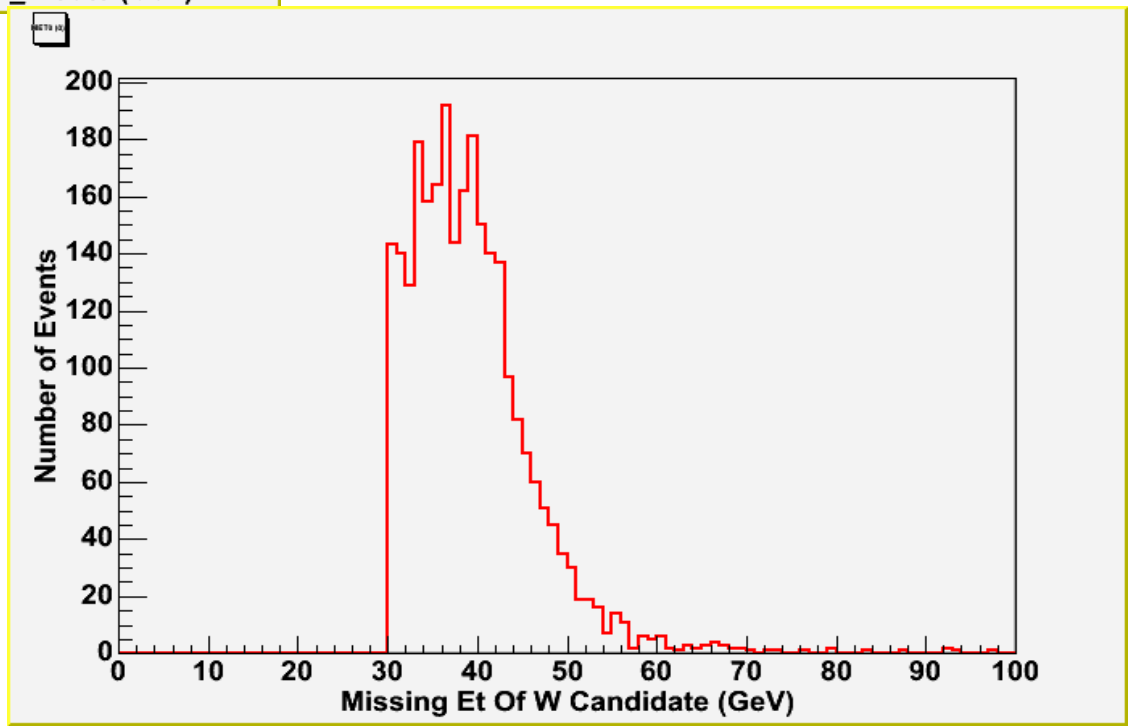

×10^3
1400
1200
1000
800
600
400
200
0
Number of Events
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Had/Em Energy for All EM Objects

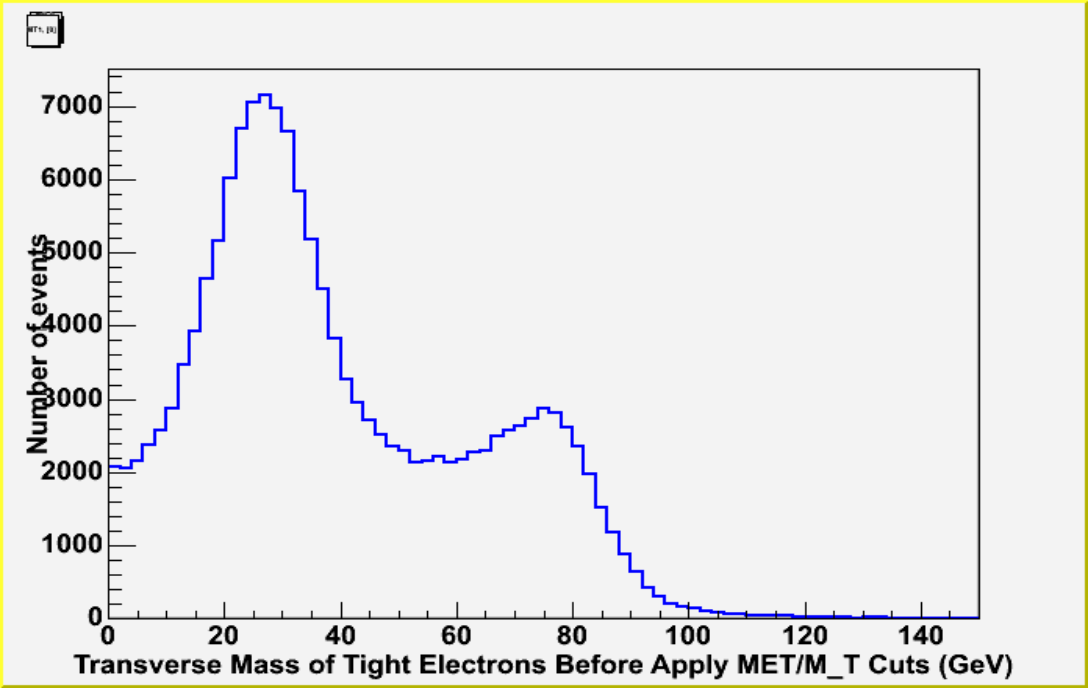

hadem
Entries 150618
Mean 0.01388
RMS 0.01249
40000
35000
30000
25000
20000
15000
10000
5000
0
Number of Events
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Tight Electrons Had/Em

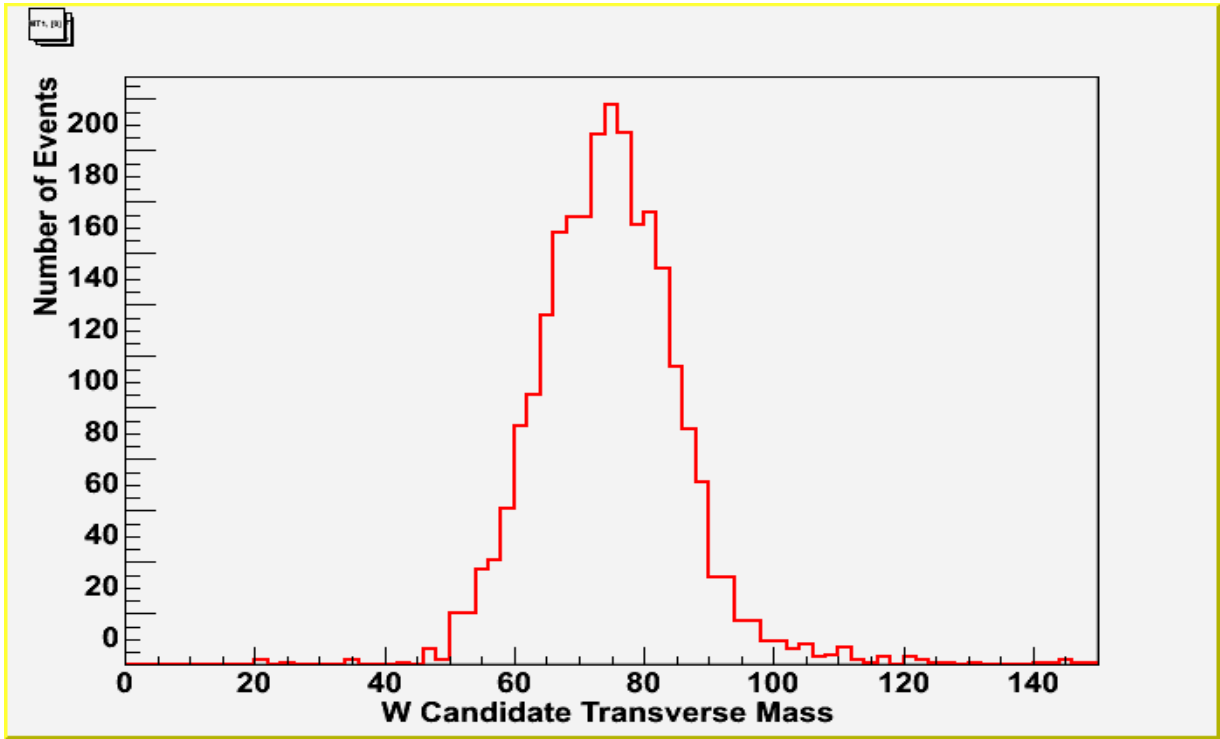

×10^3
300
250
200
150
100
50
0
Number of events
0
20
40
60
80
100
EM Object Fractional Isolation

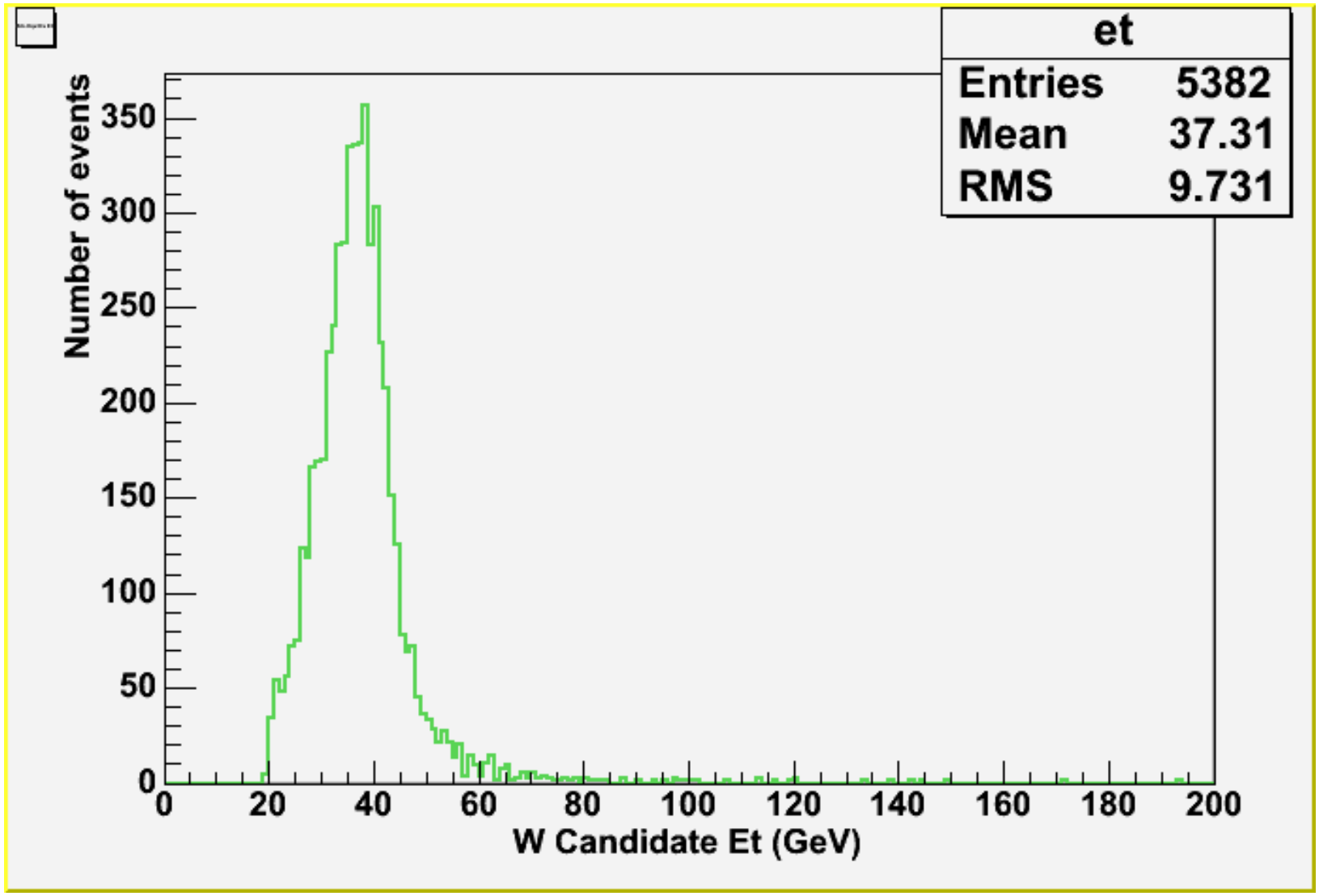

iso1
Entries 150618
Mean 0.04031
RMS 0.03083
30000
25000
20000
15000
10000
5000
0
Number of Events
0
0.5
1
1.5
2
Tight Electrons Fractional Isolation


8000
7000
6000
5000
4000
3000
2000
1000
0
0 10 20 30 40 50 60 70 80 90 100
Missing Et of Tight Electrons Before Apply MET and M_T Cuts (GeV)


Number of Events
200
180
160
140
120
100
80
60
40
20
0
0 10 20 30 40 50 60 70 80 90 100
Missing Et Of W Candidate (GeV)


Number of events
0
1000
2000
3000
4000
5000
6000
7000
0
20
40
60
80
100
120
140
Transverse Mass of Tight Electrons Before Apply MET/M_T Cuts (GeV)


Number of Events
0
20
40
60
80
100
120
140
160
180
200
0
20
40
60
80
100
120
140
W Candidate Transverse Mass


et
Entries 5382
Mean 37.31
RMS 9.731
Number of events
0
50
100
150
200
250
300
350
0
20
40
60
80
100
120
140
160
180
200
W Candidate Et (GeV)