Trigger simulation check

dijet fraction

K0s and lambdas

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Trigger simulation

L2 TWO CJET0.5 trigger:

BSC Veto: No hit in BSC1

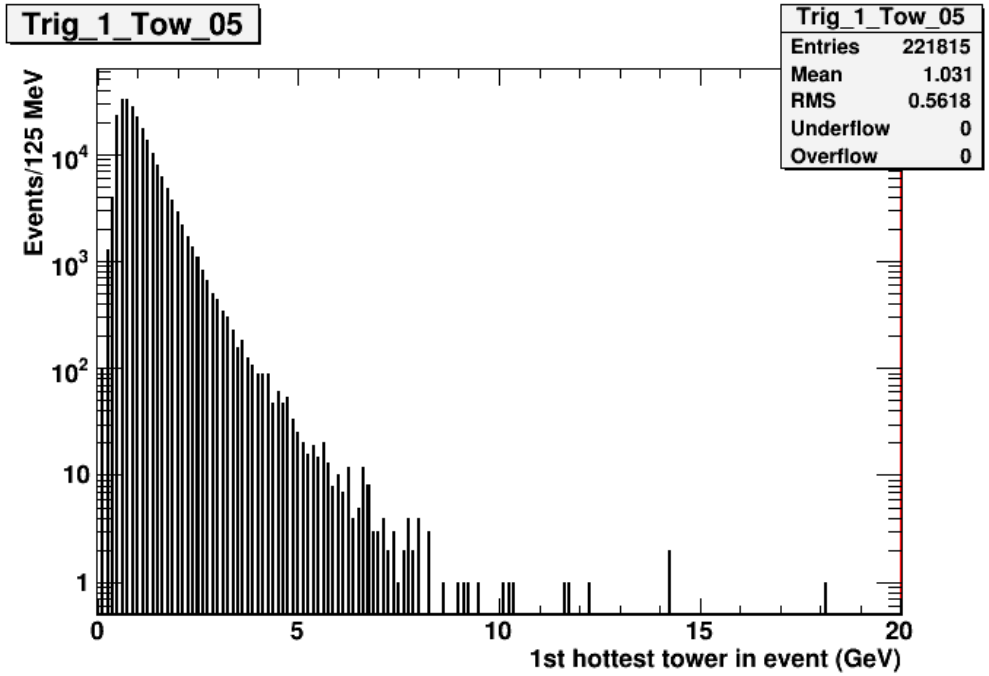
CLC: No hits in CLC

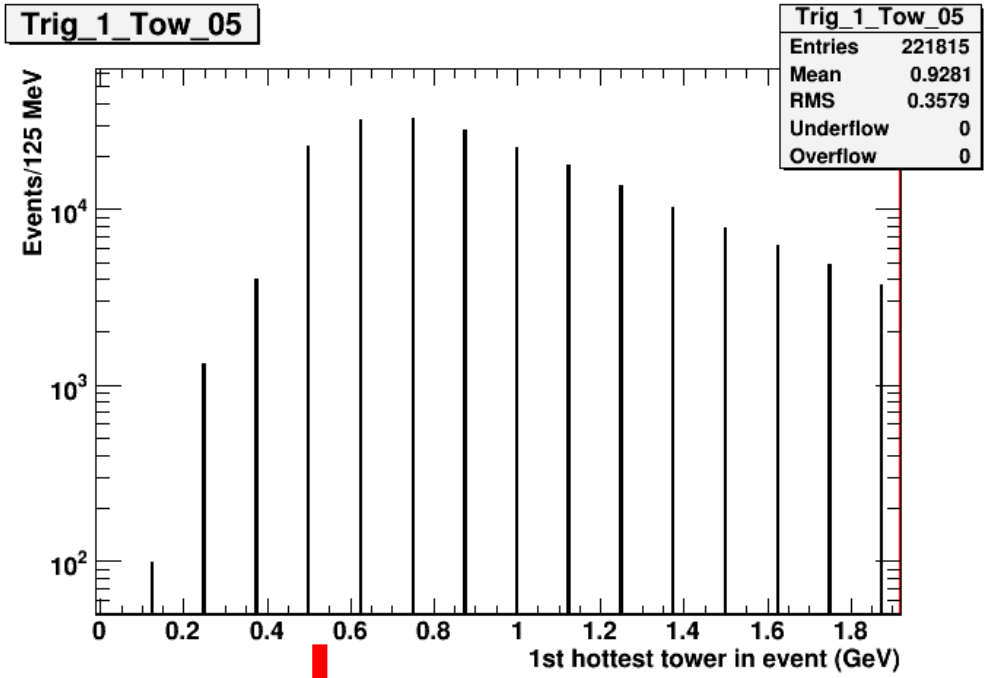
Plug Veto: Trigger energy <0.75 GeV for sum of towers in 0<=ieta<=2 and 21<=ieta<=23.

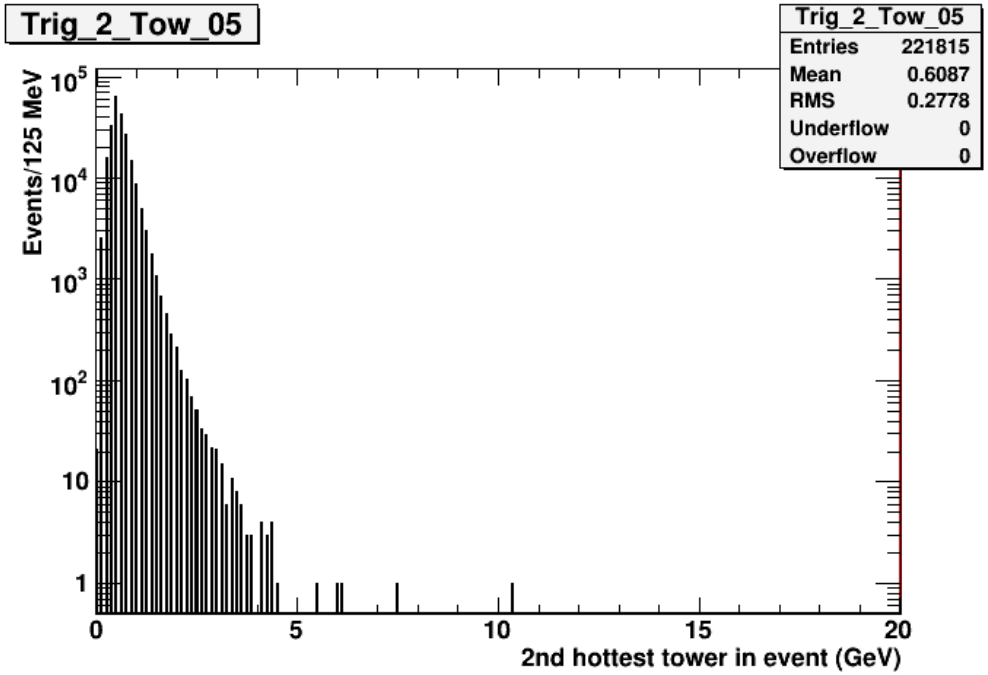
TWO_CJET0.5: two towers with total ET>0.5 GeV in 6<=ieta<=17.

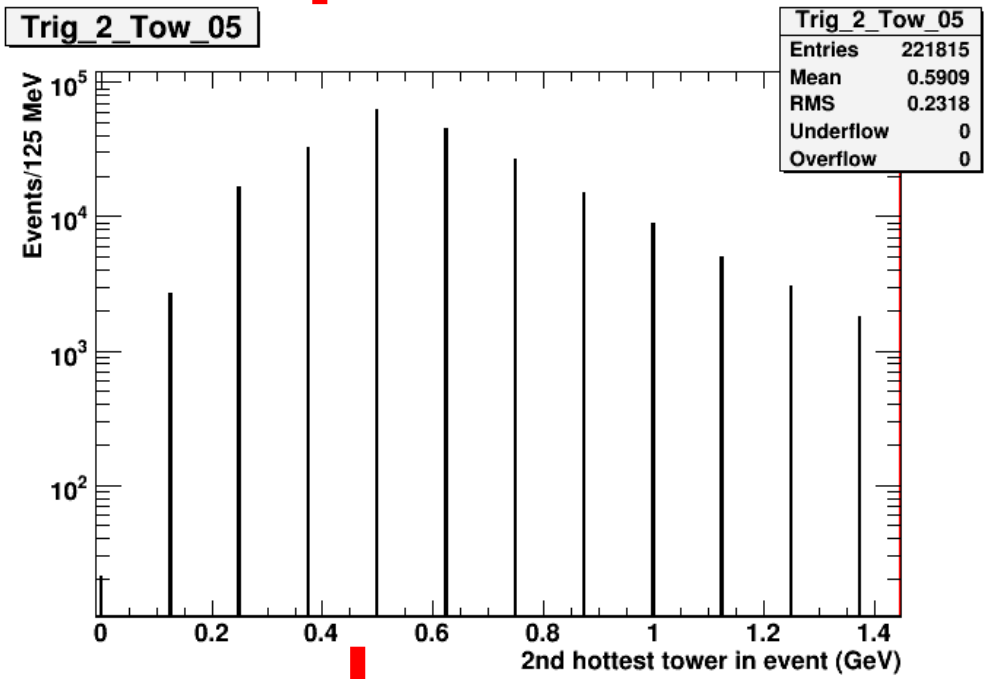
(trigger energy → DcasDataBlock in StnTuple)

For earlier runs no eta cut! (Jonathan)


Trig_1_Tow_05
Trig_1_Tow_05
Entries 221815
Mean 1.031
RMS 0.5618
Underflow 0
Overflow 0
Events/125 MeV
1st hottest tower in event (GeV)


Trig_1_Tow_05
Trig_1_Tow_05
Entries 221815
Mean 0.9281
RMS 0.3579
Underflow 0
Overflow 0
Events/125 MeV
1st hottest tower in event (GeV)

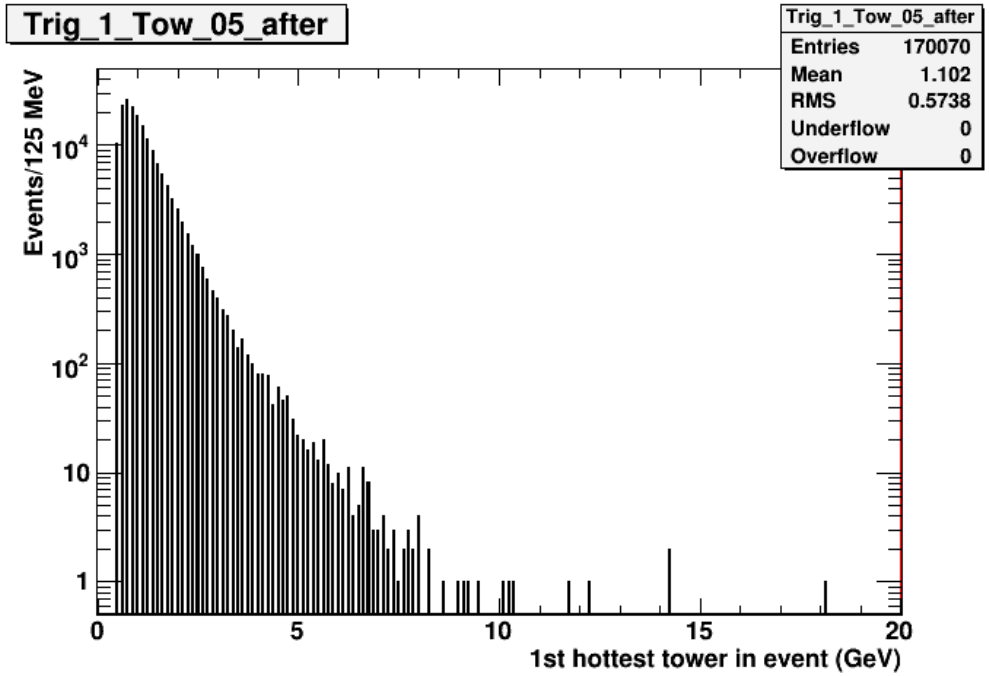

Trig_2_Tow_05
Trig_2_Tow_05
Entries 221815
Mean 0.6087
RMS 0.2778
Underflow 0
Overflow 0
Events/125 MeV
2nd hottest tower in event (GeV)

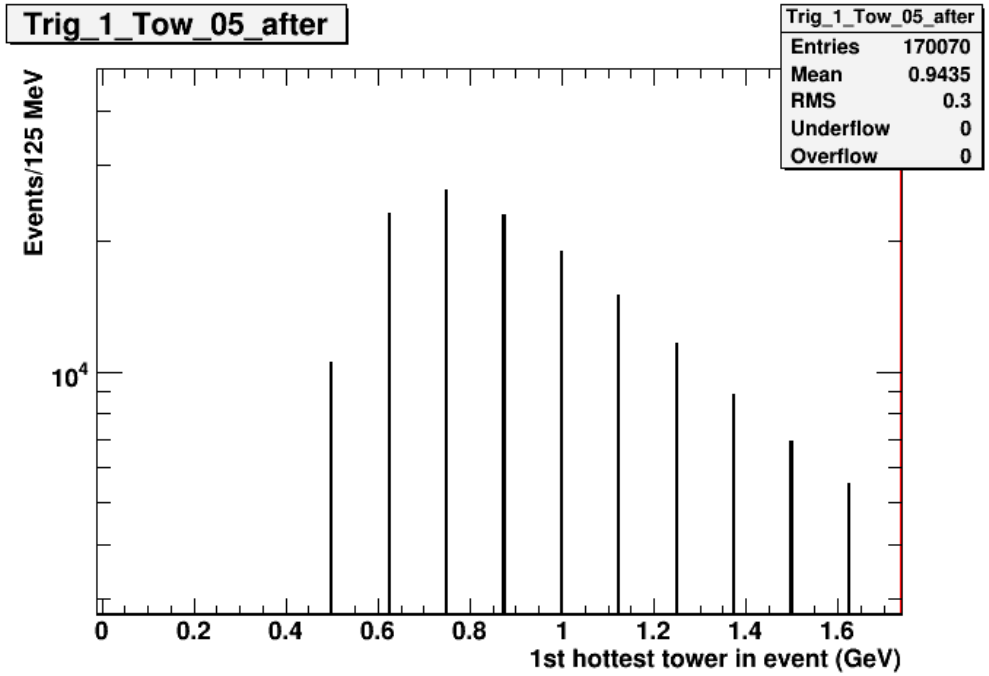

Trig_2_Tow_05
Trig_2_Tow_05
Entries 221815
Mean 0.5909
RMS 0.2318
Underflow 0
Overflow 0
Events/125 MeV
2nd hottest tower in event (GeV)

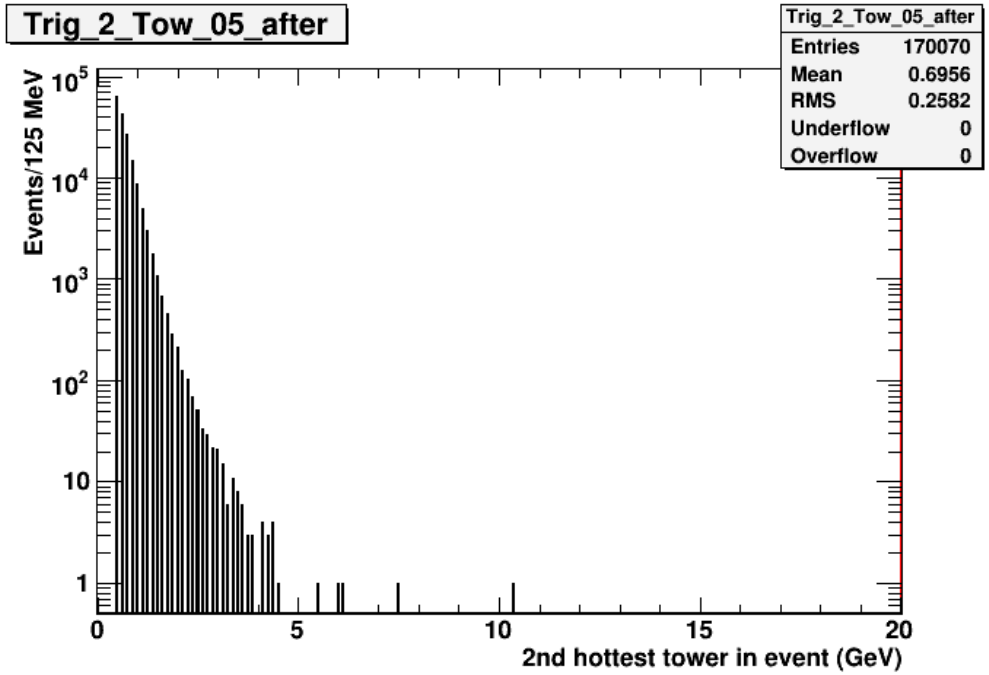
Cuts

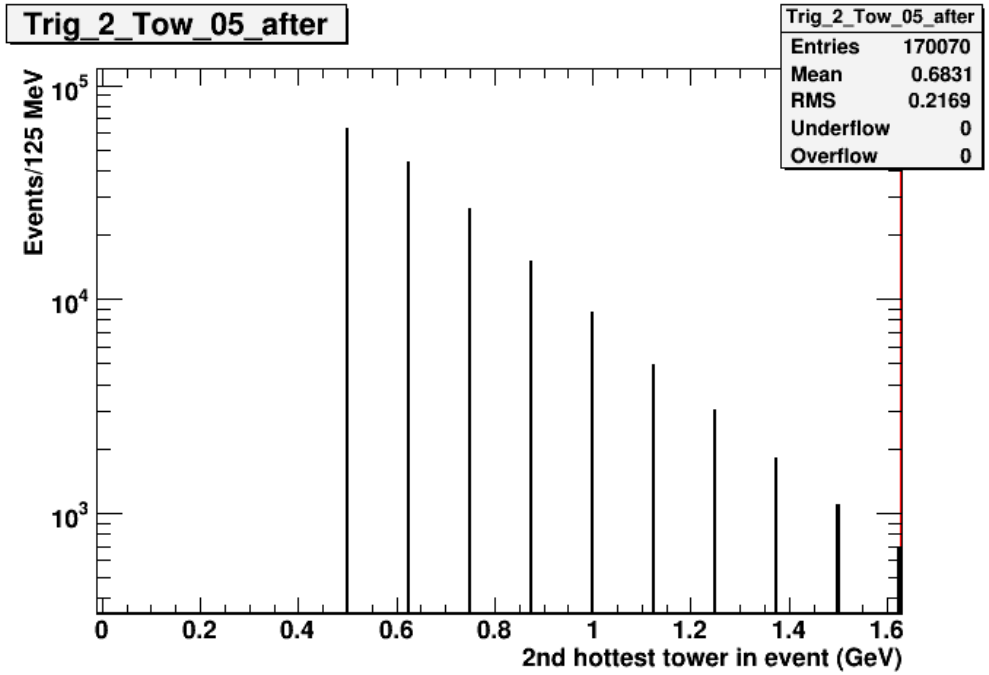
- Cut on hottest tower energy 0.5 GeV
- Cut on 2nd hottest tower energy 0.5 GeV

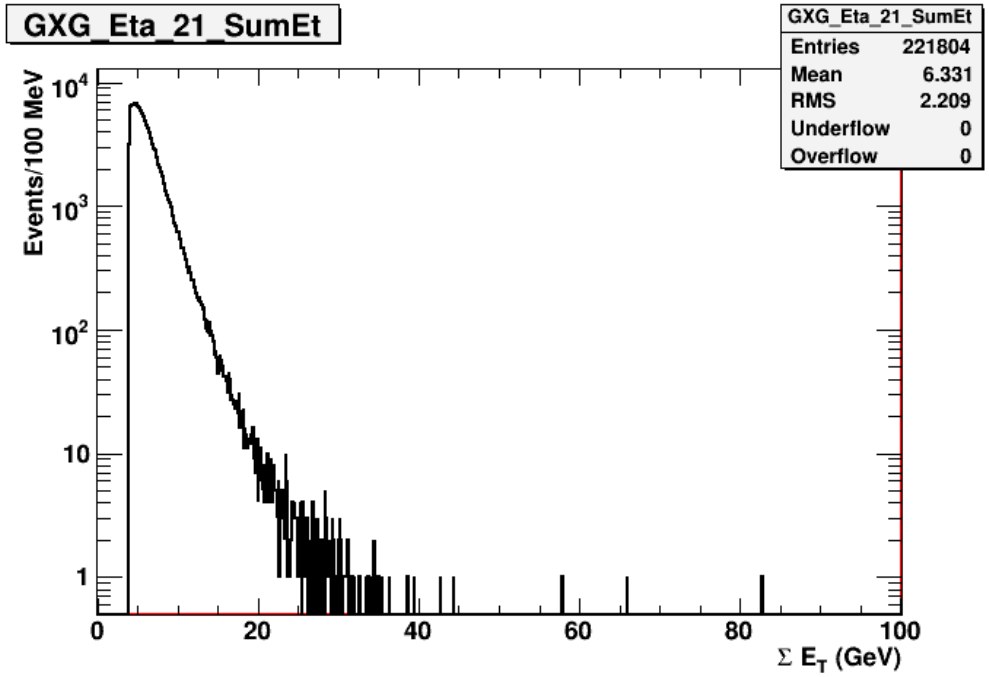
- Before cuts: 221815
- After trigger sim: 170070 23% less!

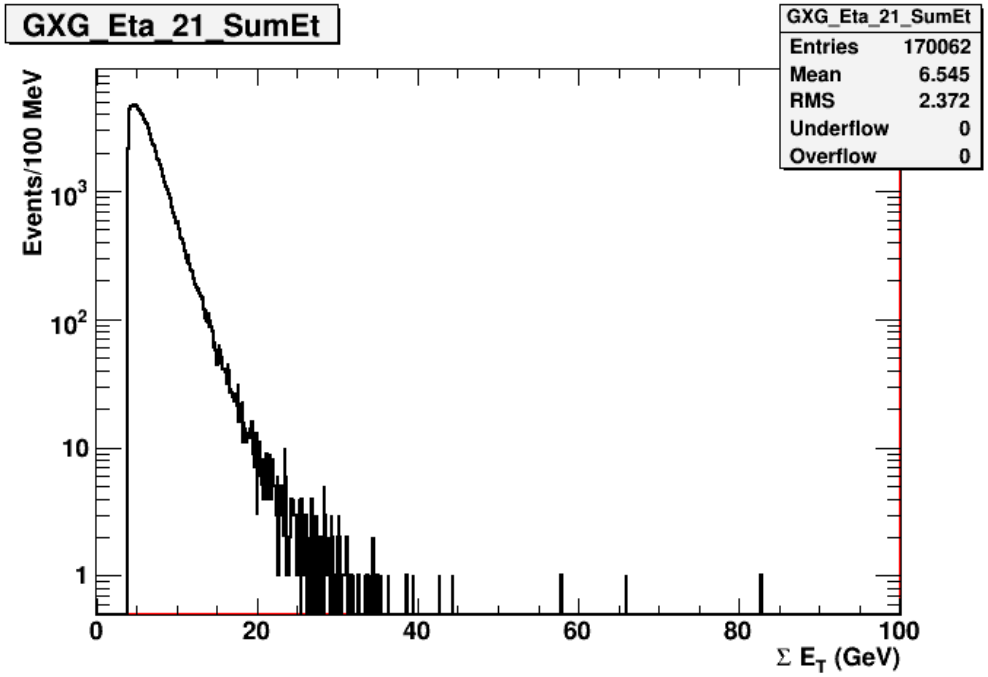

Trig_1_Tow_05_after
Trig_1_Tow_05_after
Entries 170070
Mean 1.102
RMS 0.5738
Underflow 0
Overflow 0
Events/125 MeV
1st hottest tower in event (GeV)

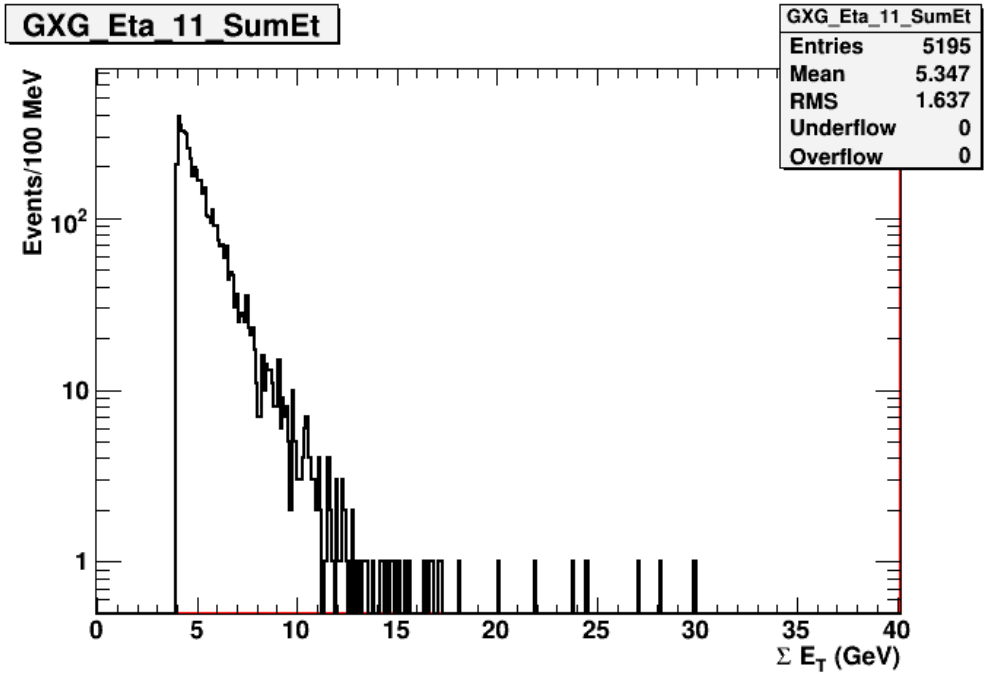

Trig_1_Tow_05_after
Trig_1_Tow_05_after
Entries 170070
Mean 0.9435
RMS 0.3
Underflow 0
Overflow 0
Events/125 MeV
1st hottest tower in event (GeV)

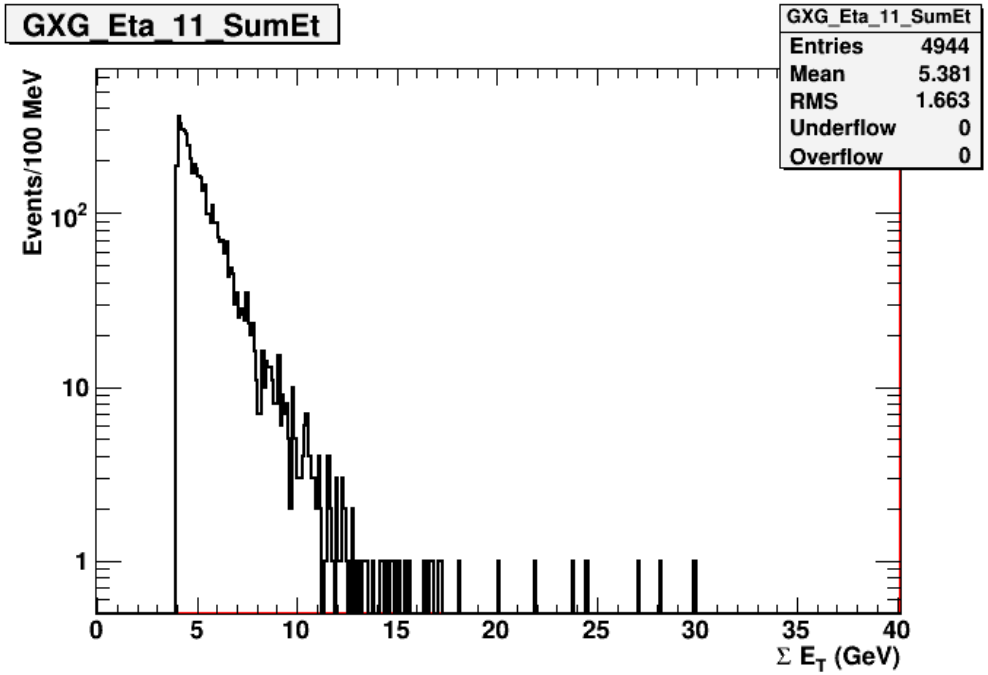

Trig_2_Tow_05_after
Trig_2_Tow_05_after
Entries 170070
Mean 0.6956
RMS 0.2582
Underflow 0
Overflow 0
Events/125 MeV
2nd hottest tower in event (GeV)


Trig_2_Tow_05_after
Trig_2_Tow_05_after
Entries 170070
Mean 0.6831
RMS 0.2169
Underflow 0
Overflow 0
Events/125 MeV
2nd hottest tower in event (GeV)









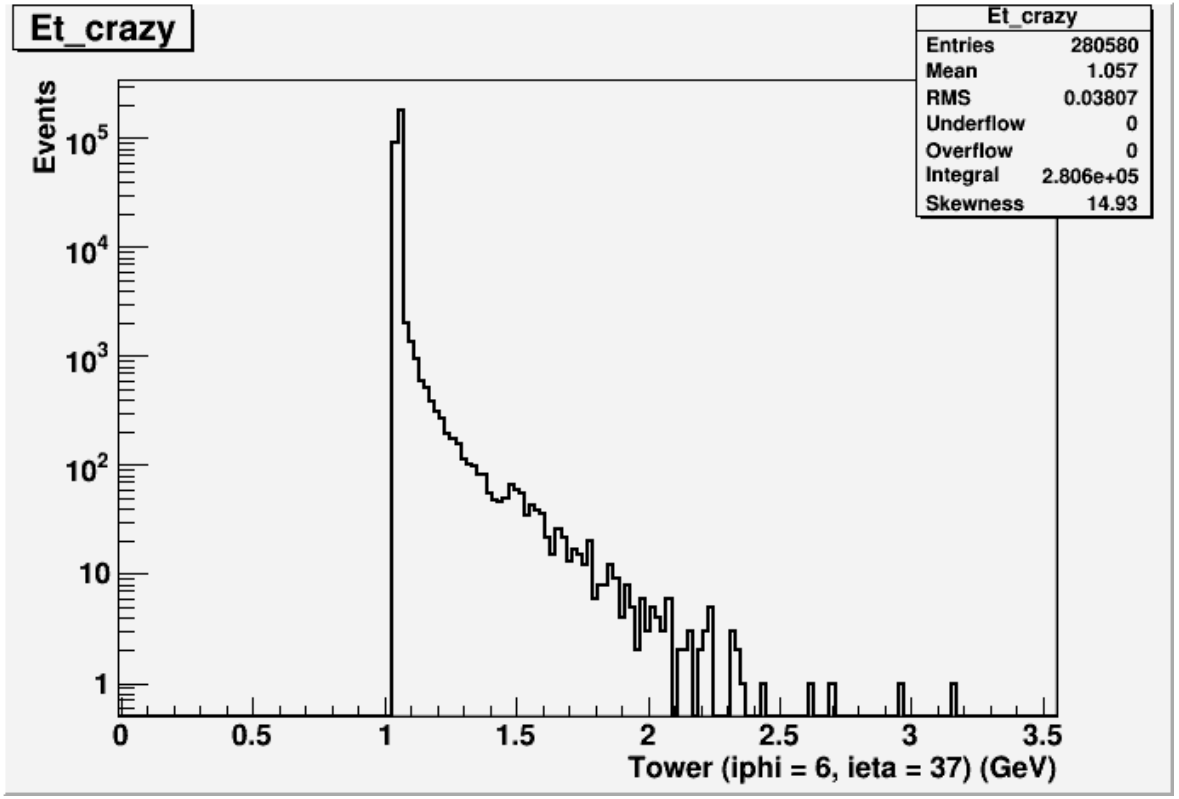
before after

Crazy tower

- IPhi = 6
- TEta = 37

- Shift: E – 2 GeV

  ET – 1.05 GeV

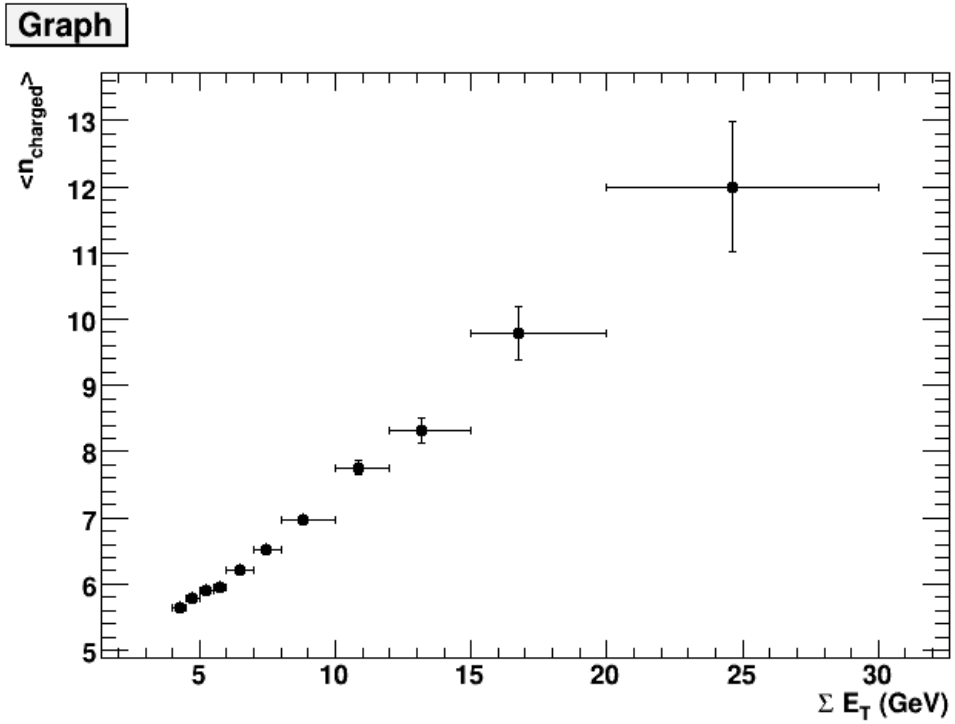


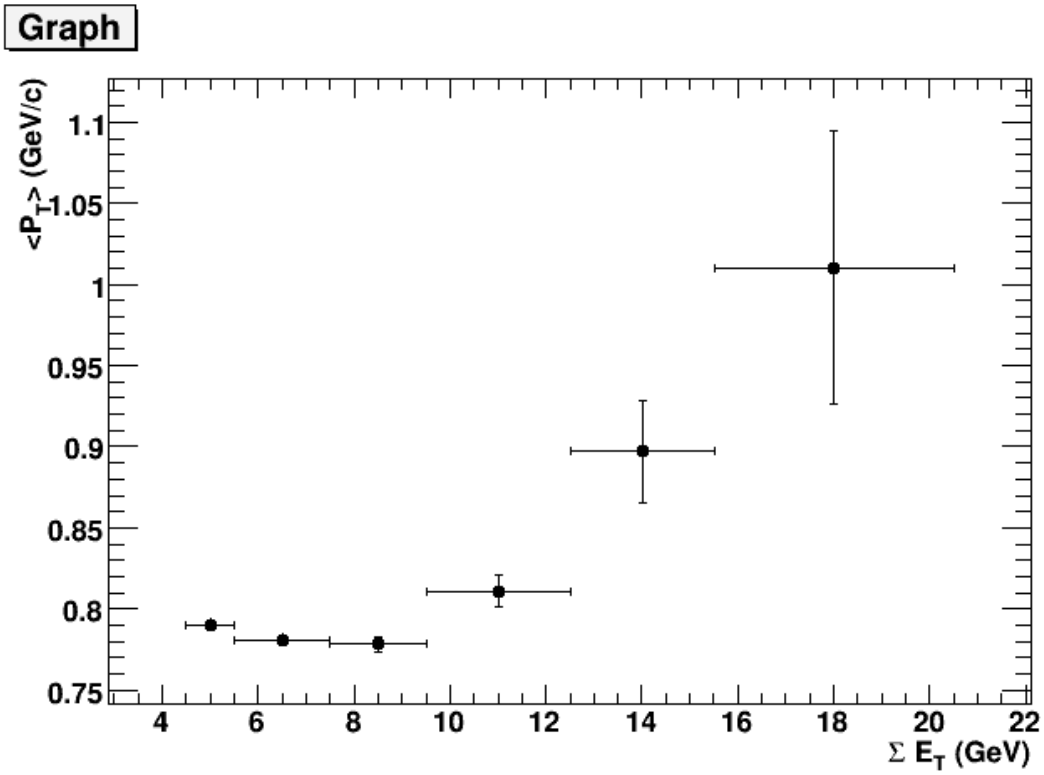
- Before cuts: 221815
- After trigger sim: 170070 23% less!
- After crazy tower cut: 159959 28% less!

All cuts

- All GXG without bad run – 306571
- Trigger 2CJET0.5
- BSC, CLC, Fplug vetoes
- Neural Net
- Trigger sim cut and crazy tower cut
- Ntracks > 4
- 1 vertex
- ET sum > 4 GeV Events left: 159959

New means dist vs Sum ET





Asymmetric errors - marker on mean

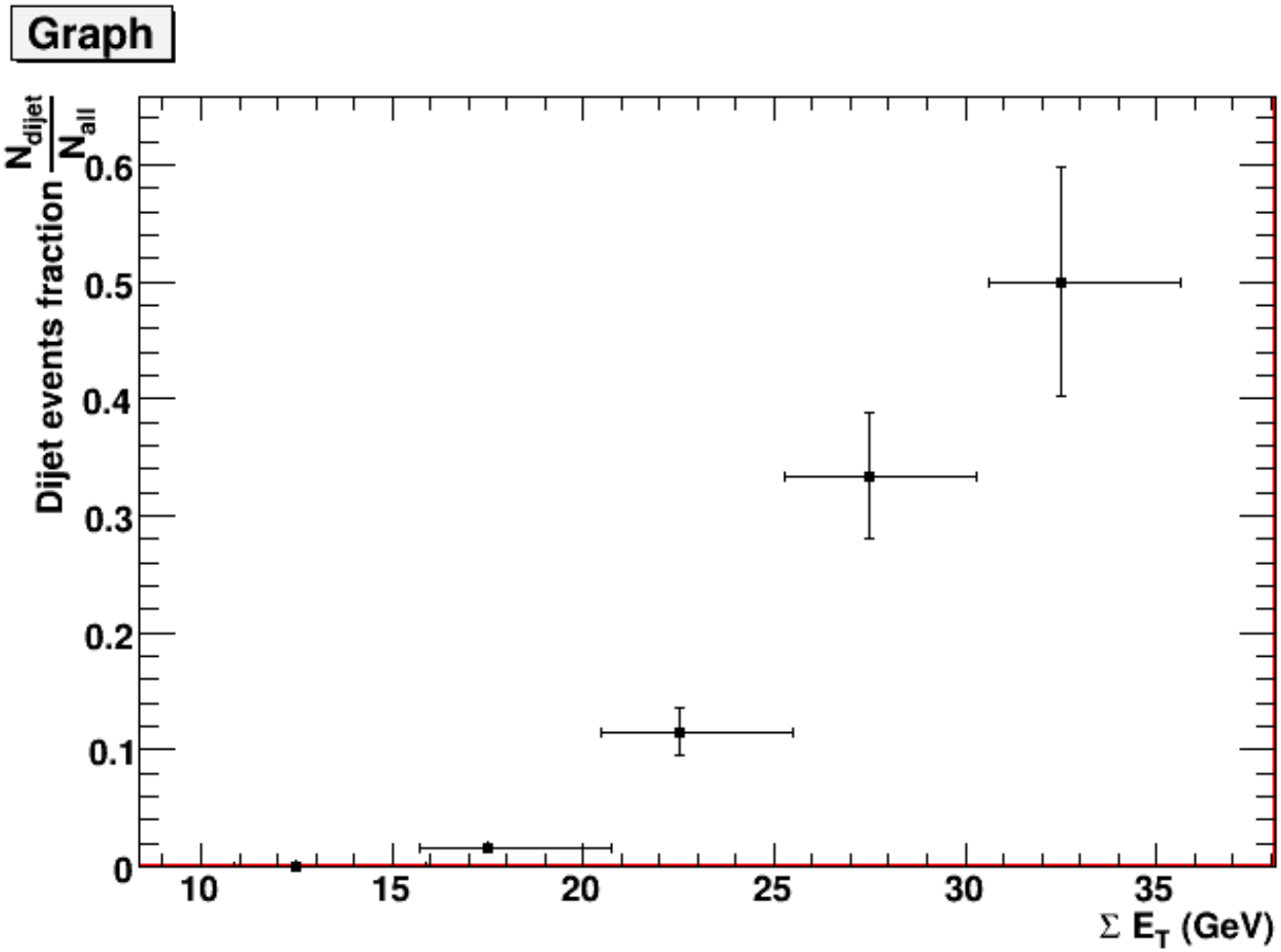
Dijet fraction

N of events with 2 jets > 5 GeV

N of all events

(in |eta| < 2.1)

- After trigger simulation and crazy tower cuts!



Asymmetric errors - marker on mean

K0s and lambdas

- Using Maria's code:

  with colinearity cut <= 3

  and decay length > 0.5

  Each track in |eta| < 2.1, or |eta| < 1.1, Pt of track > 0.4 GeV/c

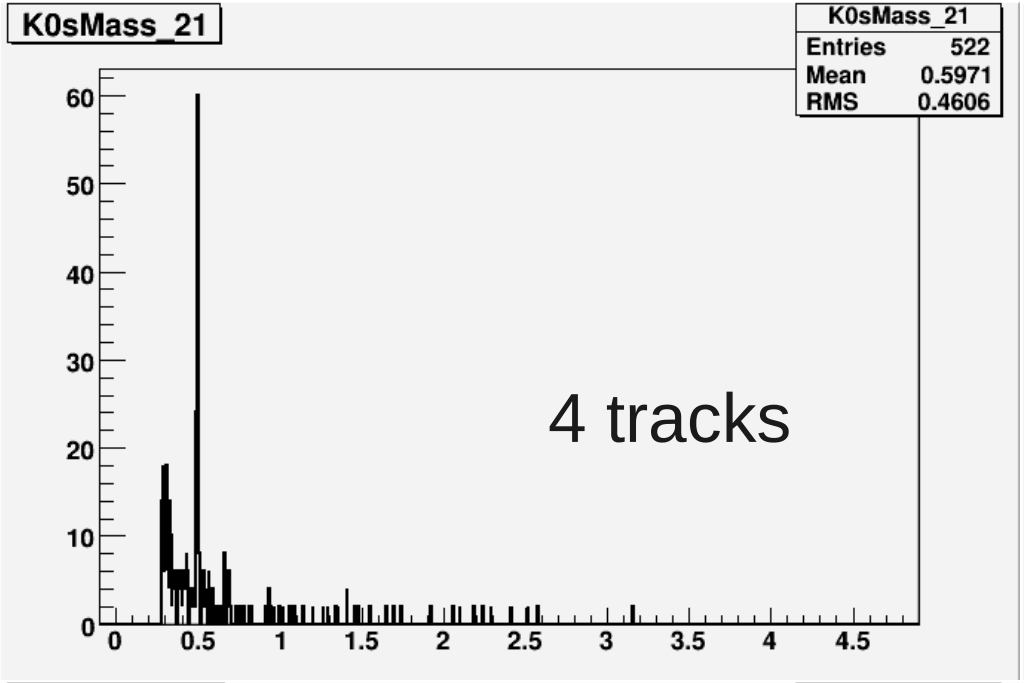
- Other cuts:

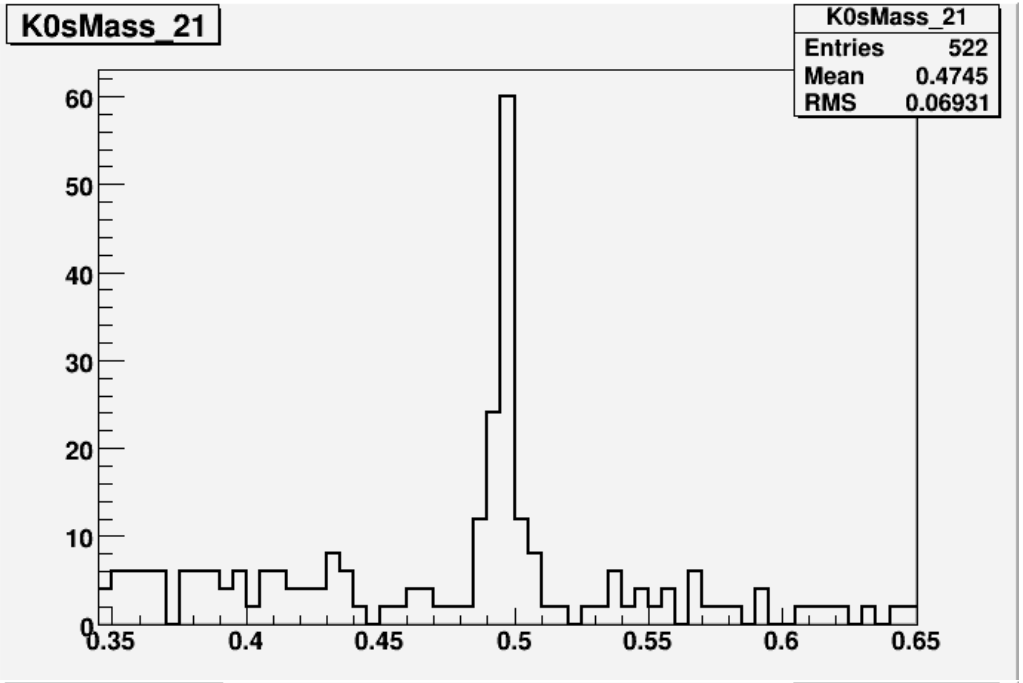
  2CJET0.5 trigger and gap vetoes, neural net

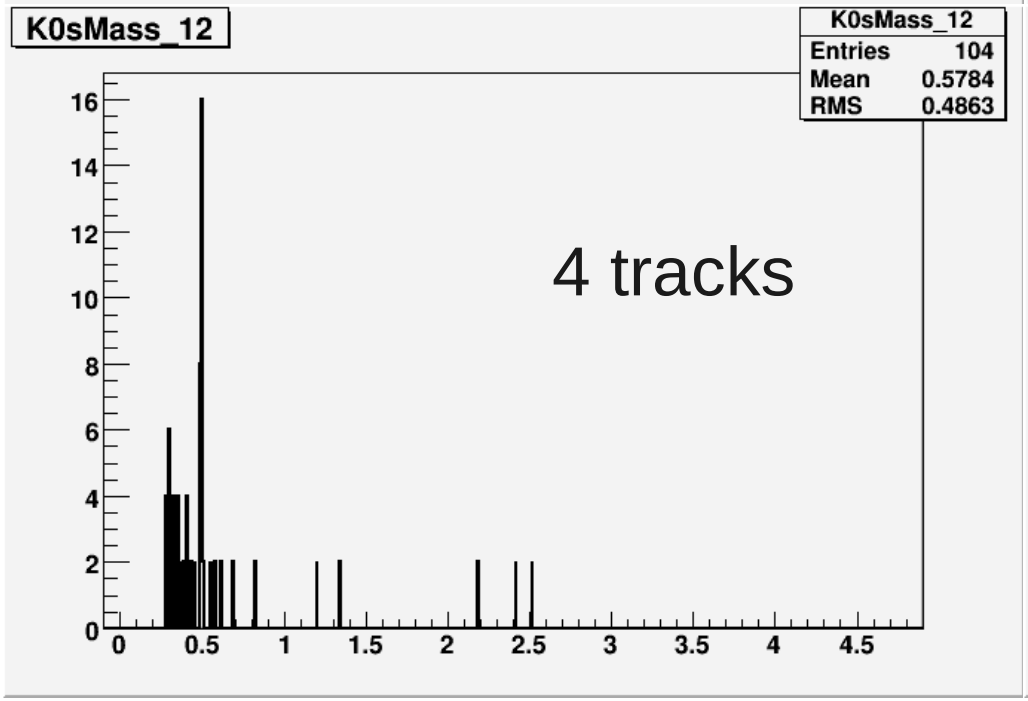
  crazy tower and trig sim cuts,

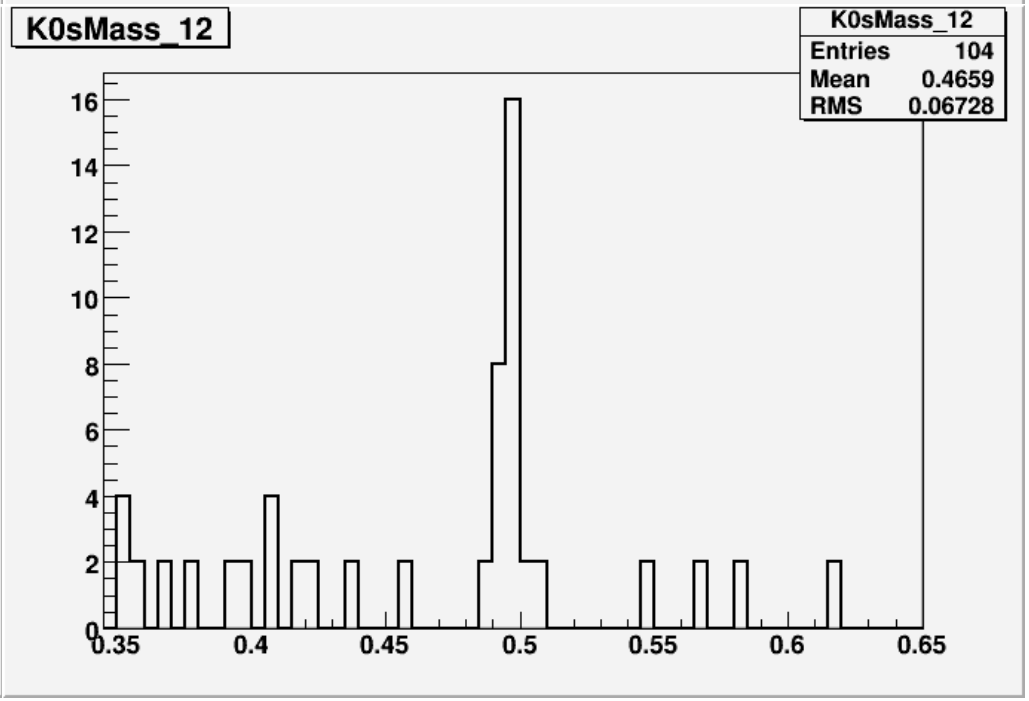
  Sum ET > 4 GeV,

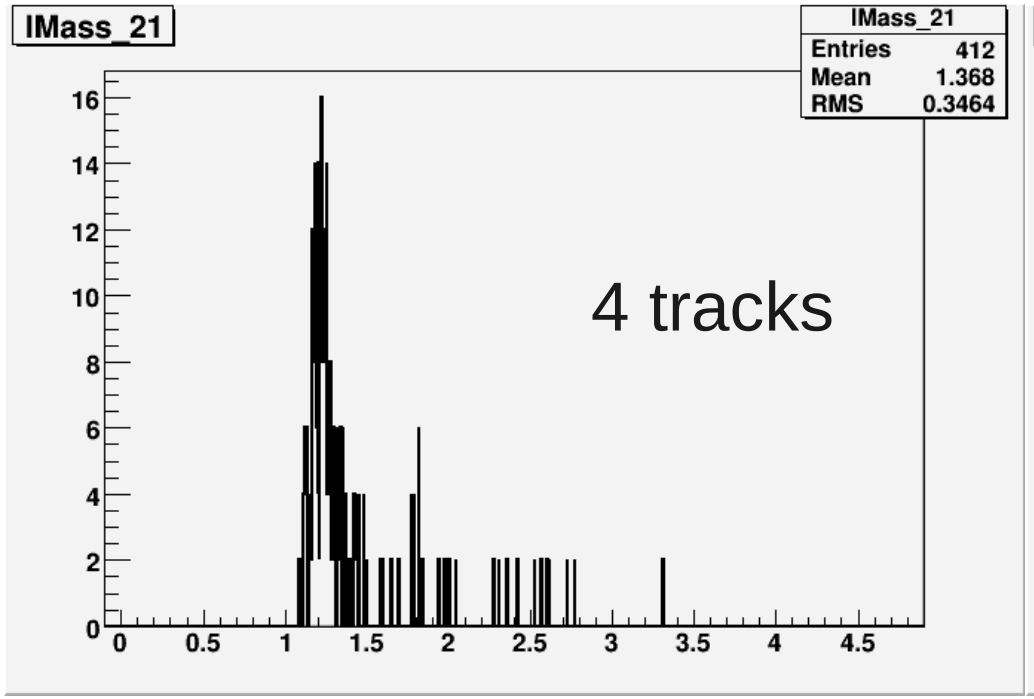
  1 vertex,

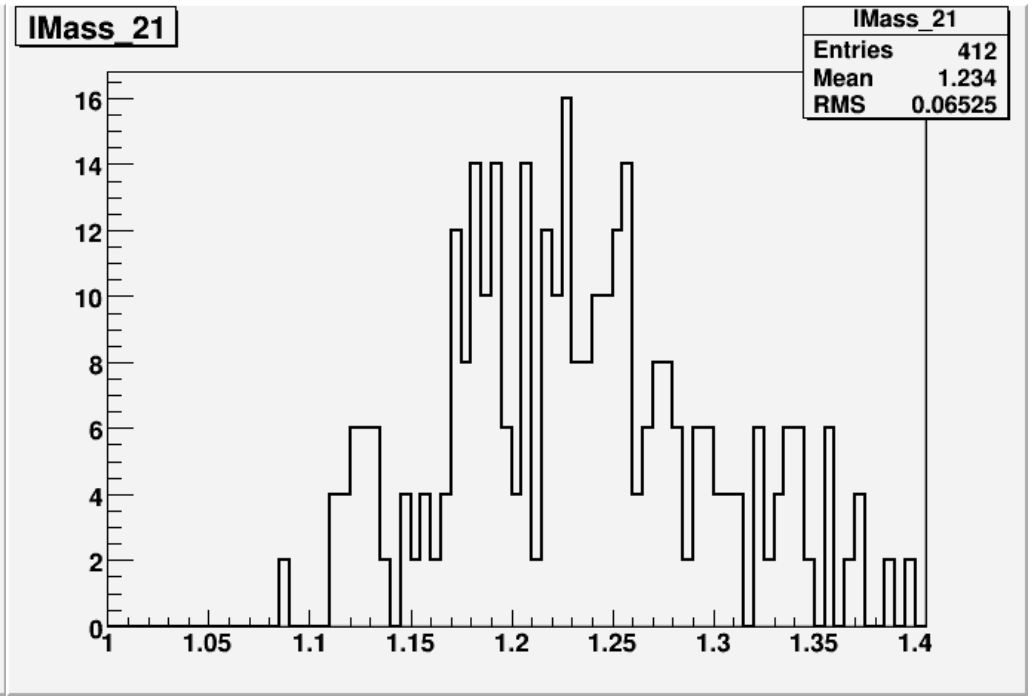

K0sMass_21
K0sMass_21
Entries 522
Mean 0.5971
RMS 0.4606
4 tracks


K0sMass_21
K0sMass_21
Entries 522
Mean 0.4745
RMS 0.06931

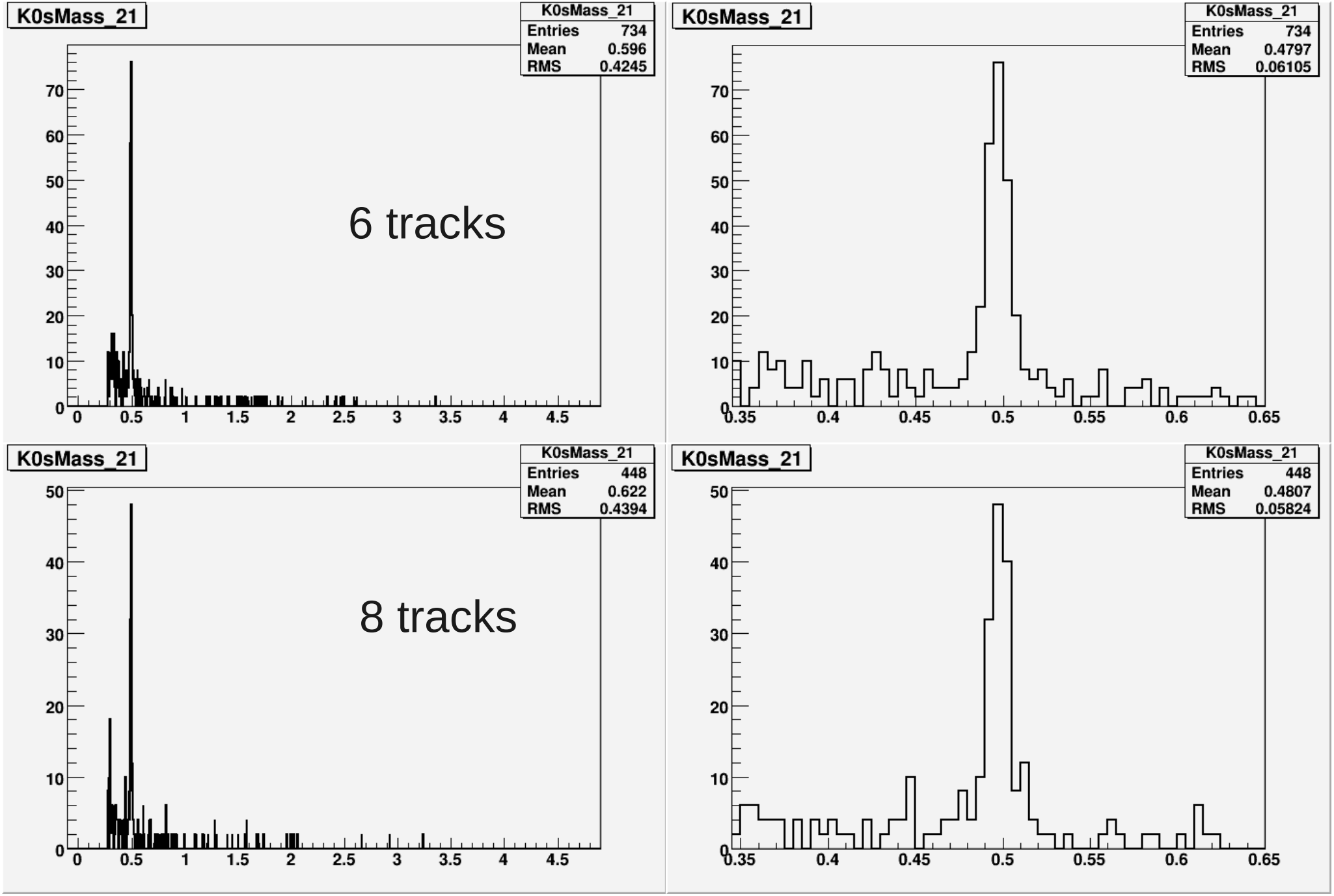

K0sMass_12
K0sMass_12
Entries 104
Mean 0.5784
RMS 0.4863
4 tracks

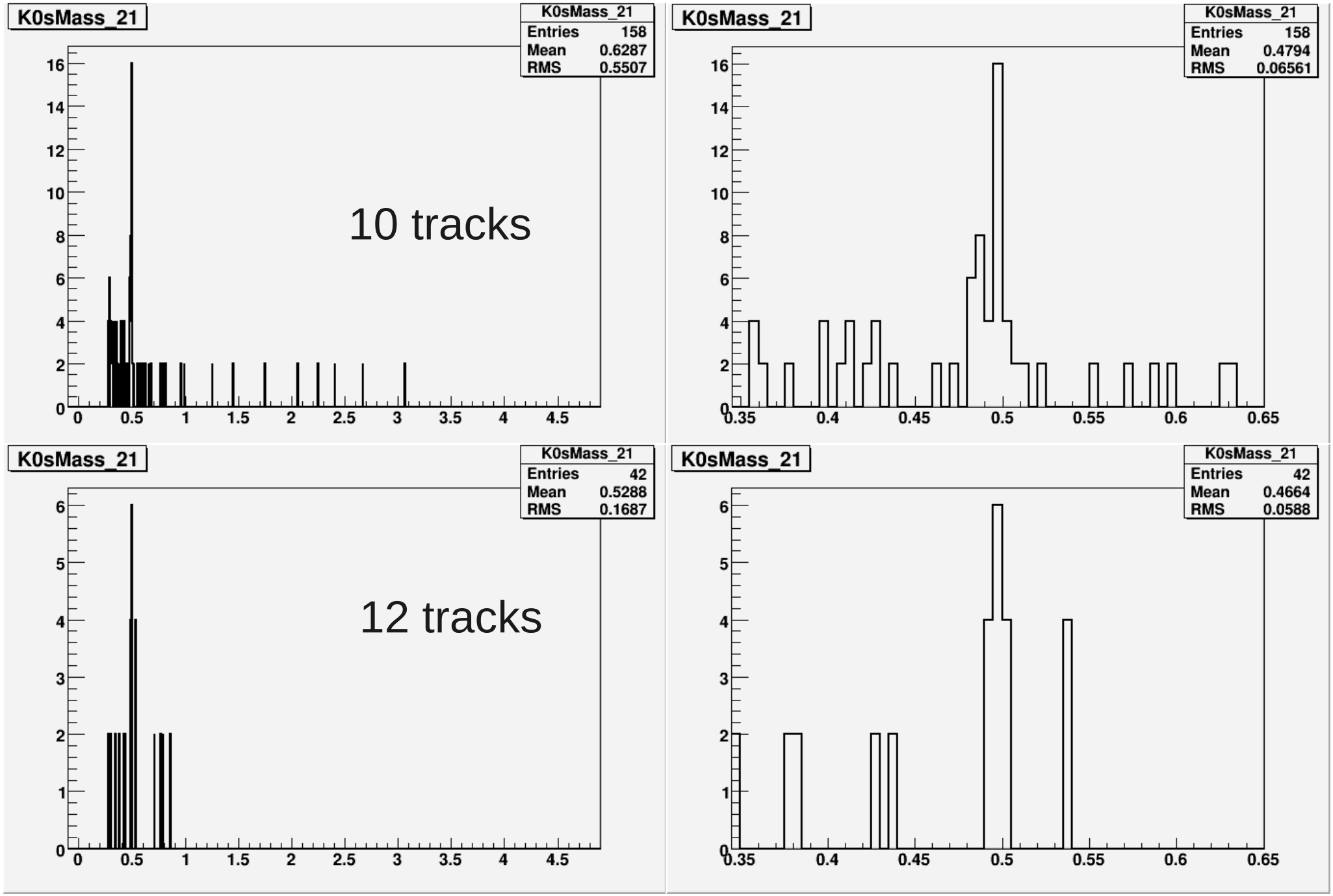

K0sMass_12
K0sMass_12
Entries 104
Mean 0.4659
RMS 0.06728

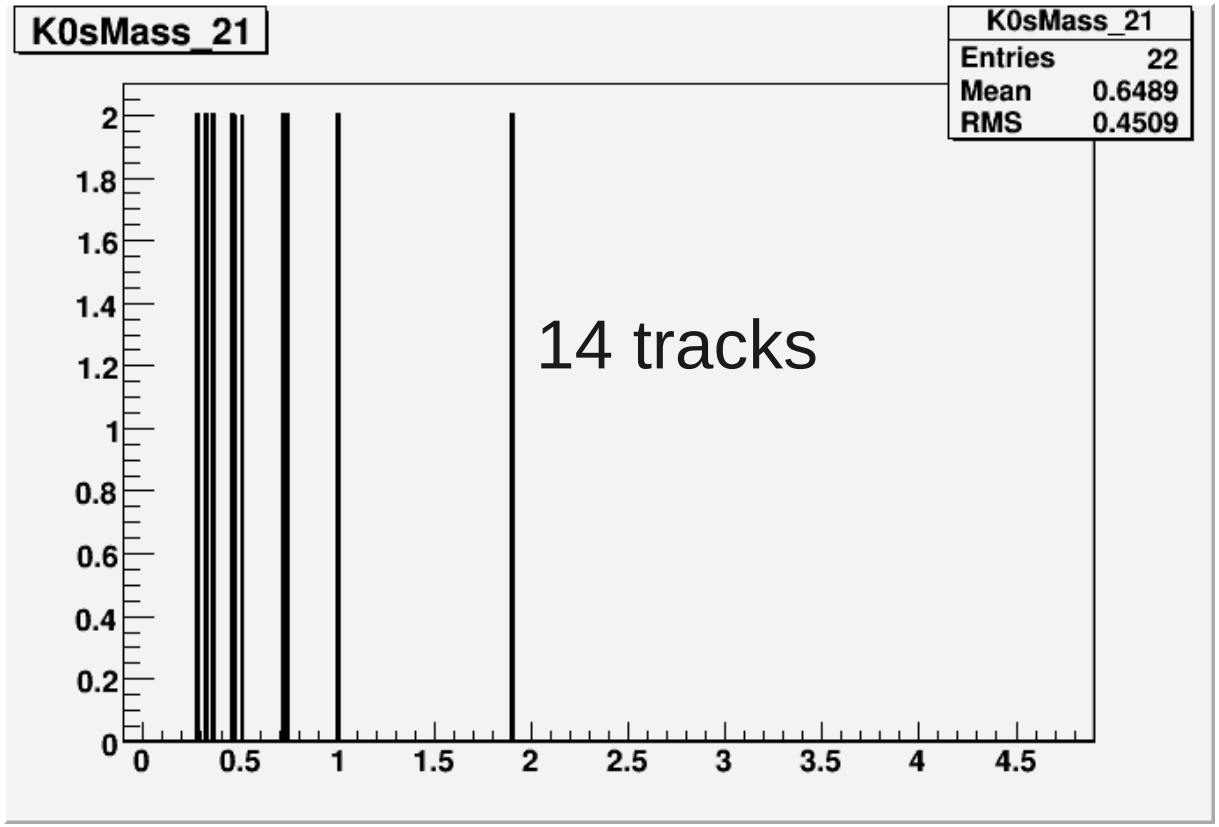

IMass_21
IMass_21
Entries 412
Mean 1.368
RMS 0.3464
4 tracks


IMass_21
IMass_21
Entries 412
Mean 1.234
RMS 0.06525

Lambdas


K0sMass_21
K0sMass_21
Entries 734
Mean 0.596
RMS 0.4245
6 tracks
K0sMass_21
K0sMass_21
Entries 734
Mean 0.4797
RMS 0.06105
K0sMass_21
K0sMass_21
Entries 448
Mean 0.622
RMS 0.4394
8 tracks
K0sMass_21
K0sMass_21
Entries 448
Mean 0.4807
RMS 0.05824


K0sMass_21
K0sMass_21
Entries 158
Mean 0.6287
RMS 0.5507
10 tracks
K0sMass_21
K0sMass_21
Entries 158
Mean 0.4794
RMS 0.06561
K0sMass_21
K0sMass_21
Entries 42
Mean 0.5288
RMS 0.1687
12 tracks
K0sMass_21
K0sMass_21
Entries 42
Mean 0.4664
RMS 0.0588



Too small statistic!!