

# Electron Analysis Cuts

1. Vertex Rank  $> 1e6$

2.  $|vertex-Z| < 30$  cm

vertex cuts

3. Track momentum  $> 1.5$  GeV/c

4. towerStatus = 1

5. mipStatus = 1

6. Track nHits  $> 25$

7. Track must enter and exit the same tower

8. (ADC-ped)  $> 2.5$  ped RMS

track-tower cuts

9.  $3.5e-6 < dE/dX < 5e-6$

10. nSigmaPion  $> 3$

11.  $-1 < nSigmaPion < 2$

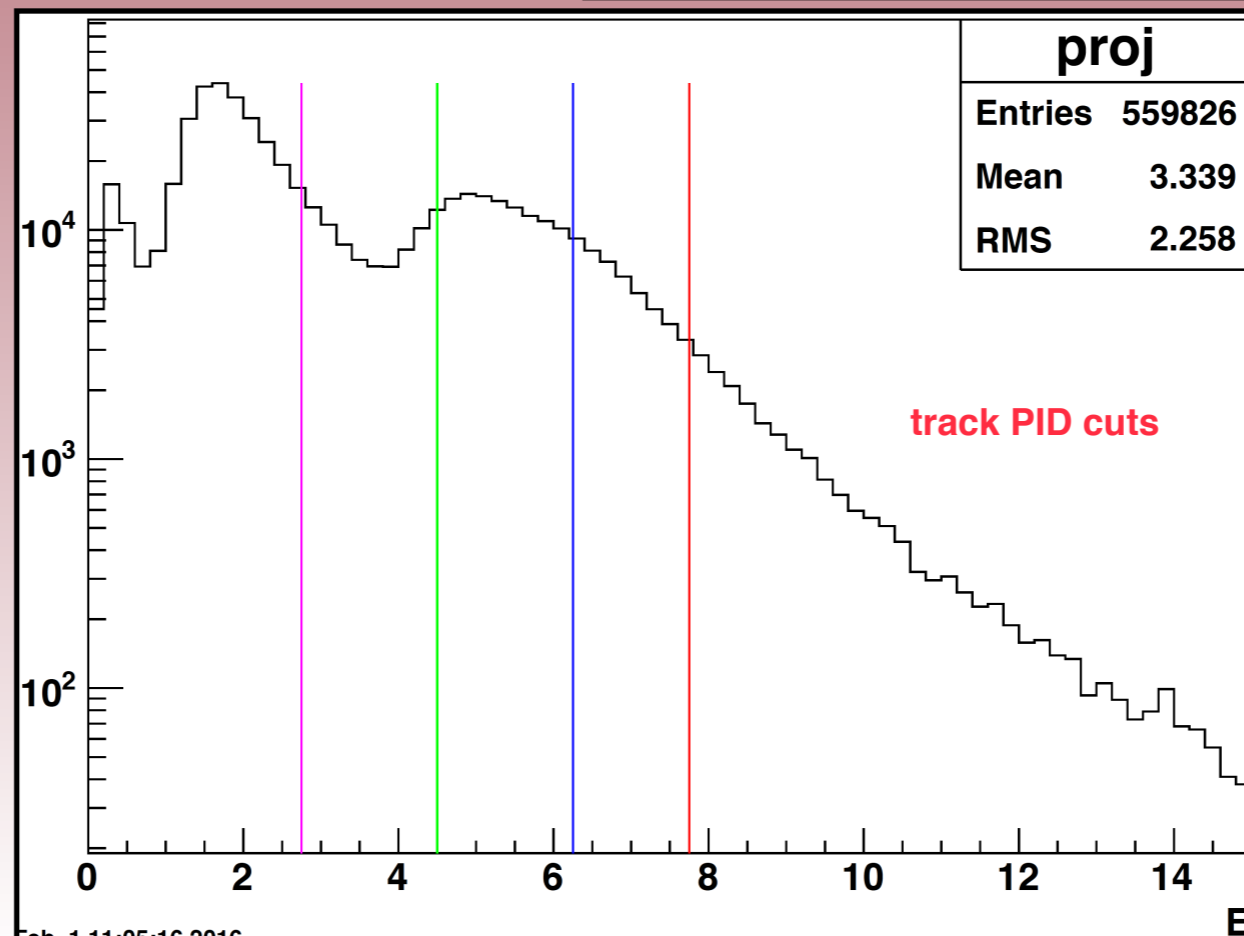
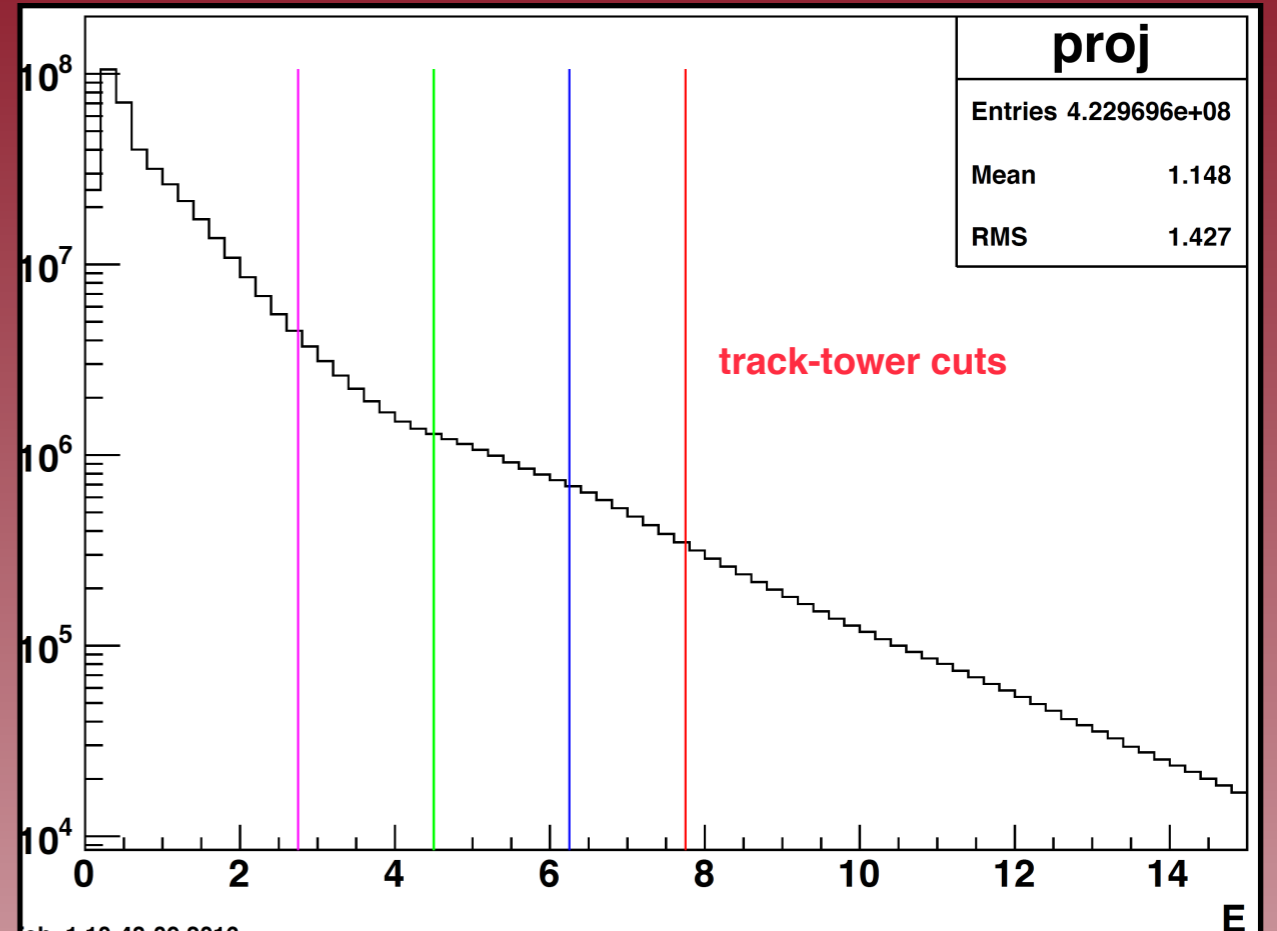
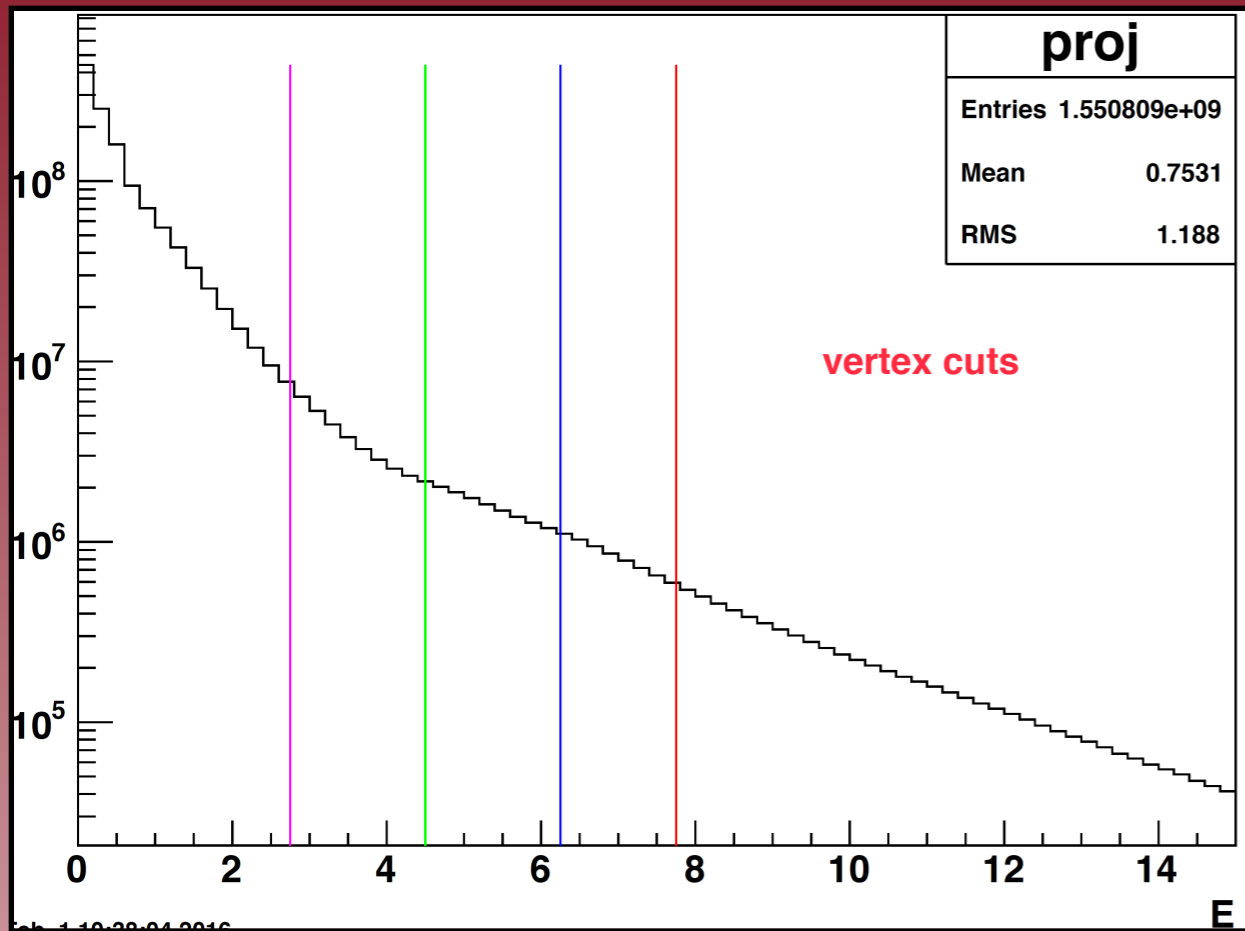
track PID cuts

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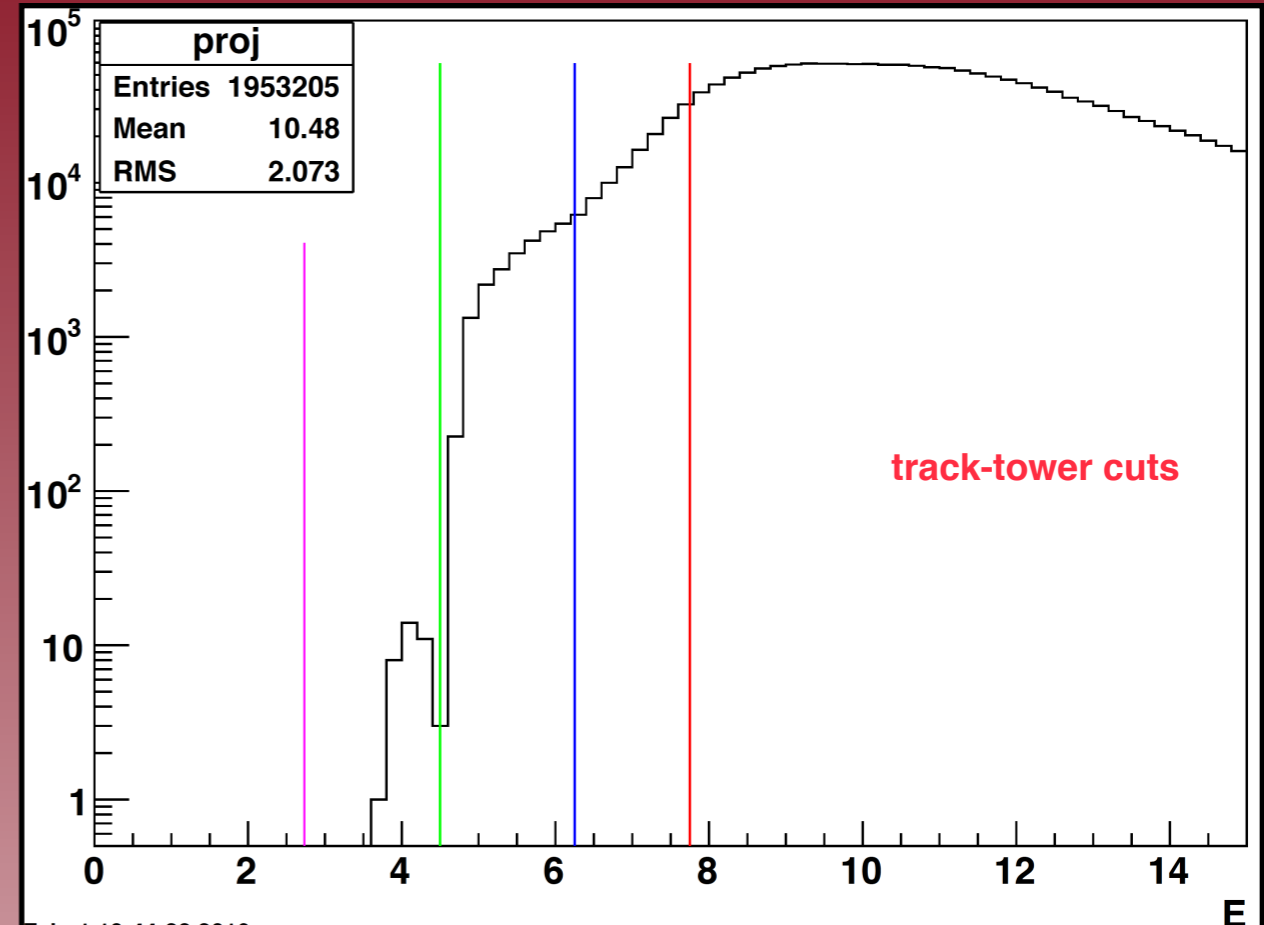
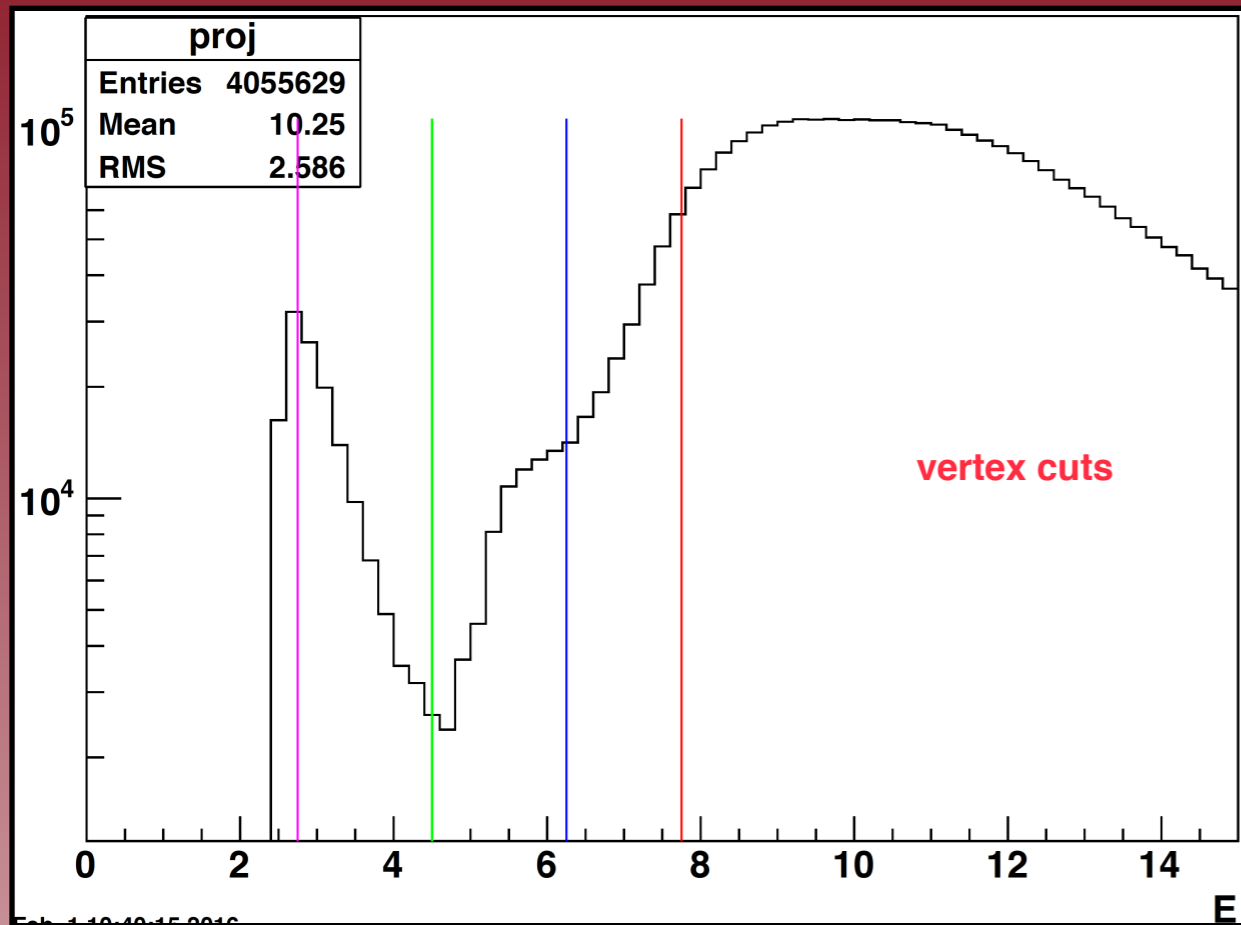
# Tower Energy Distributions

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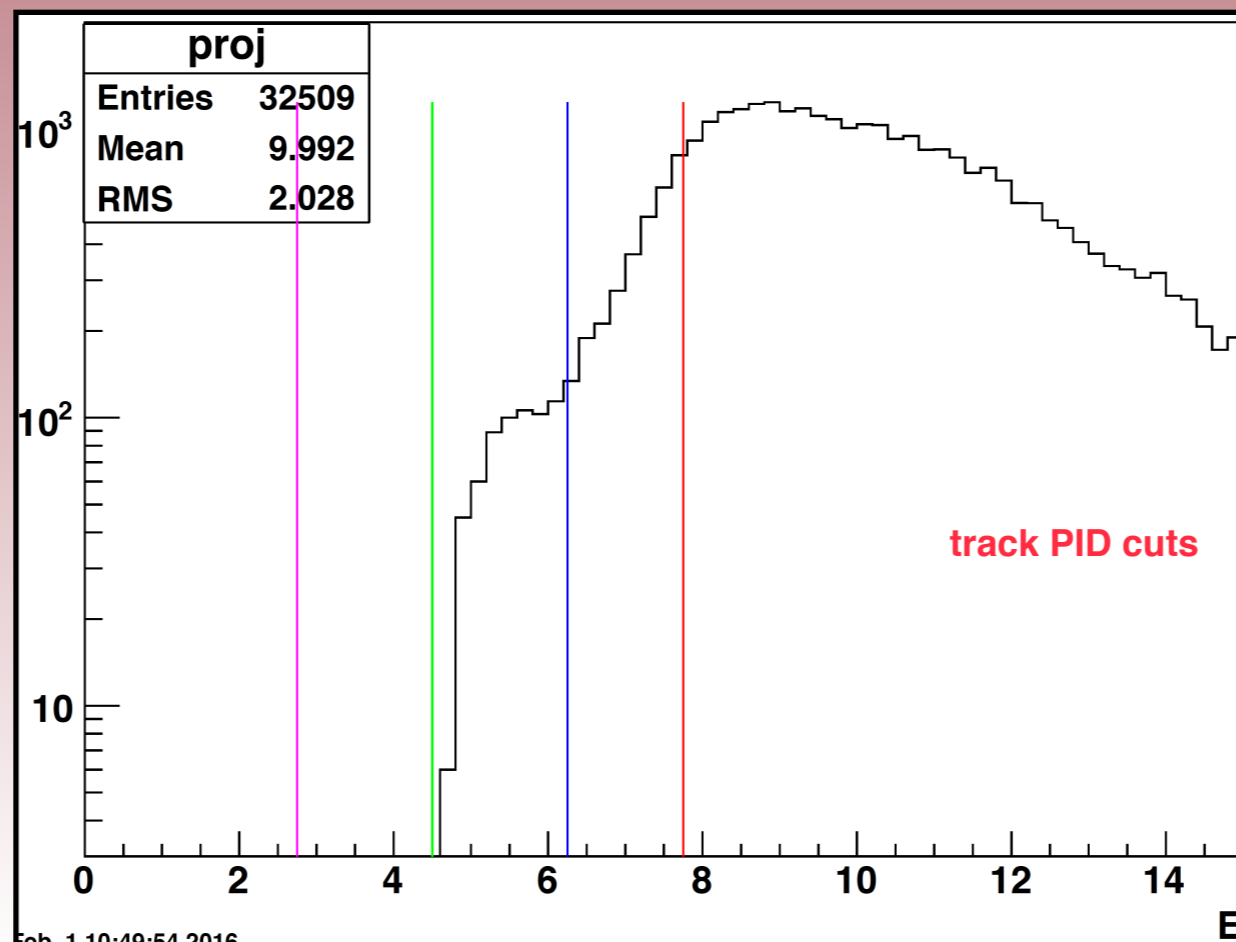
# Tower Energy distribution of tracks of BHT3->didFire() triggered events



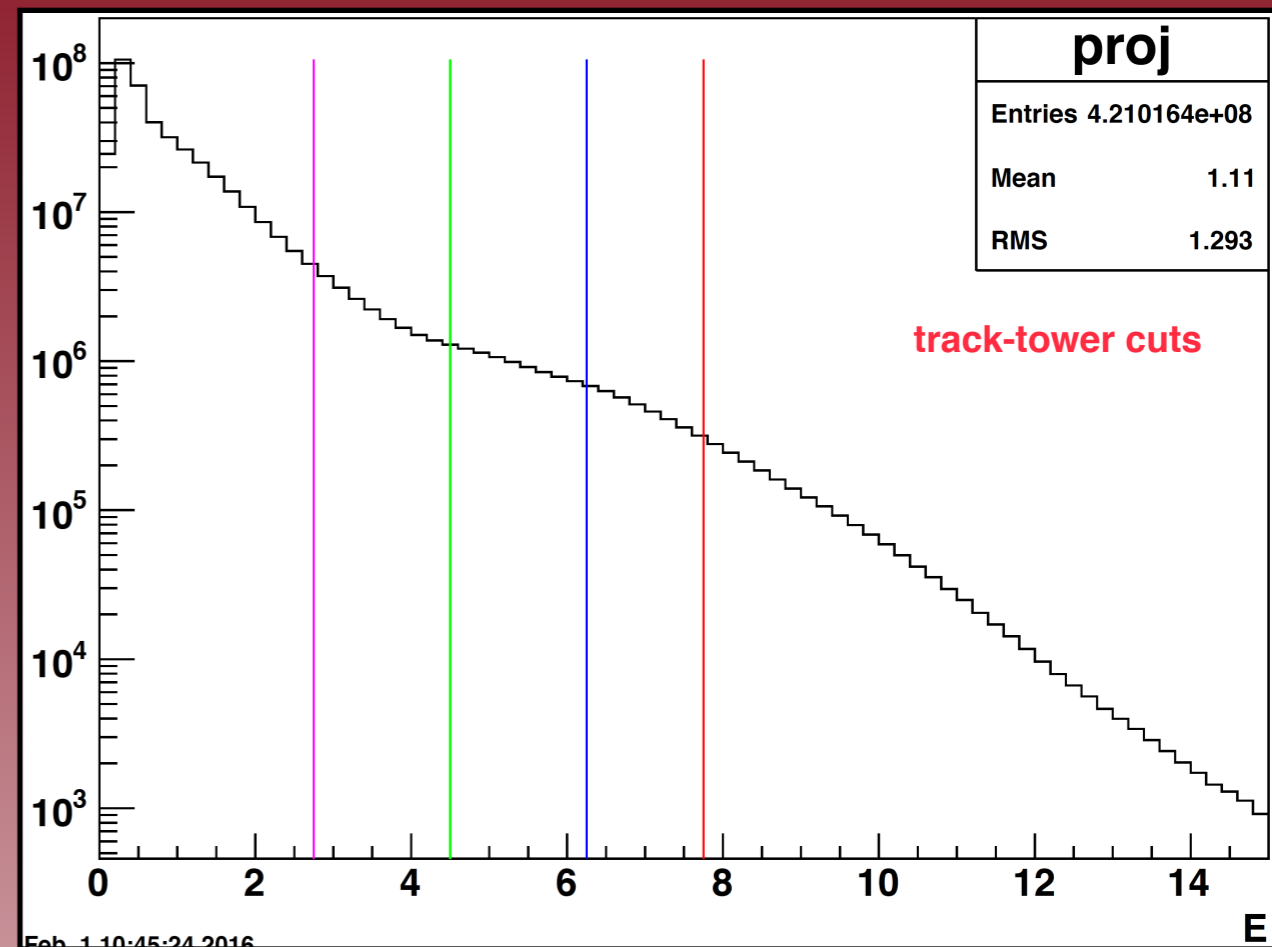
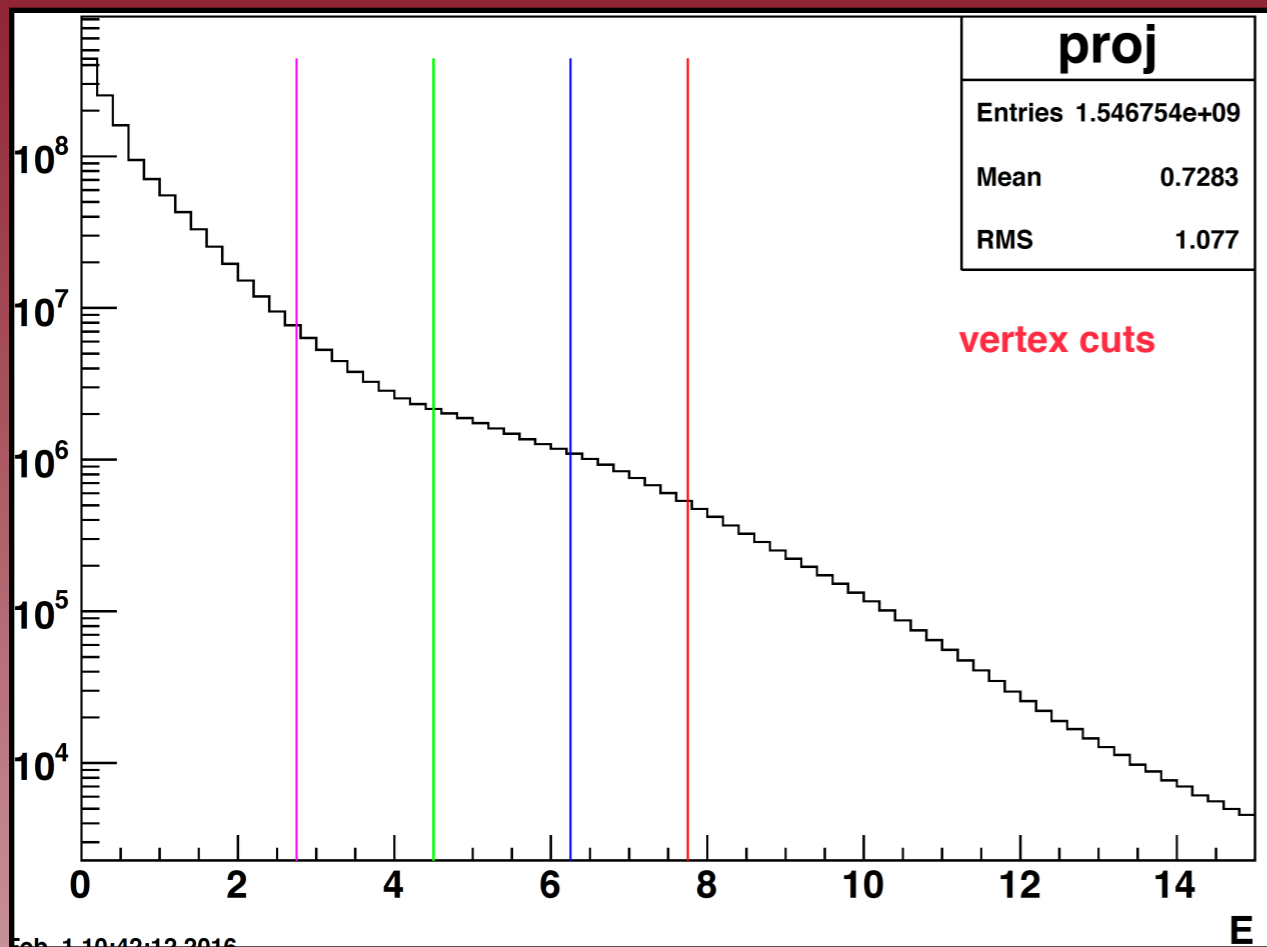
Tower Energy distribution of BHT3->didFire() triggered events where tracks matched to a tower **above** BHT3 threshold.



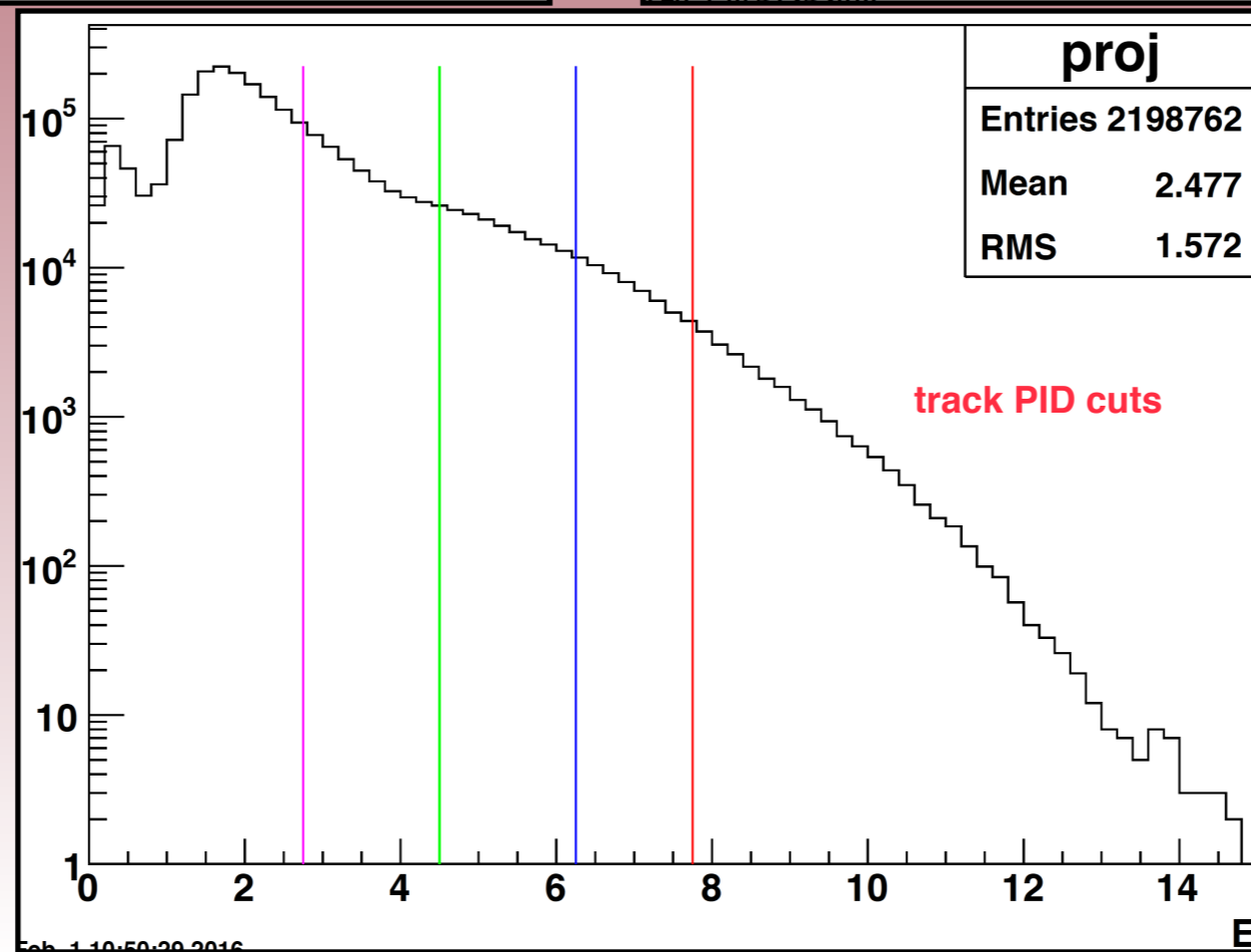
Tower energy distributions of track Matched to a tower **above** BHT3 threshold



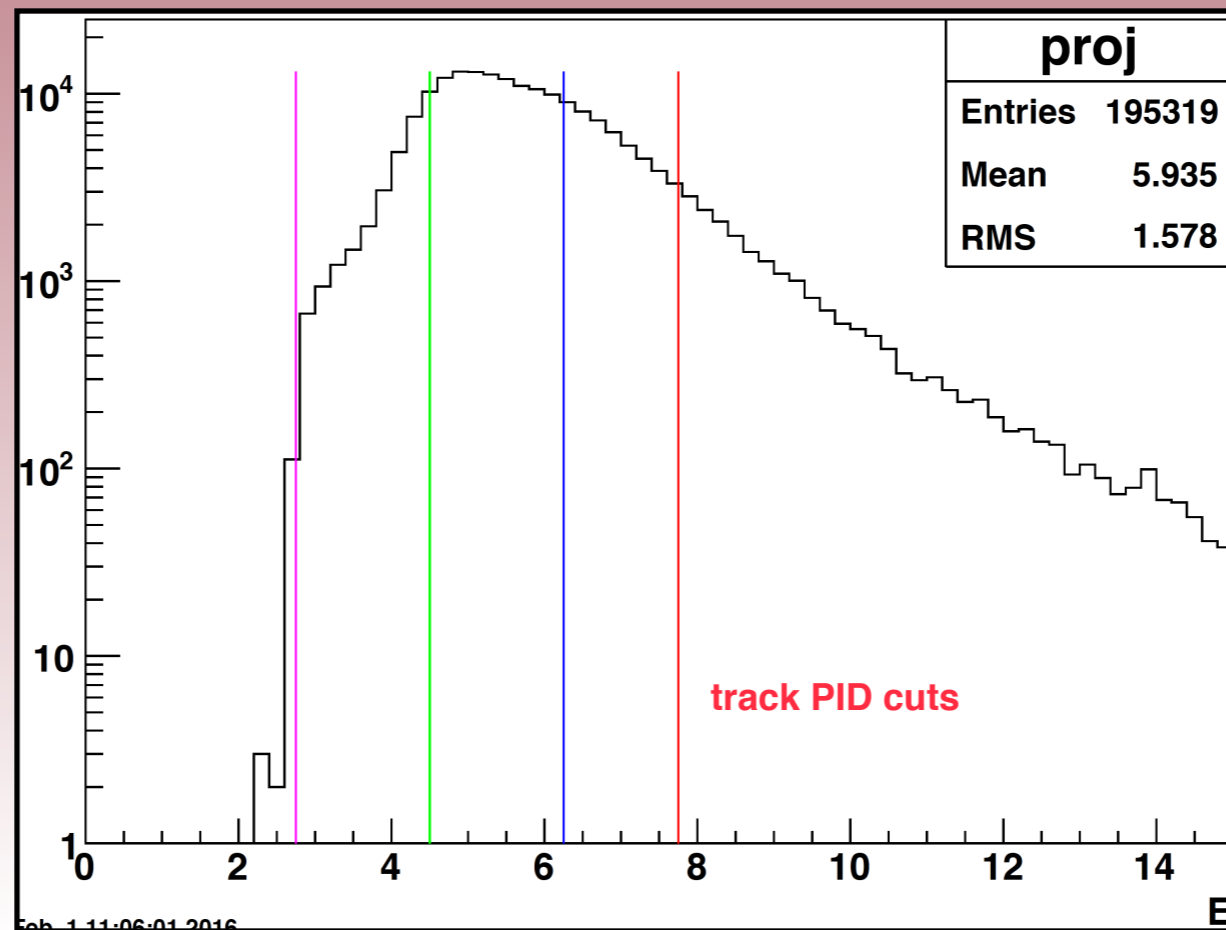
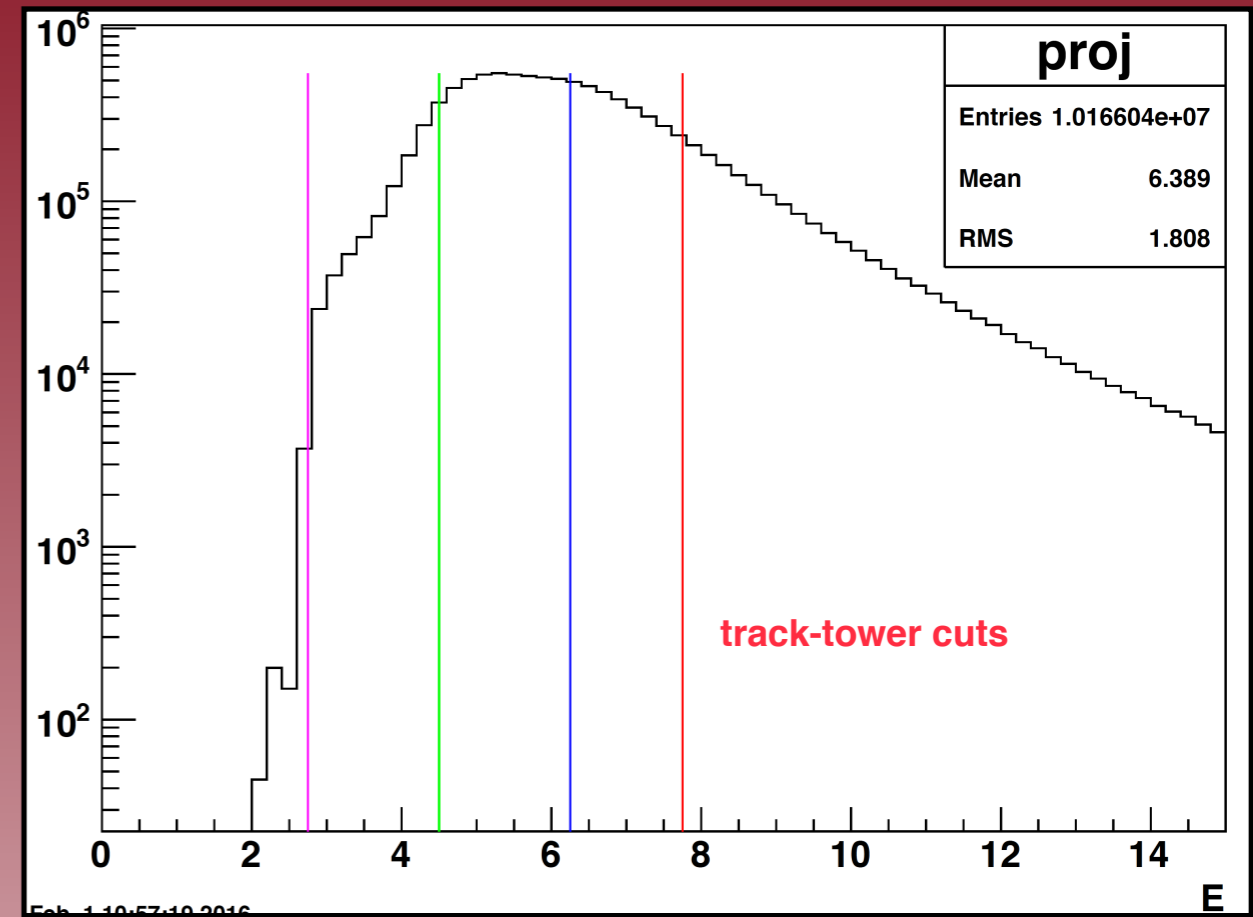
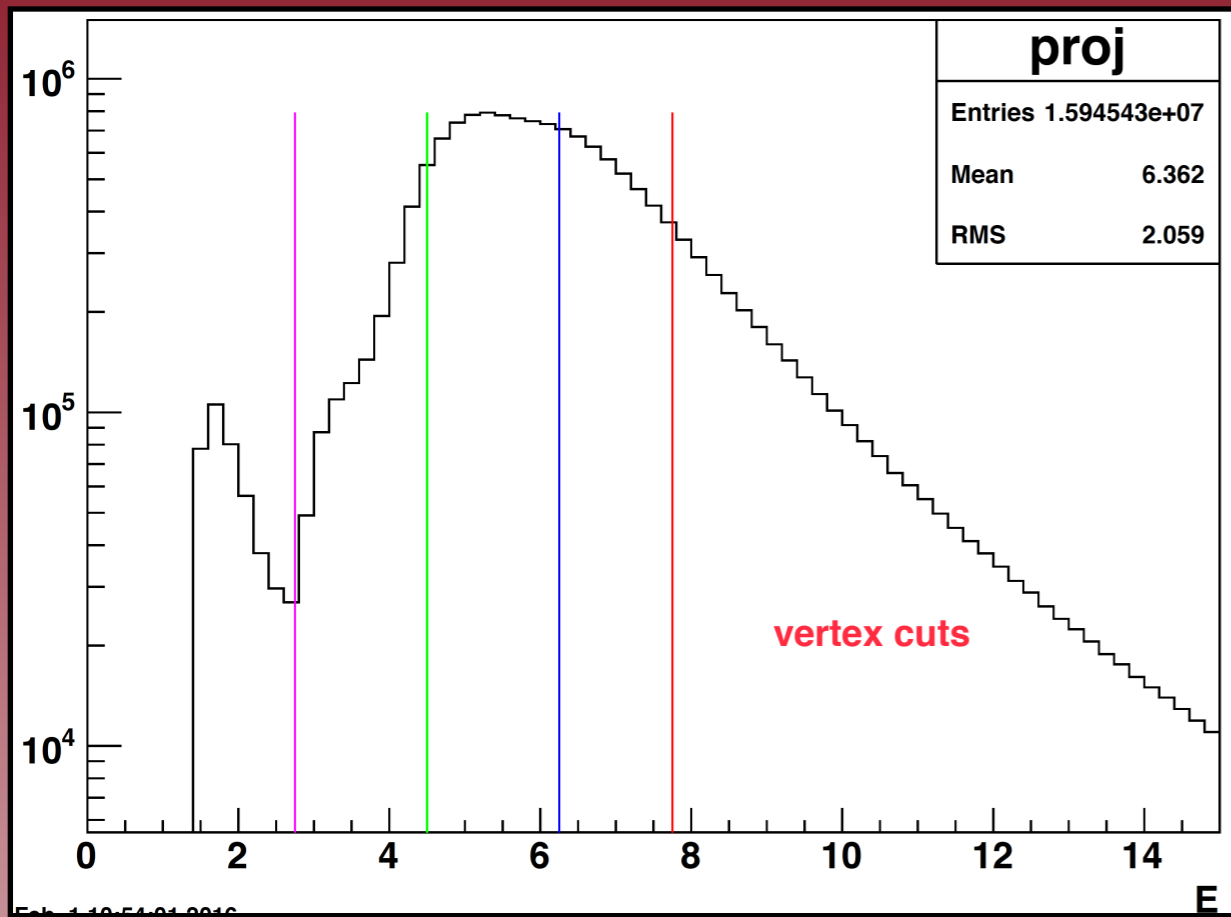
Tower Energy distribution of BHT3->didFire() triggered events where tracks matched to a tower **below** BHT3 threshold.



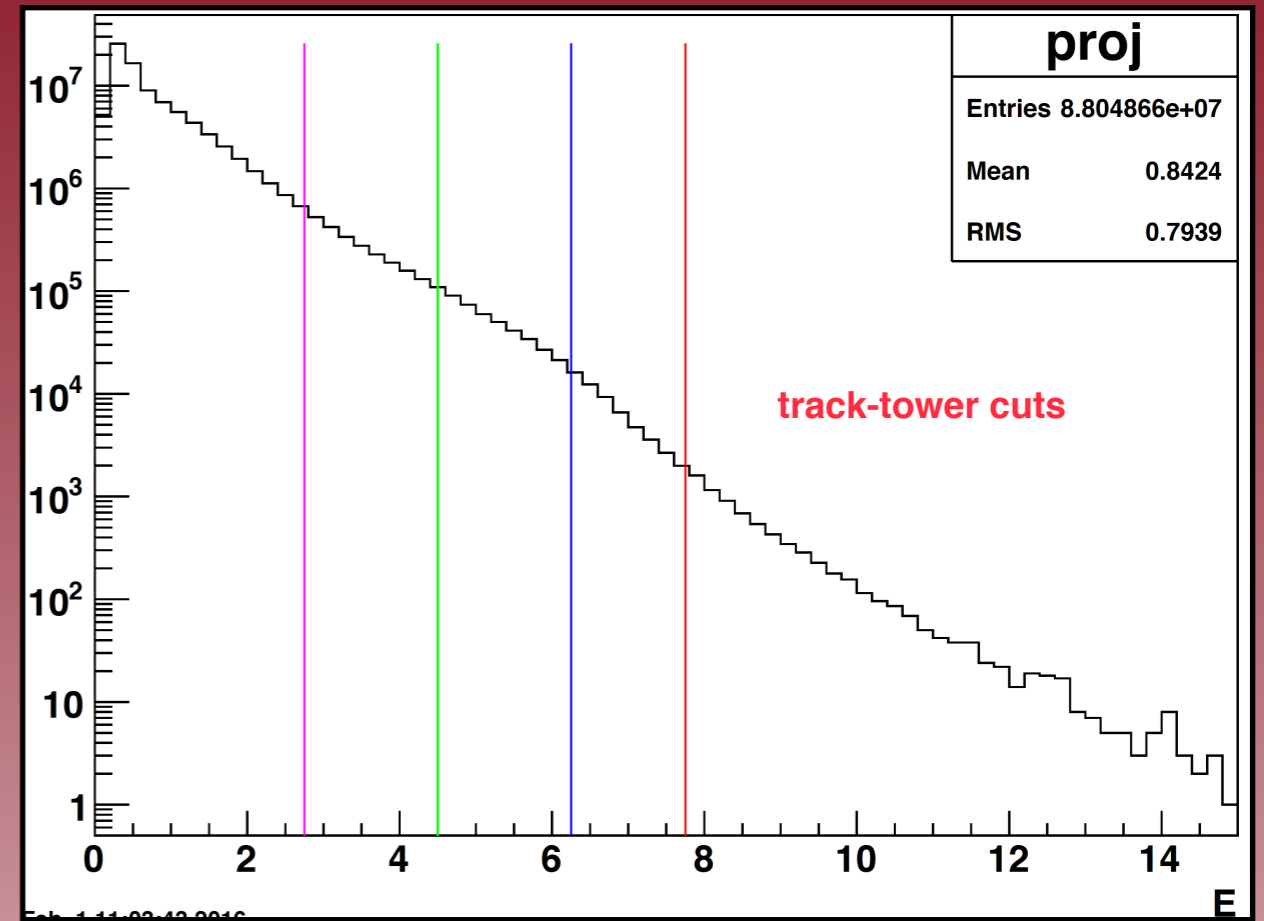
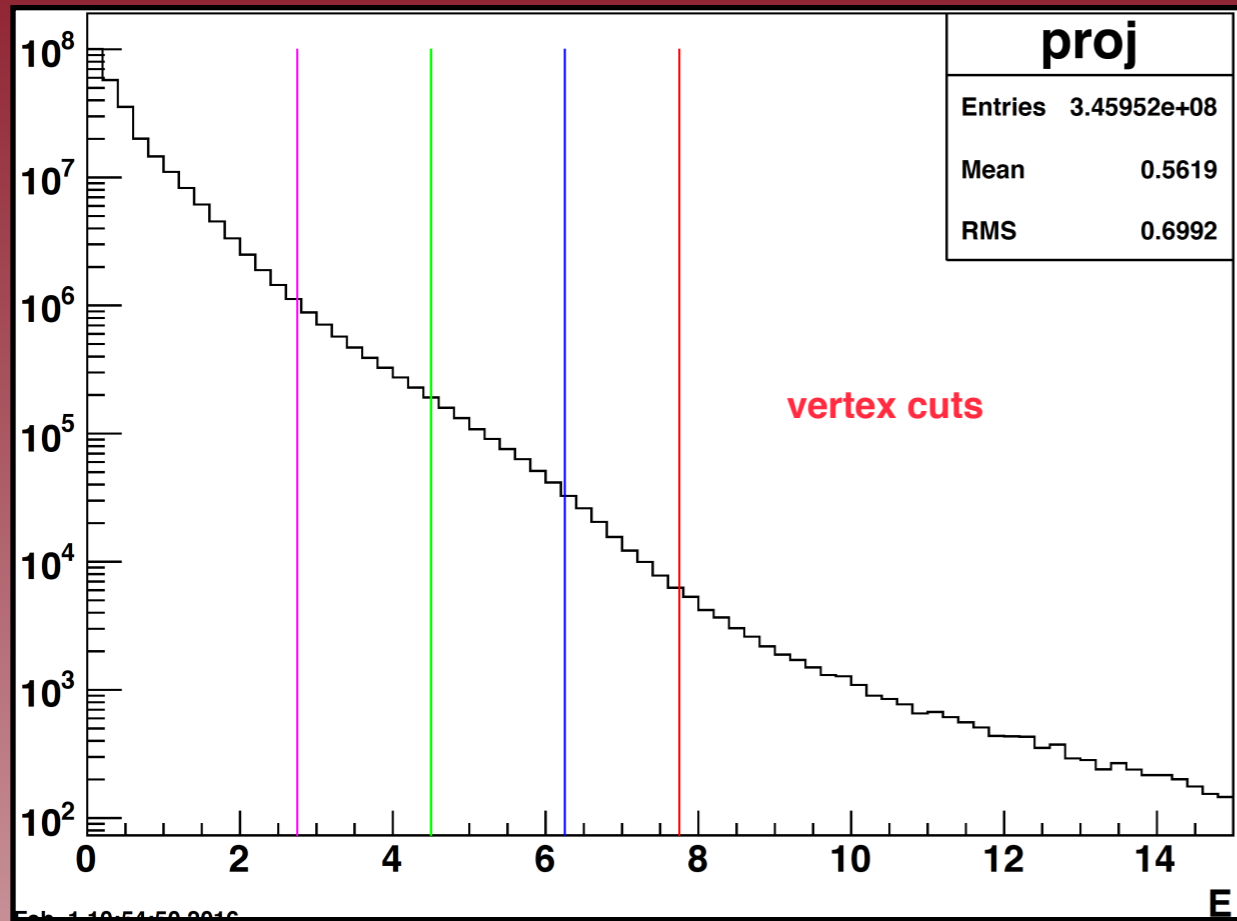
Tower energy distributions of track Matched to a tower **below** BHT3 threshold



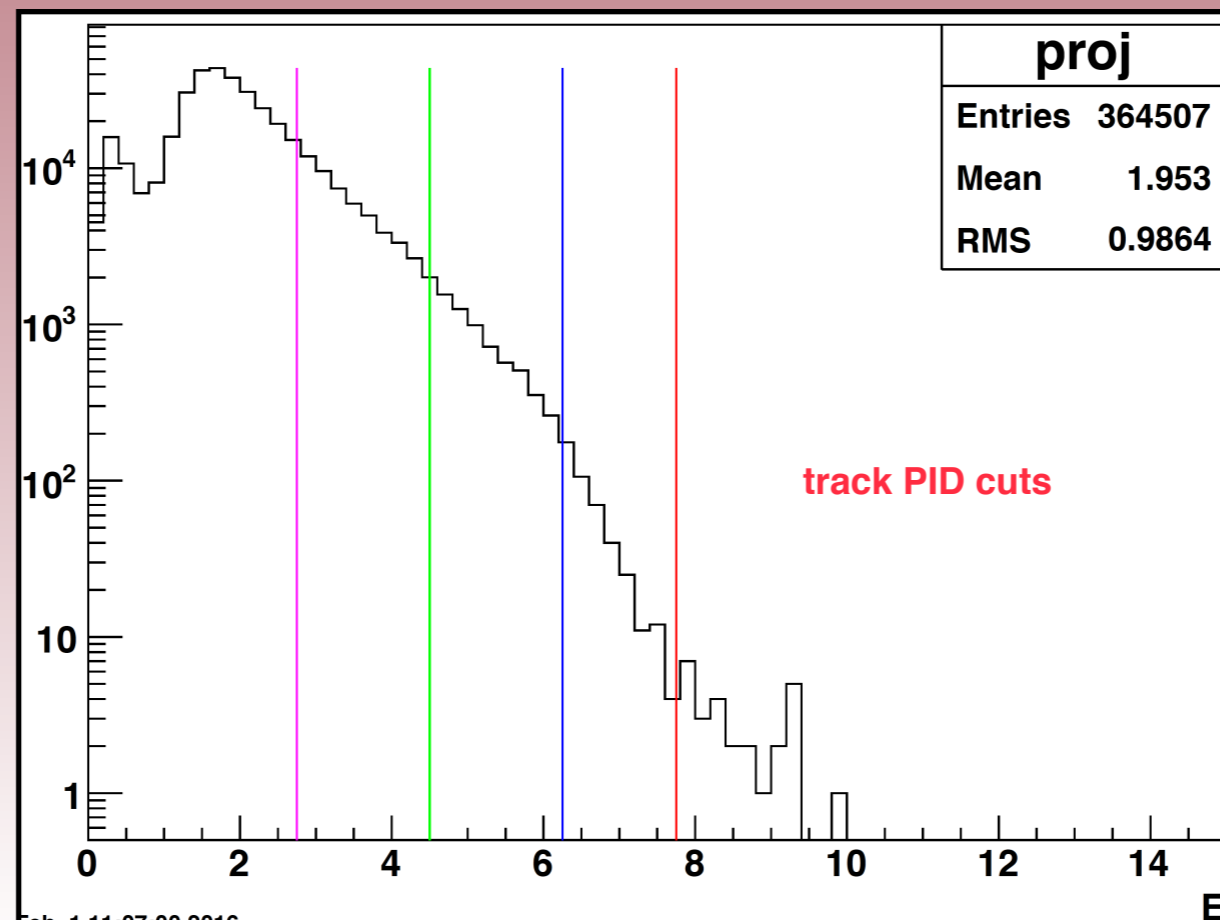
# Tower Energy distribution of tracks of BHT1->didFire() triggered events



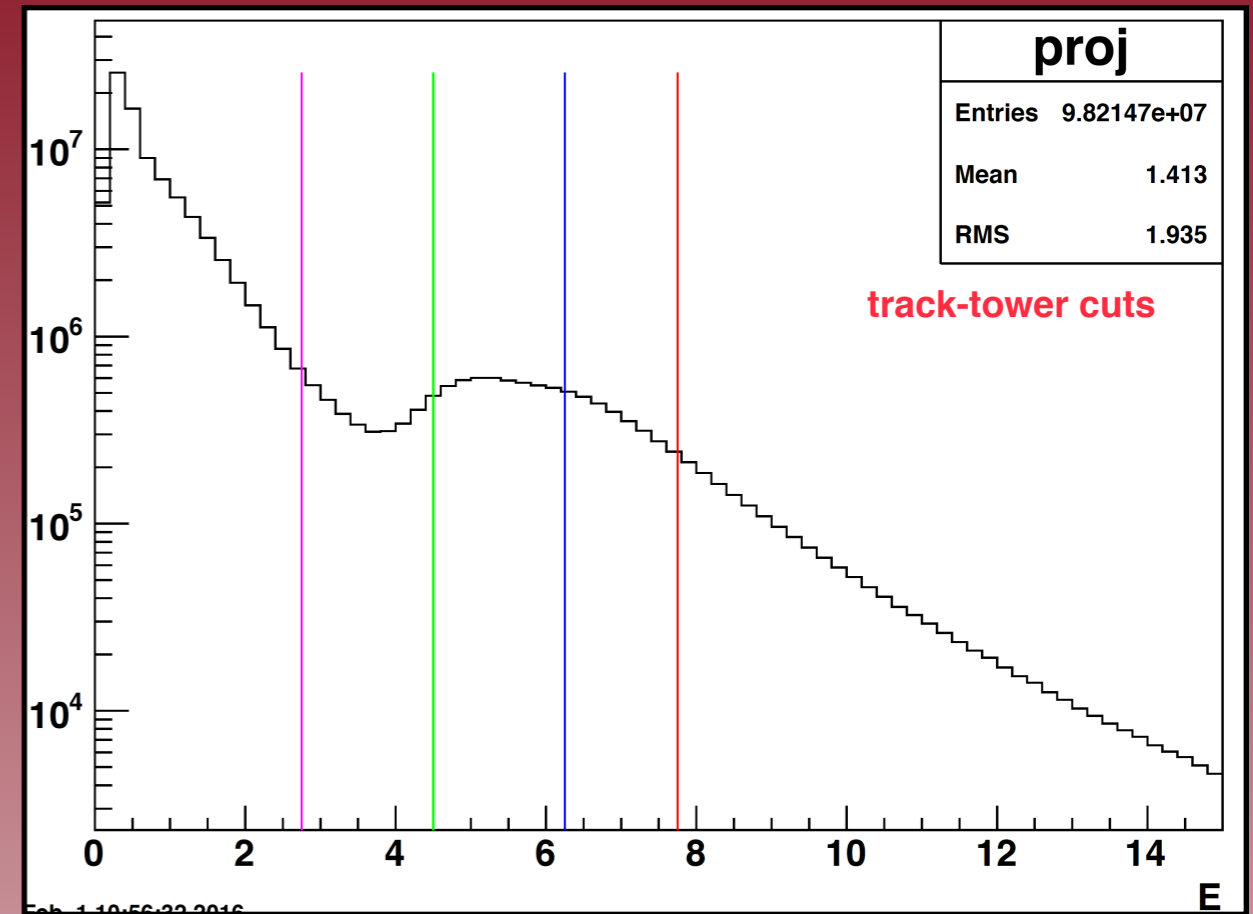
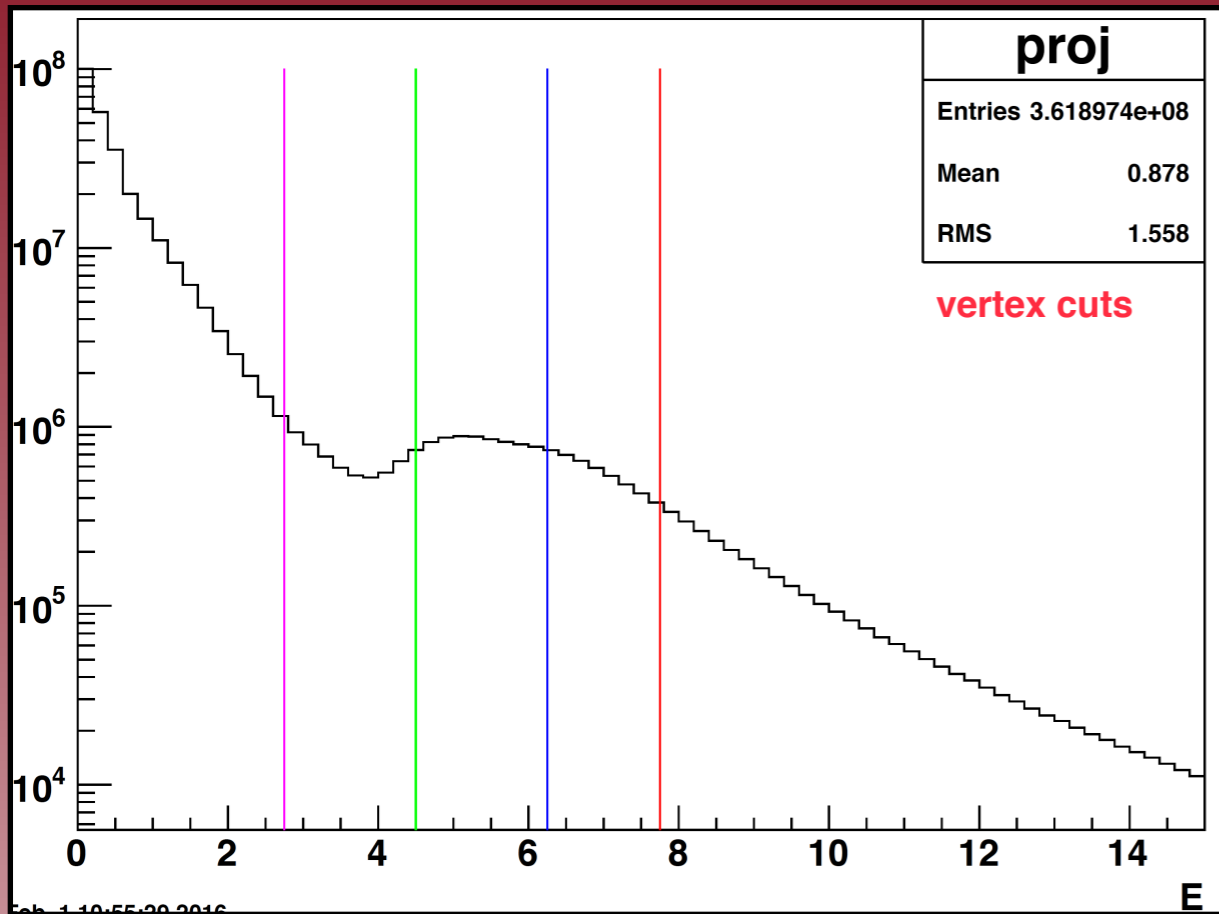
Tower Energy distribution of BHT1->didFire() triggered events where tracks matched to a tower **above** BHT1 threshold.



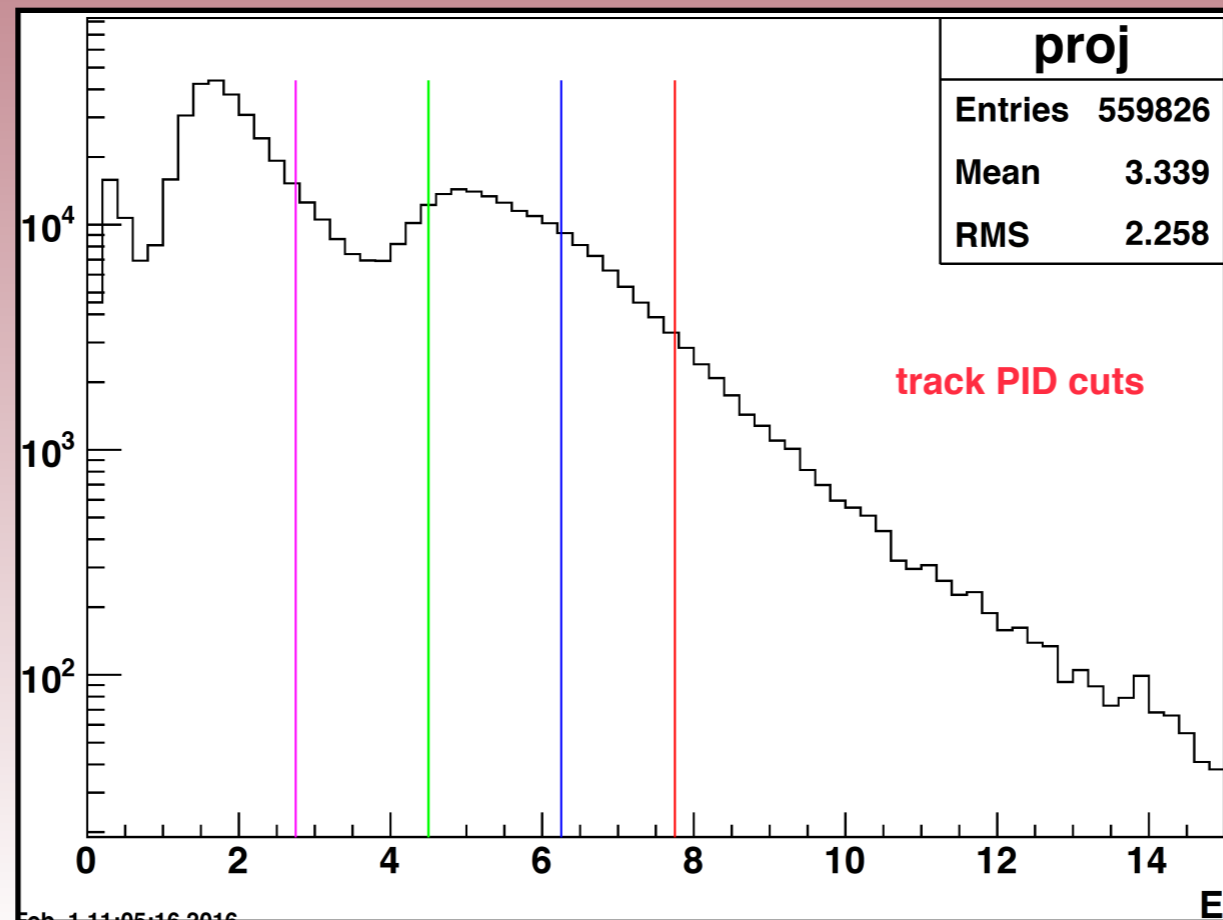
Tower energy distributions of track Matched to a tower **above** BHT1 threshold



Tower Energy distribution of BHT1->didFire() triggered events where tracks matched to a tower **below** BHT1 threshold.



Tower energy distributions of track Matched to a tower **below** BHT1 threshold



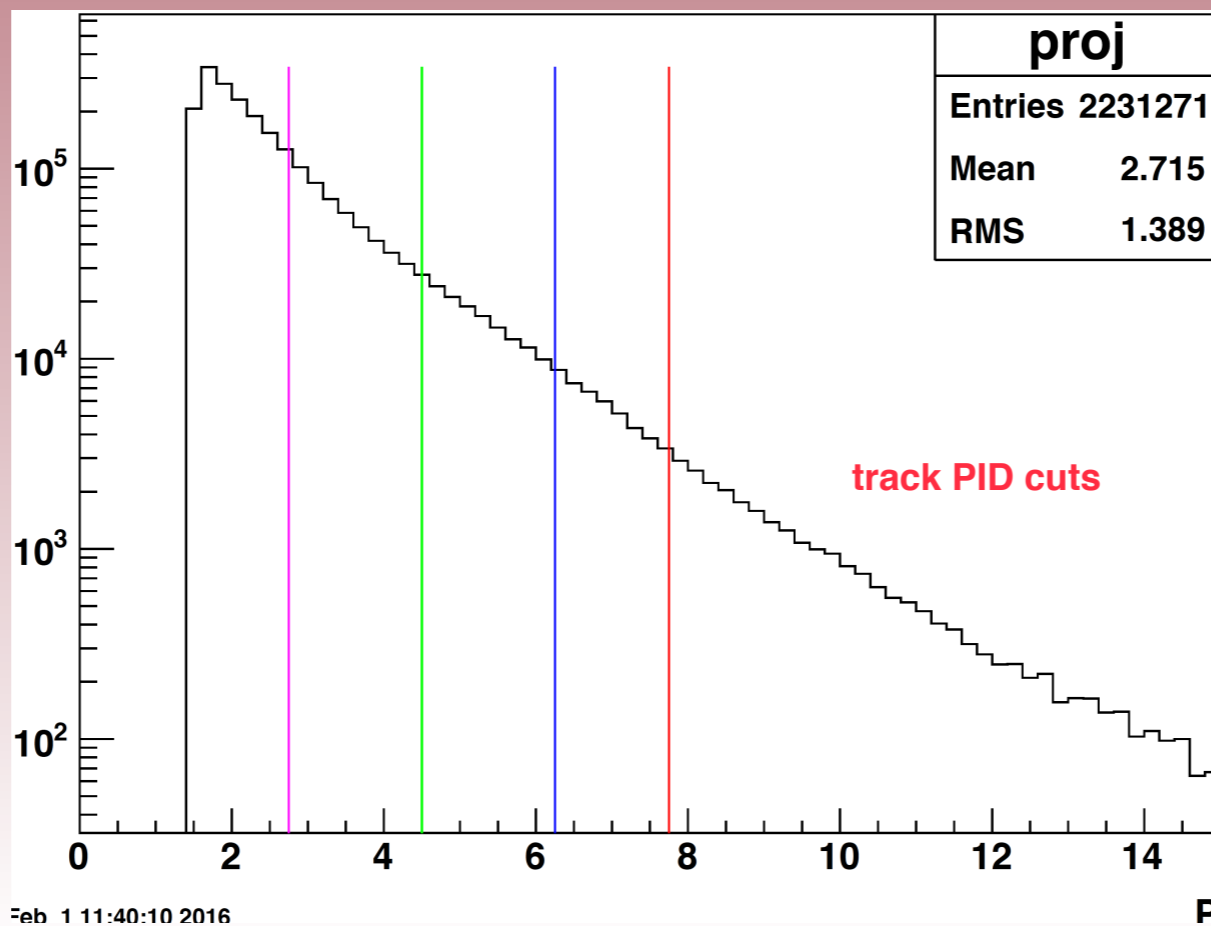
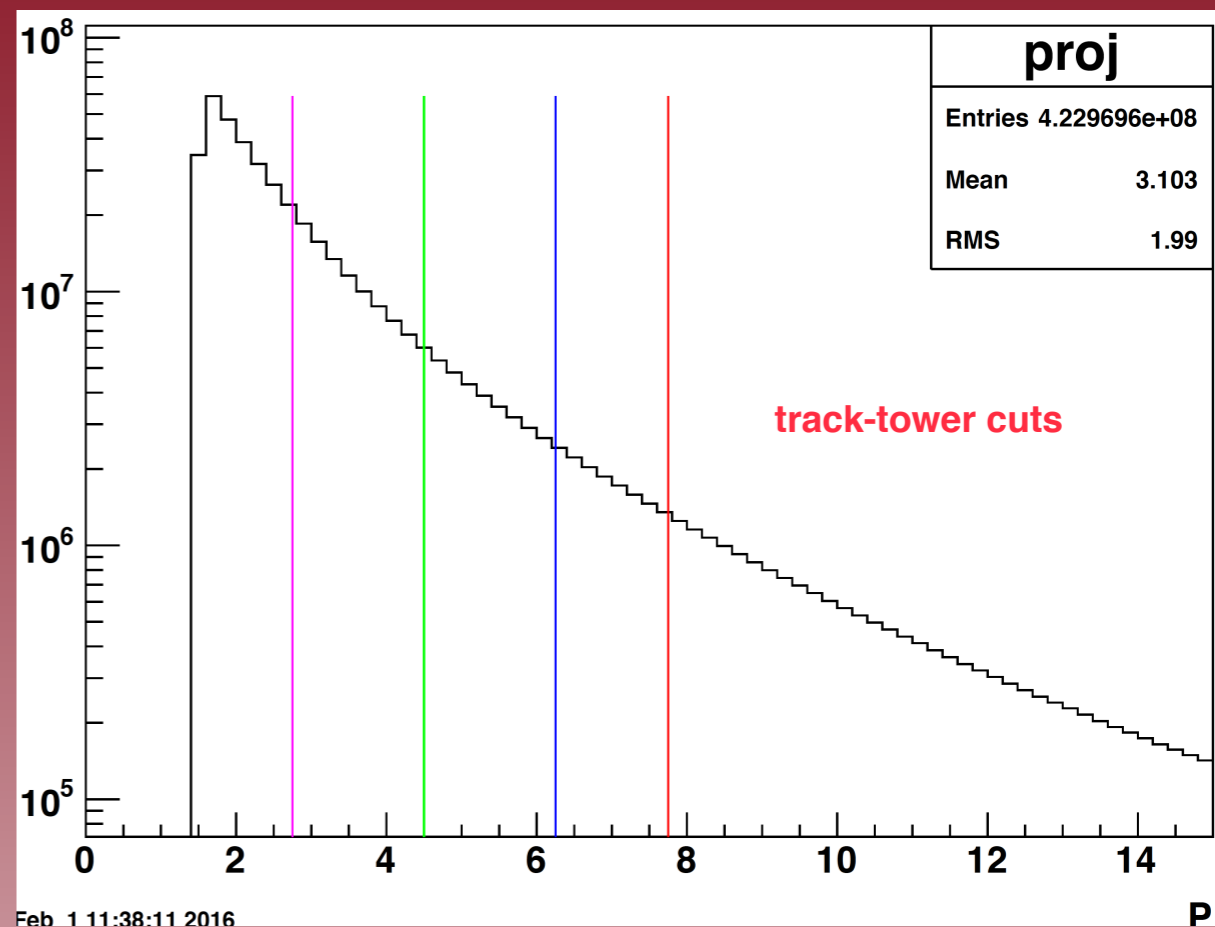
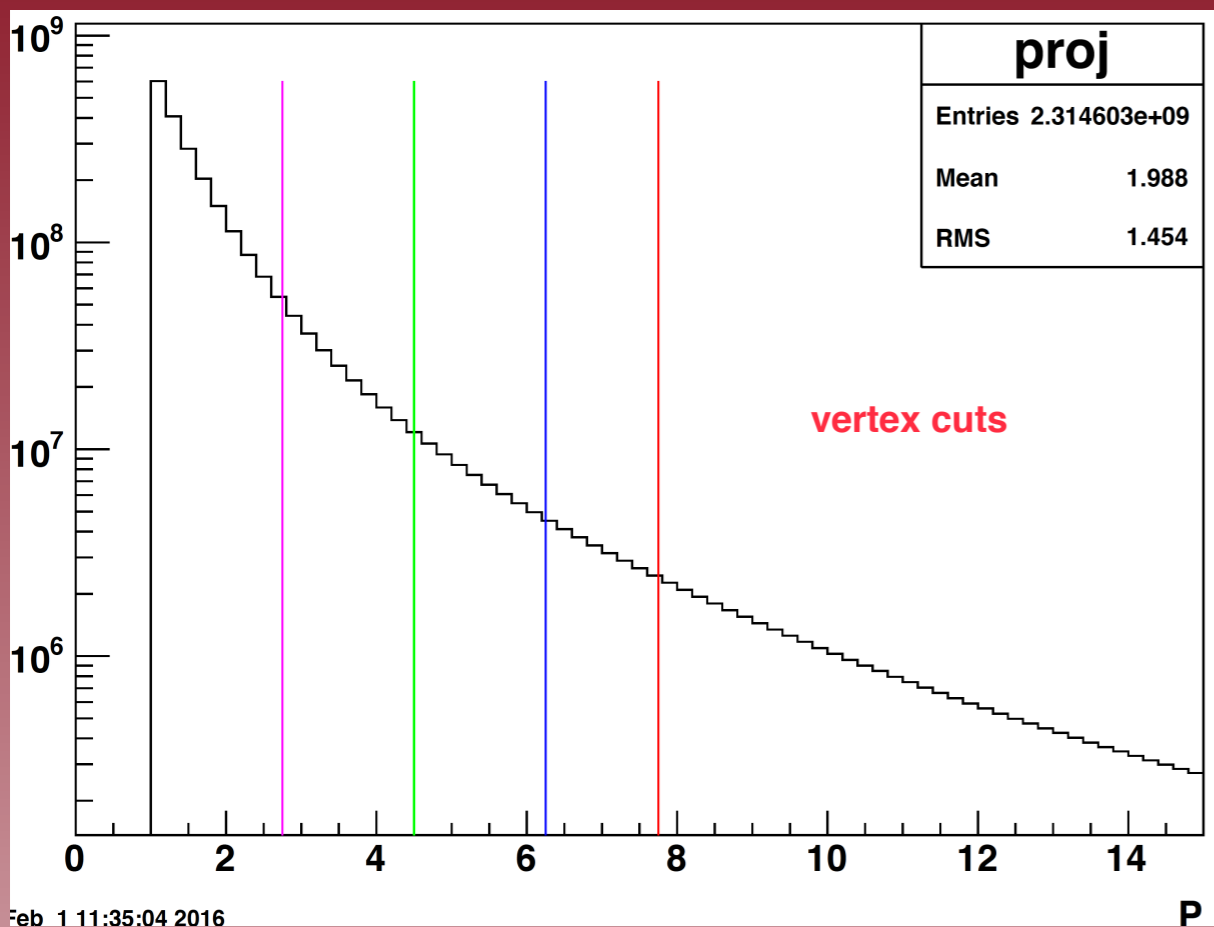


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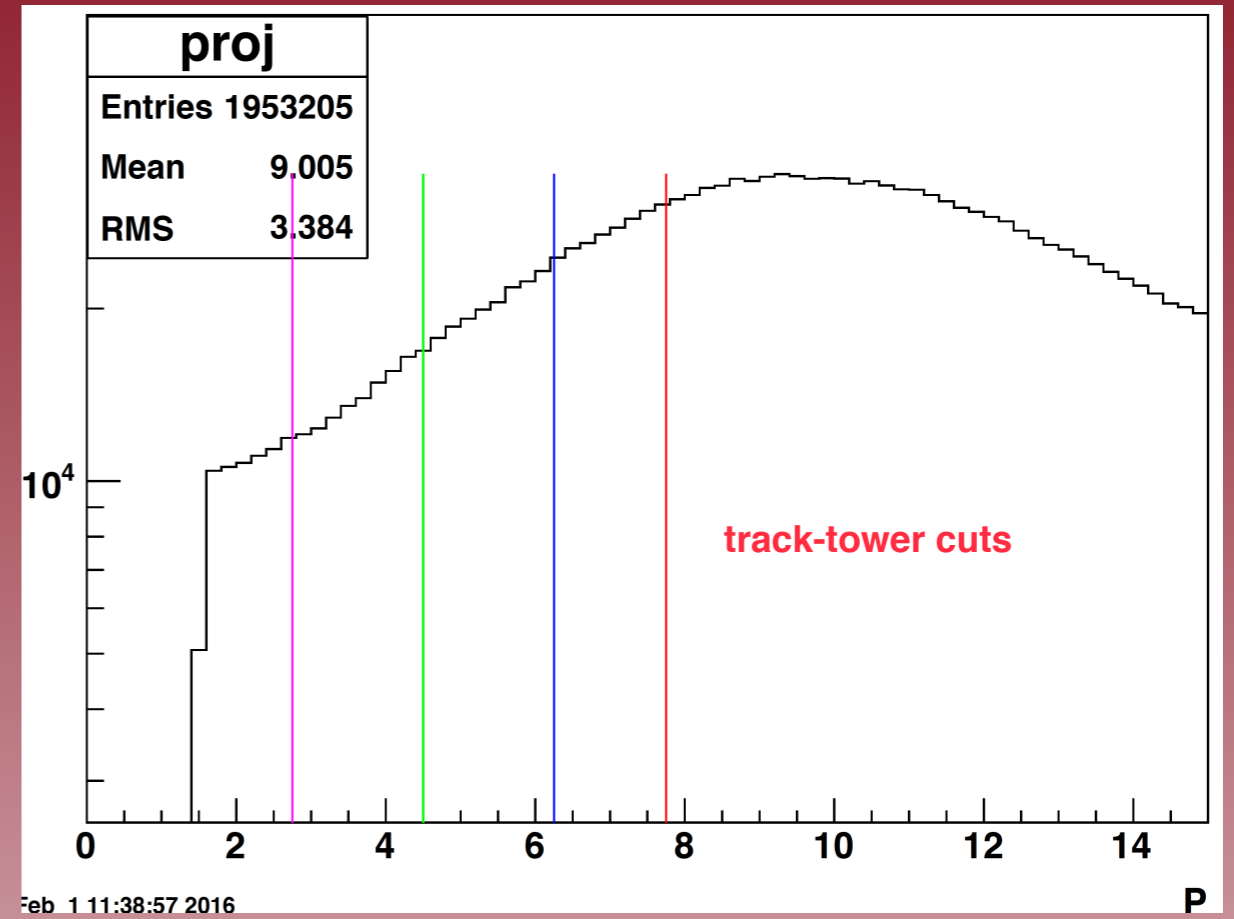
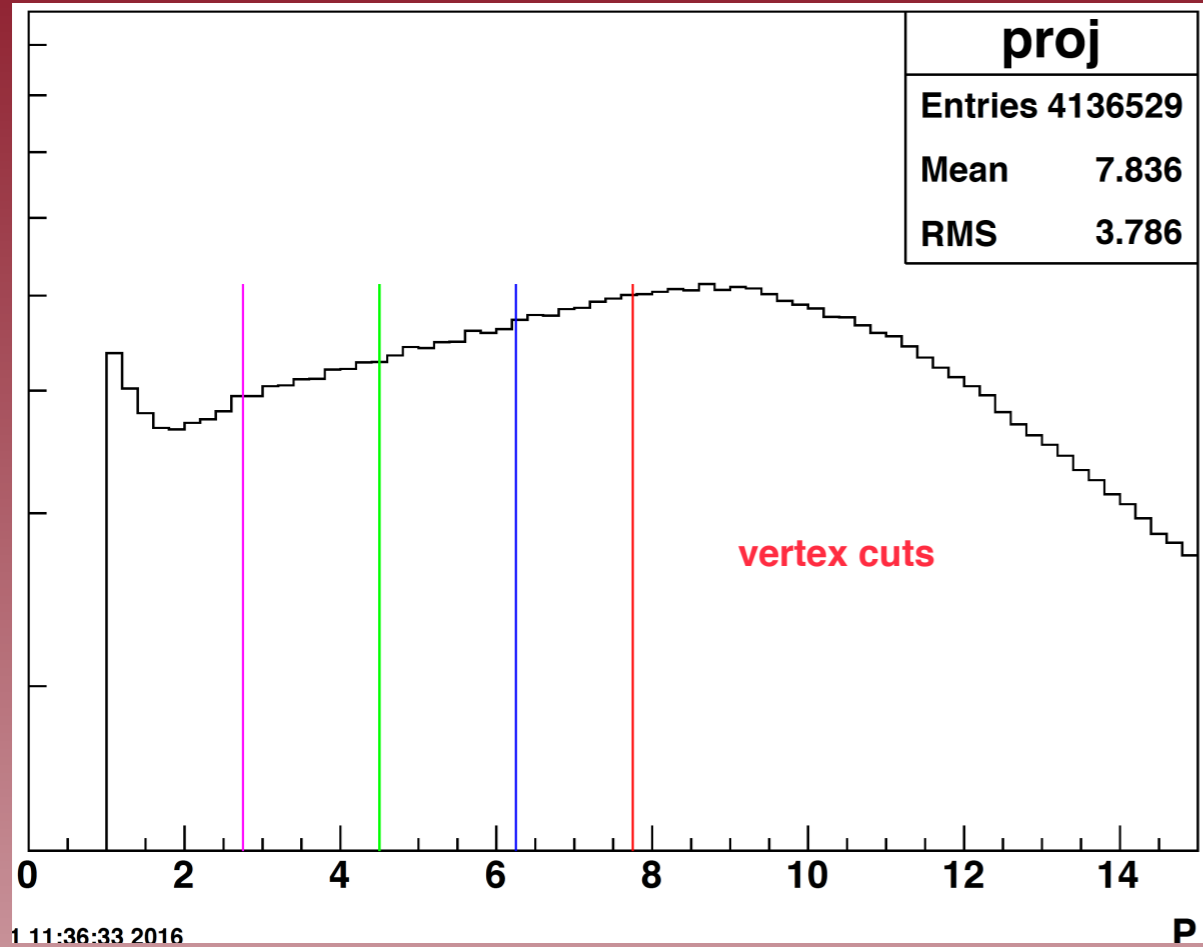
# Track Momentum Distributions

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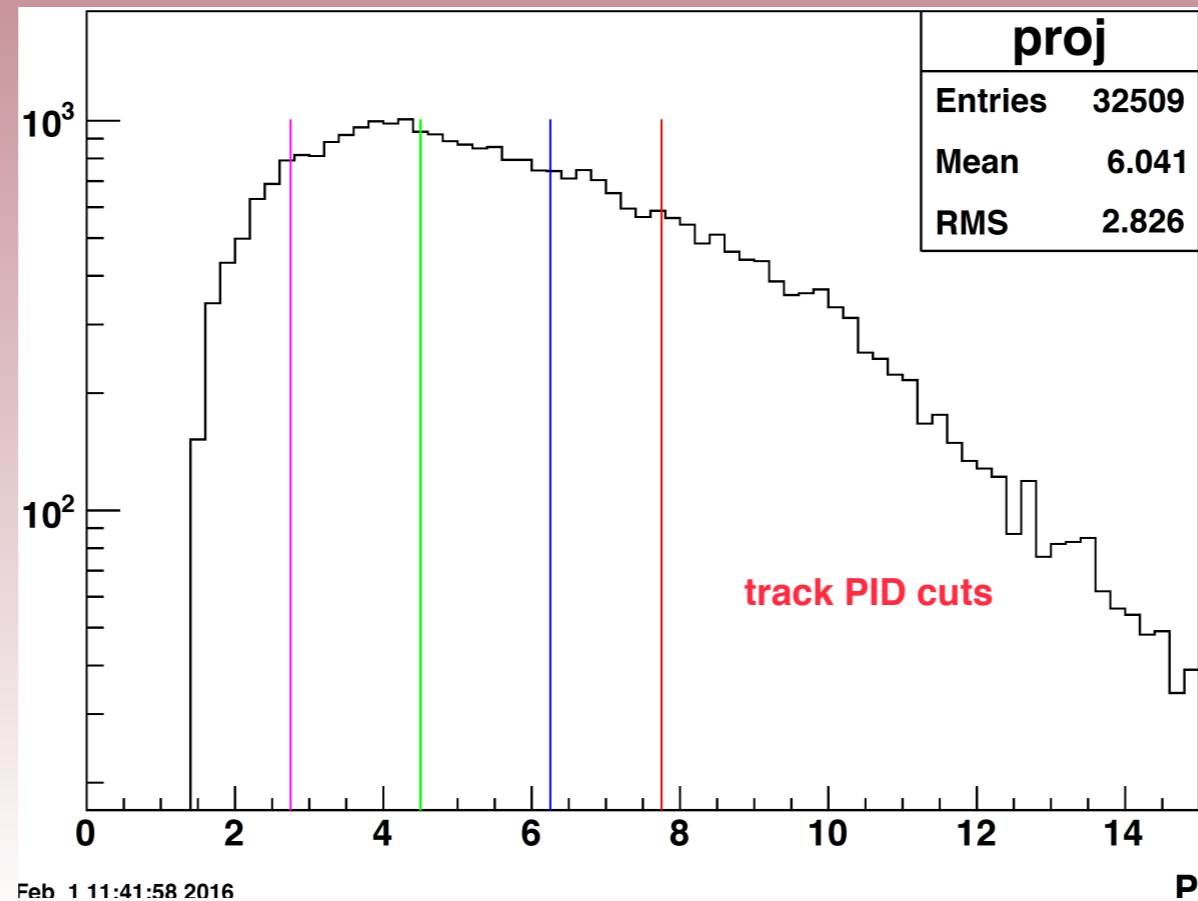
# Track Momentum distribution of BHT3->didFire() triggered events



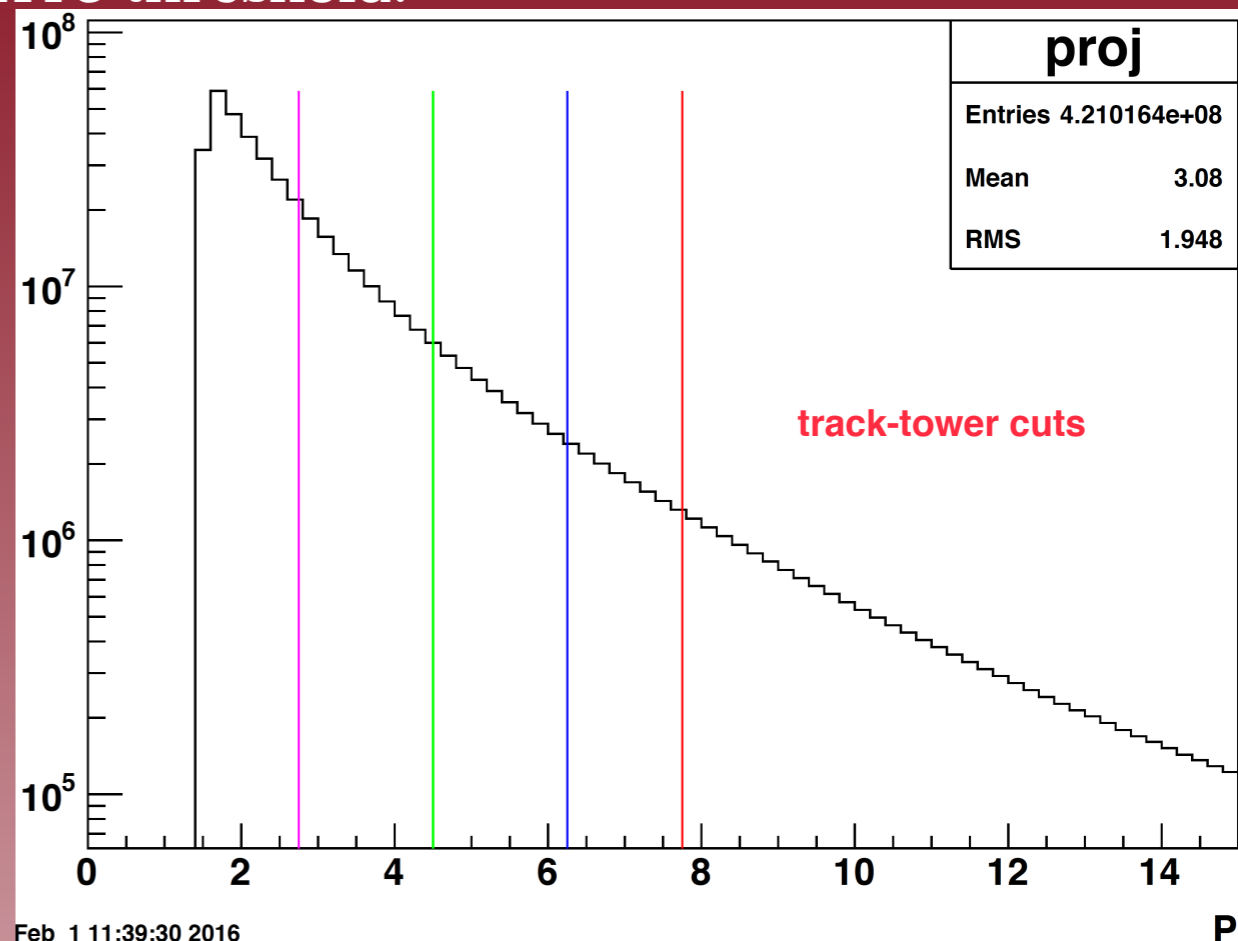
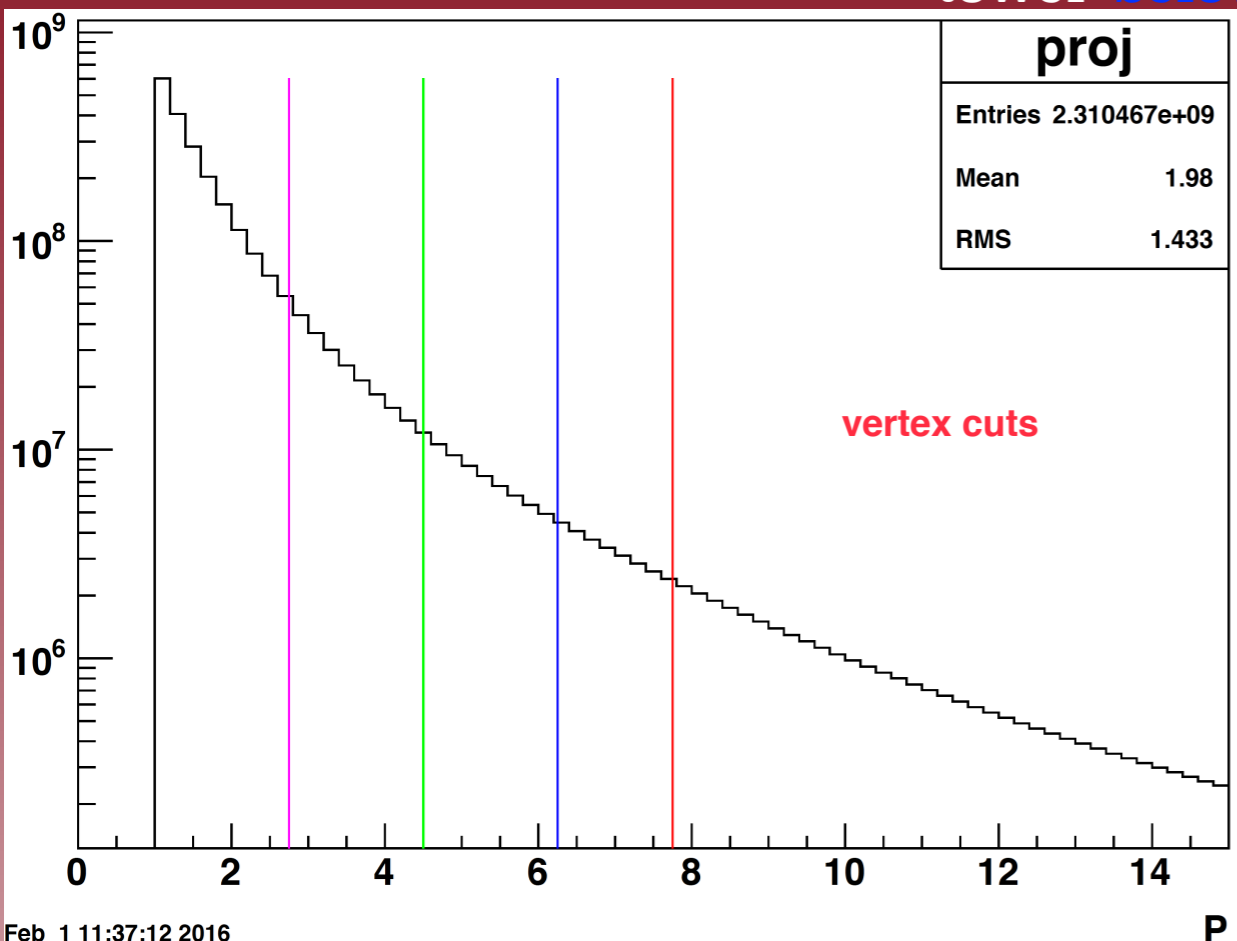
Track Momentum distribution of BHT3->didFire() triggered events where tracks matched to a tower **above** BHT3 threshold.



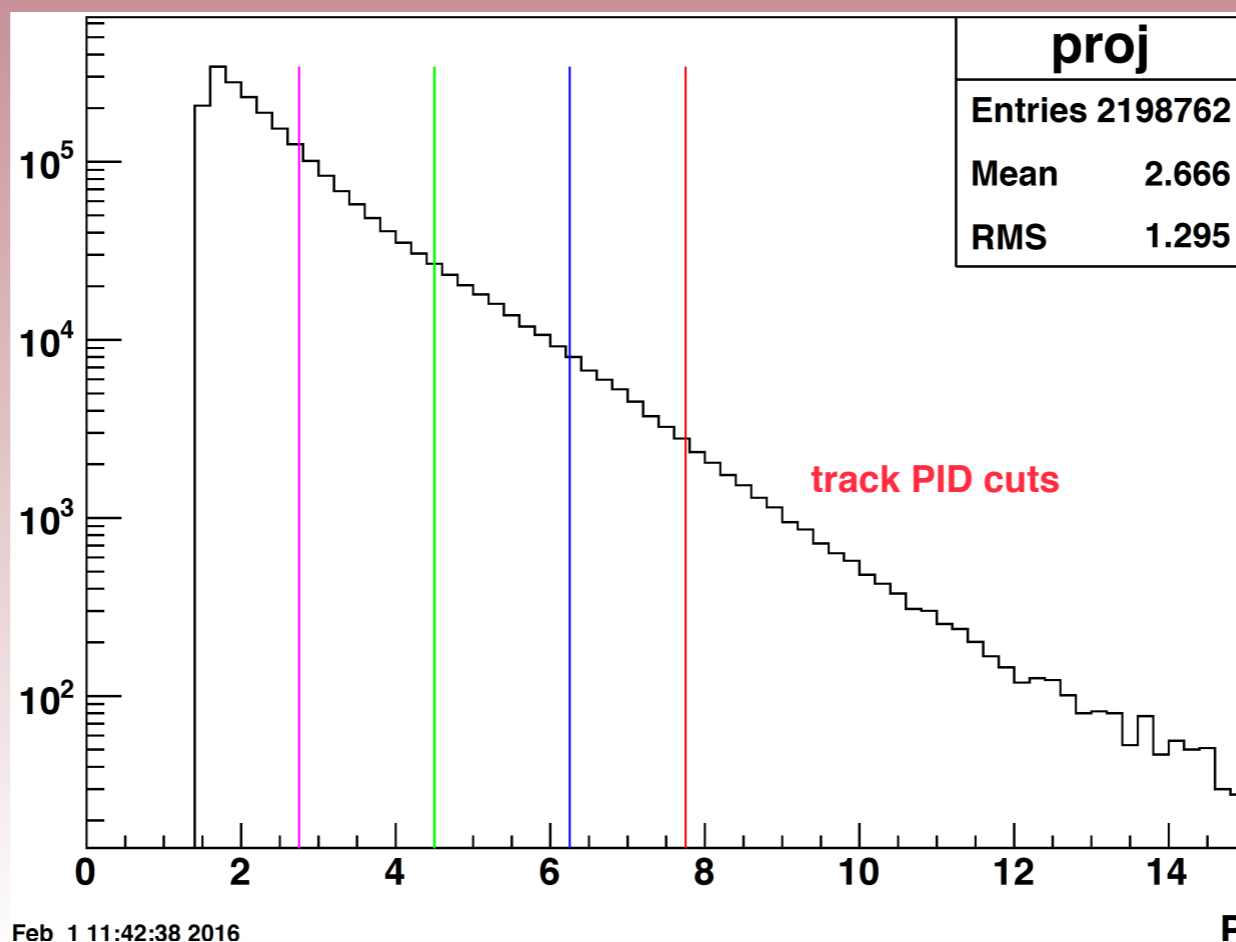
Momentum distribution of tracks Matched to a tower **above** BHT3 threshold



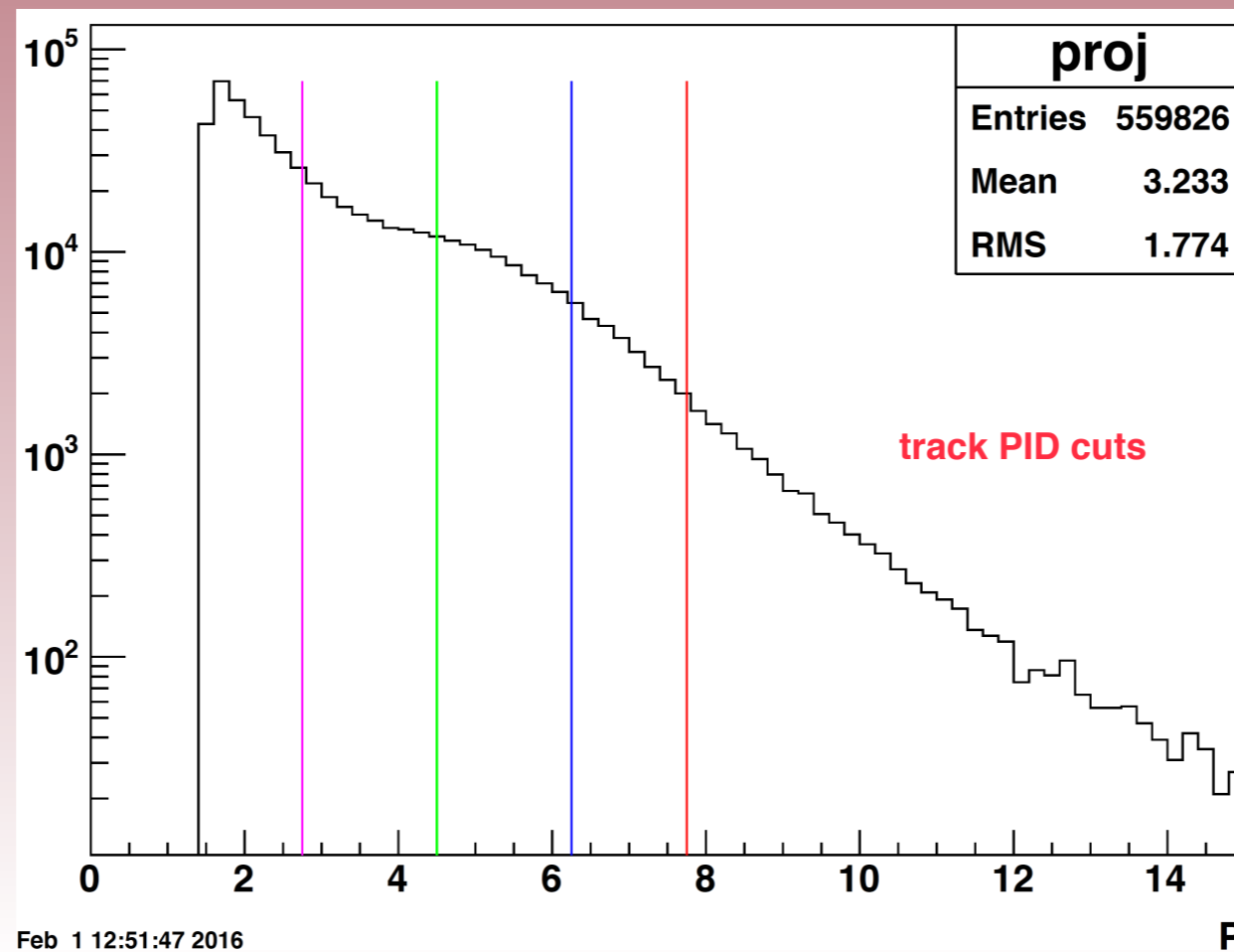
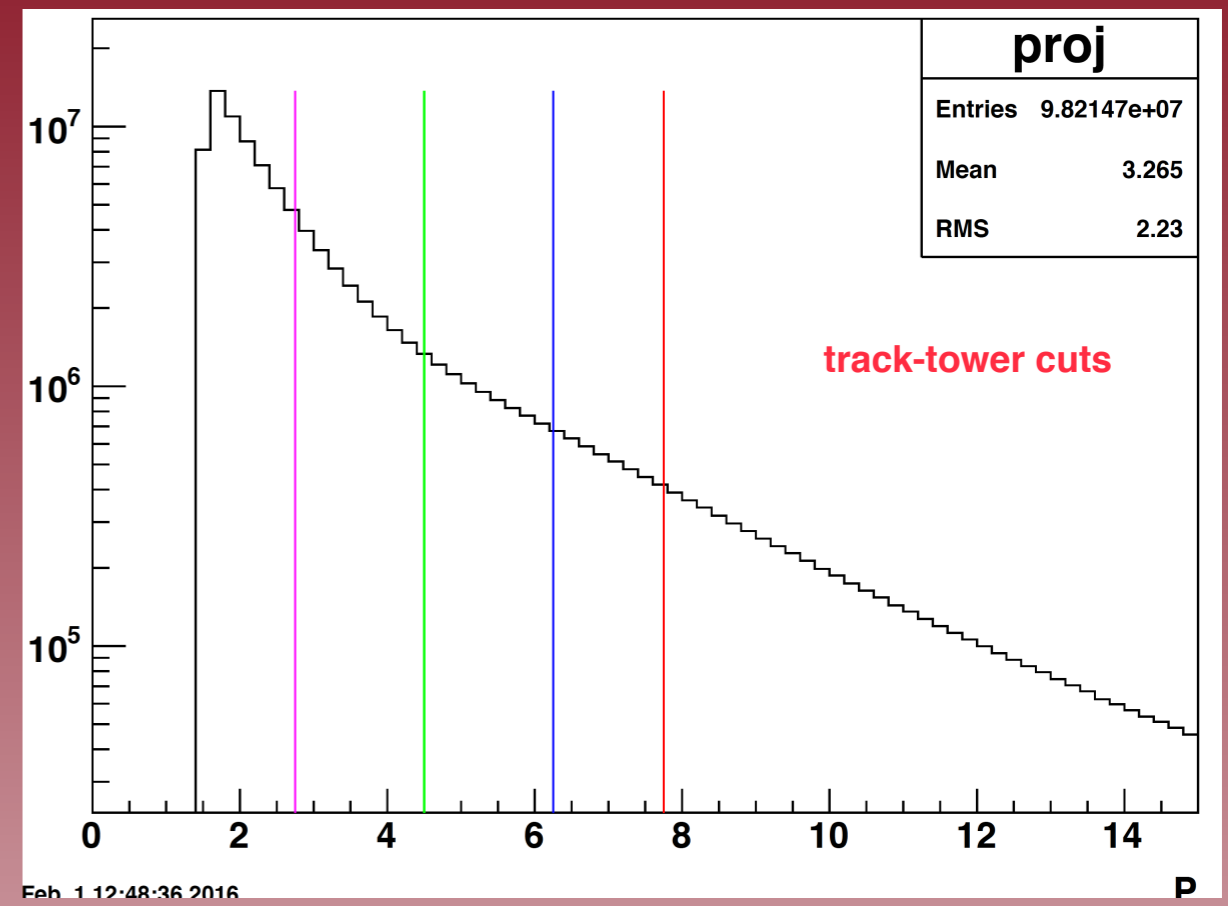
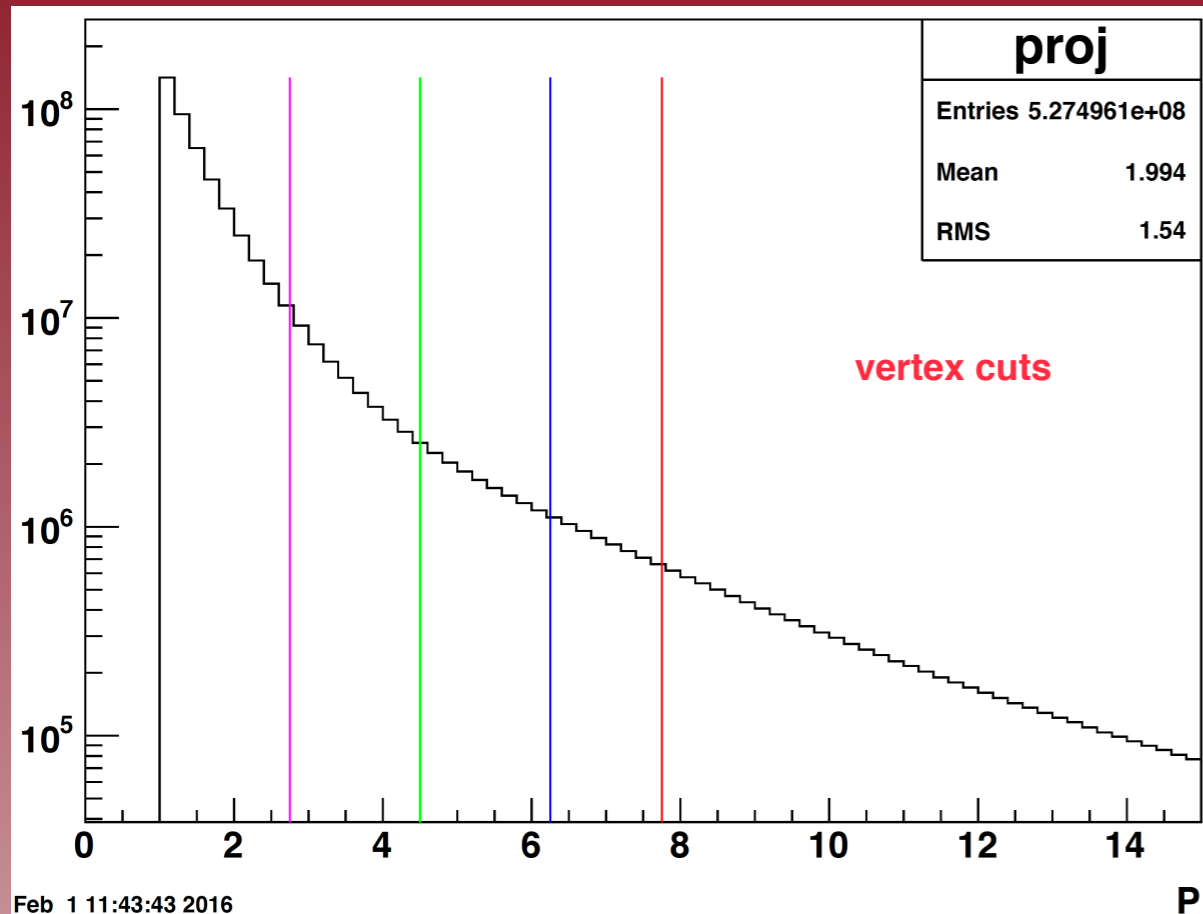
Tower Energy distribution of BHT3->didFire() triggered events where tracks matched to a tower **below** BHT3 threshold.



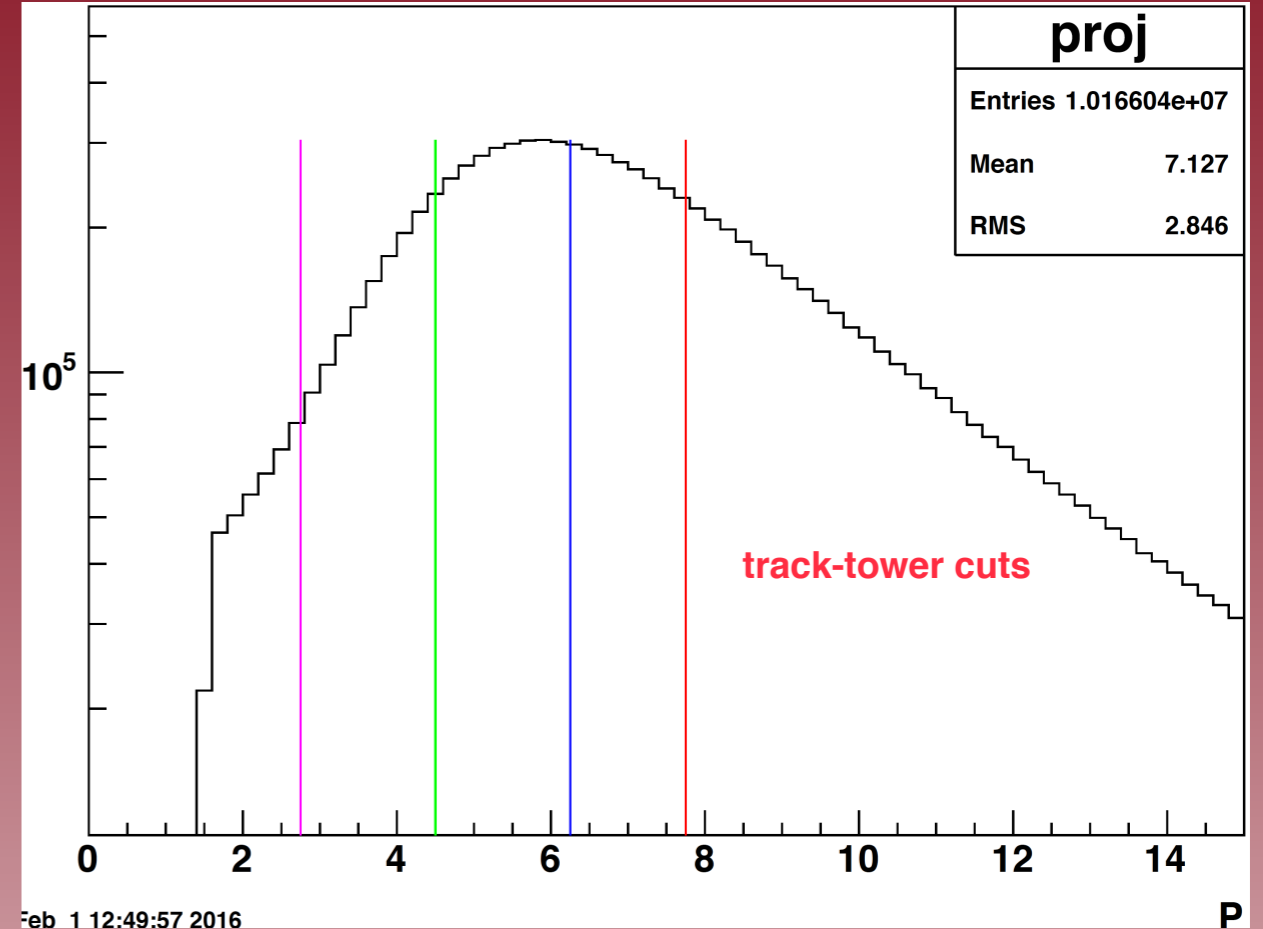
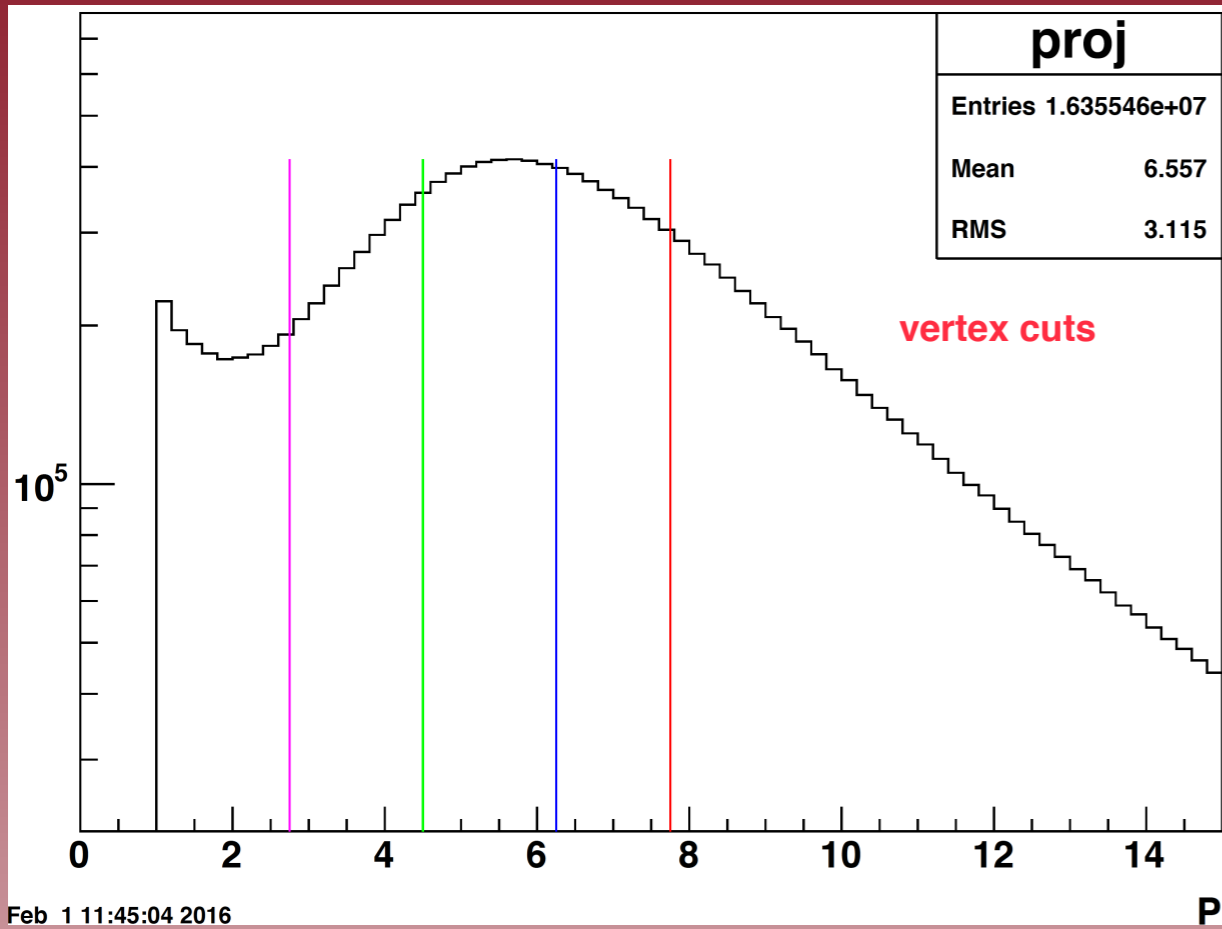
Momentum distribution track Matched to a tower **below** BHT3 threshold



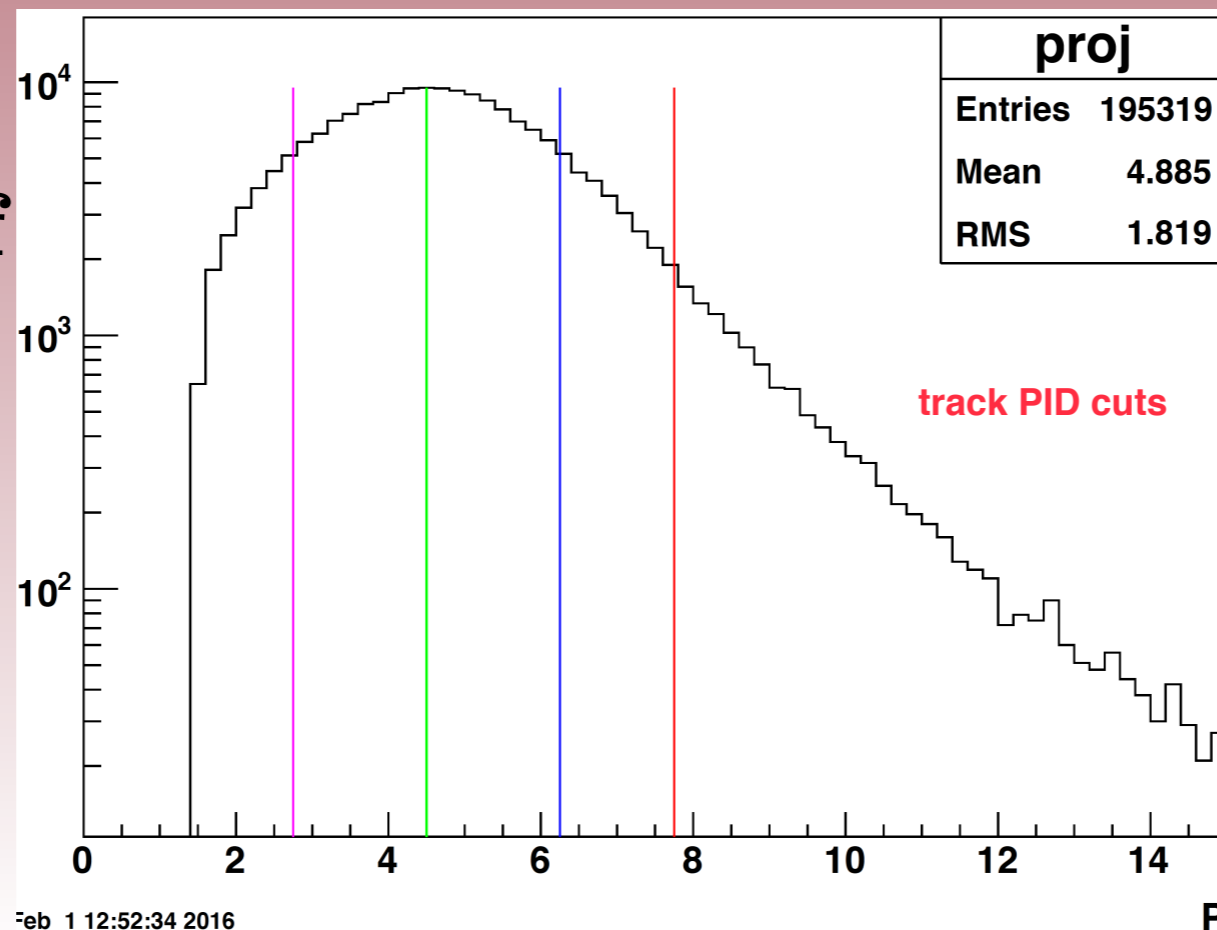
# Track Momentum distribution of BHT1->didFire() triggered events



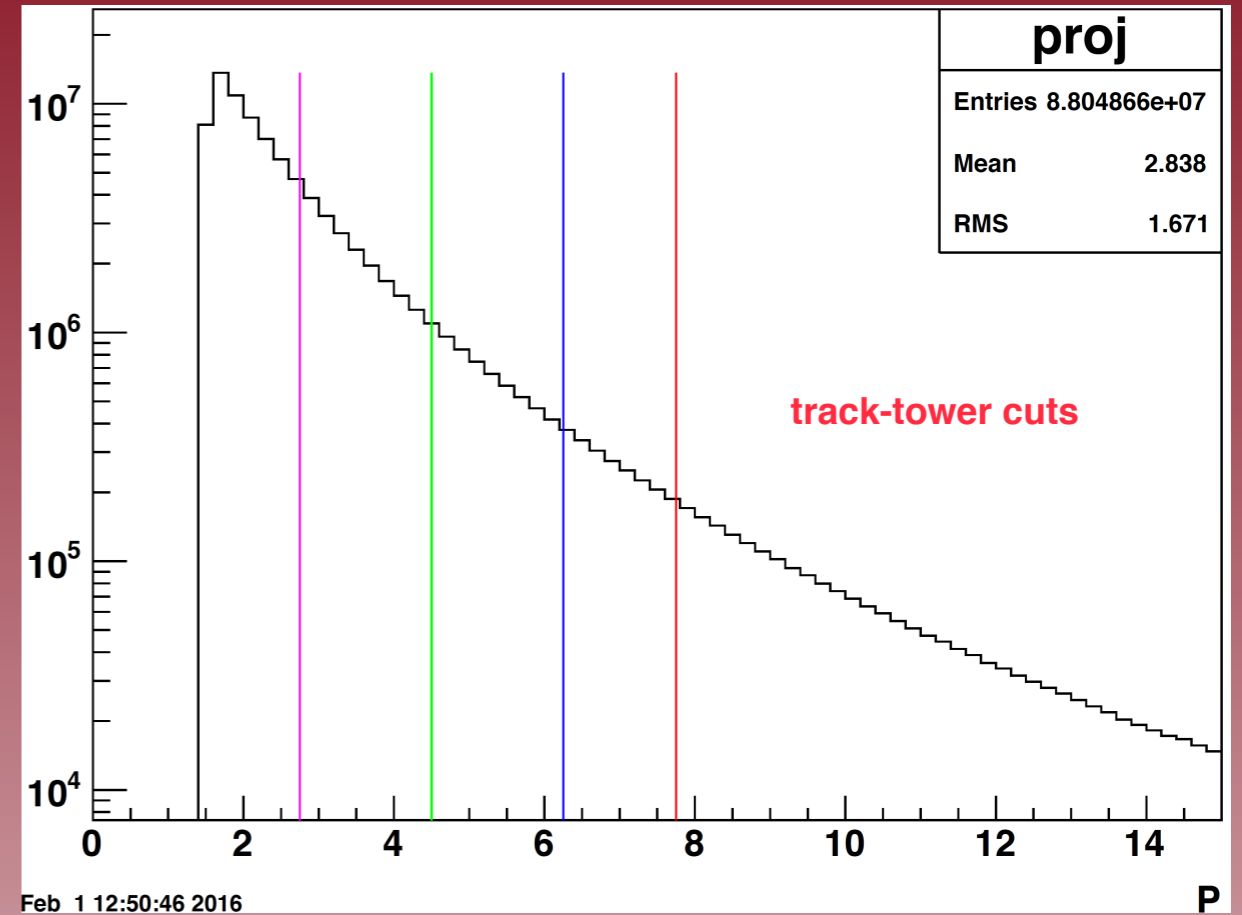
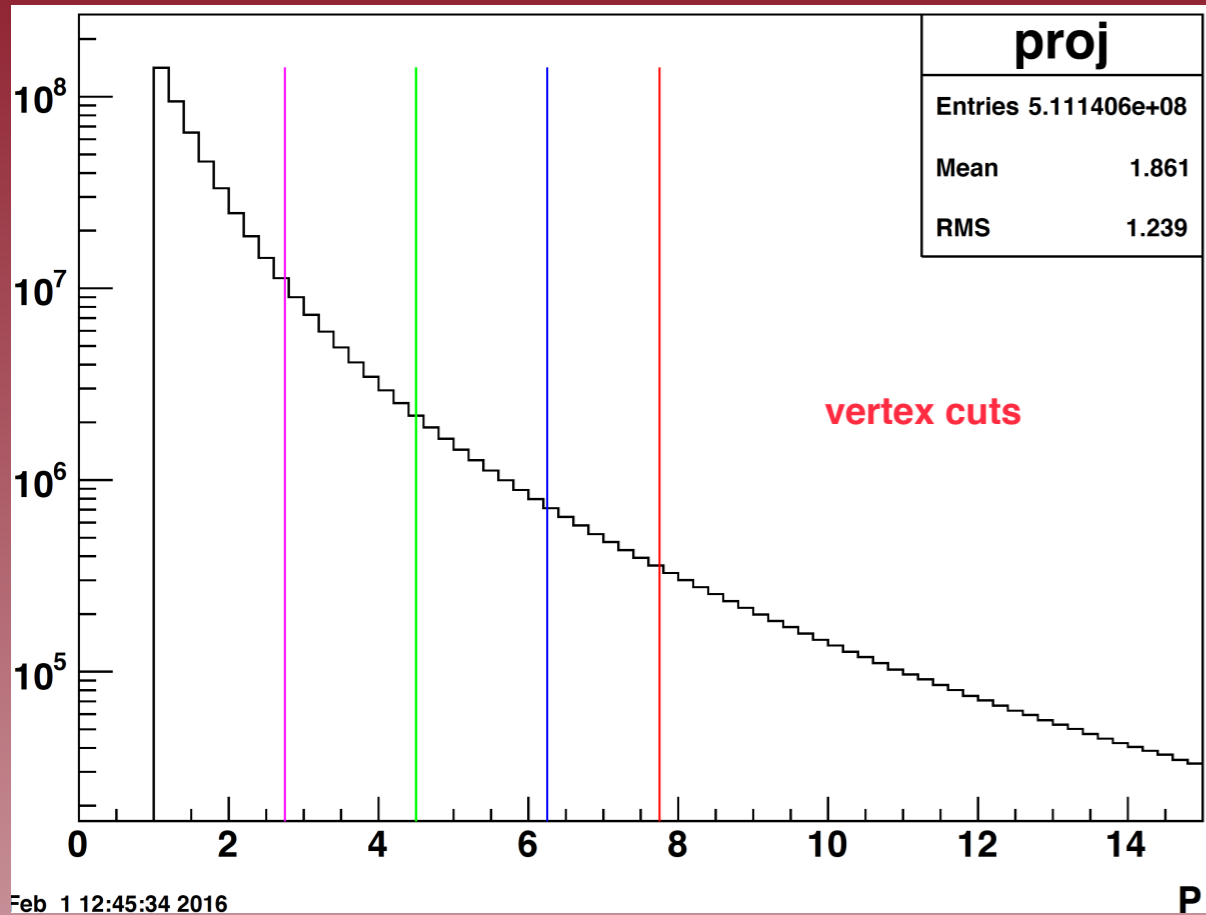
# Track Momentum distribution of BHT1->didFire() triggered events where tracks matched to a tower **above** BHT1 threshold.



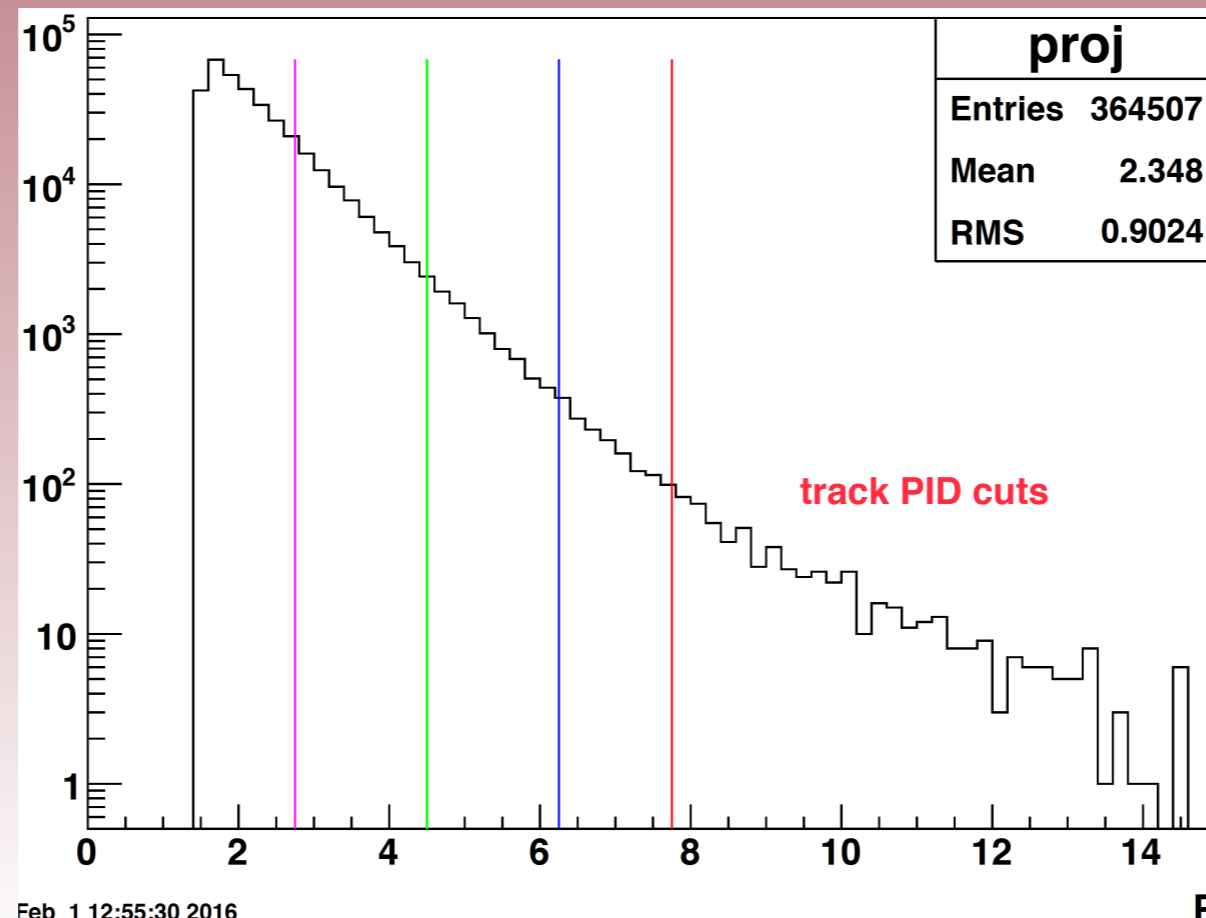
Momentum distribution of tracks Matched to a tower **above** BHT1 threshold



Tower Energy distribution of BHT1->didFire() triggered events where tracks matched to a tower **below** BHT1 threshold.



Momentum distribution track Matched to a tower **below** BHT1 threshold



# Summary

- According to the distributions eg; slide 3 , the bump around 5 GeV in the tower Energy distribution of BHT3->didFire events is already shown even before all the track cuts are applied.
- With track cuts its get more pronounced as the BG tracks ( $\pi^+$ ,  $\pi^-$ ) removed and statistics lowered from the sample.
- Even though it shouldn't be the case, BHT1 overlap events in BHT3 triggered events are affecting BHT3 triggered events ?
- comments / suggestions ?