

### On-line (pre-)selection Requisites for:

- **Jets:** number  $> 5$
- **Muons:** number  $> 0$
- **Electrons:** number  $> 0$

**Event Limit:** None (see last page)

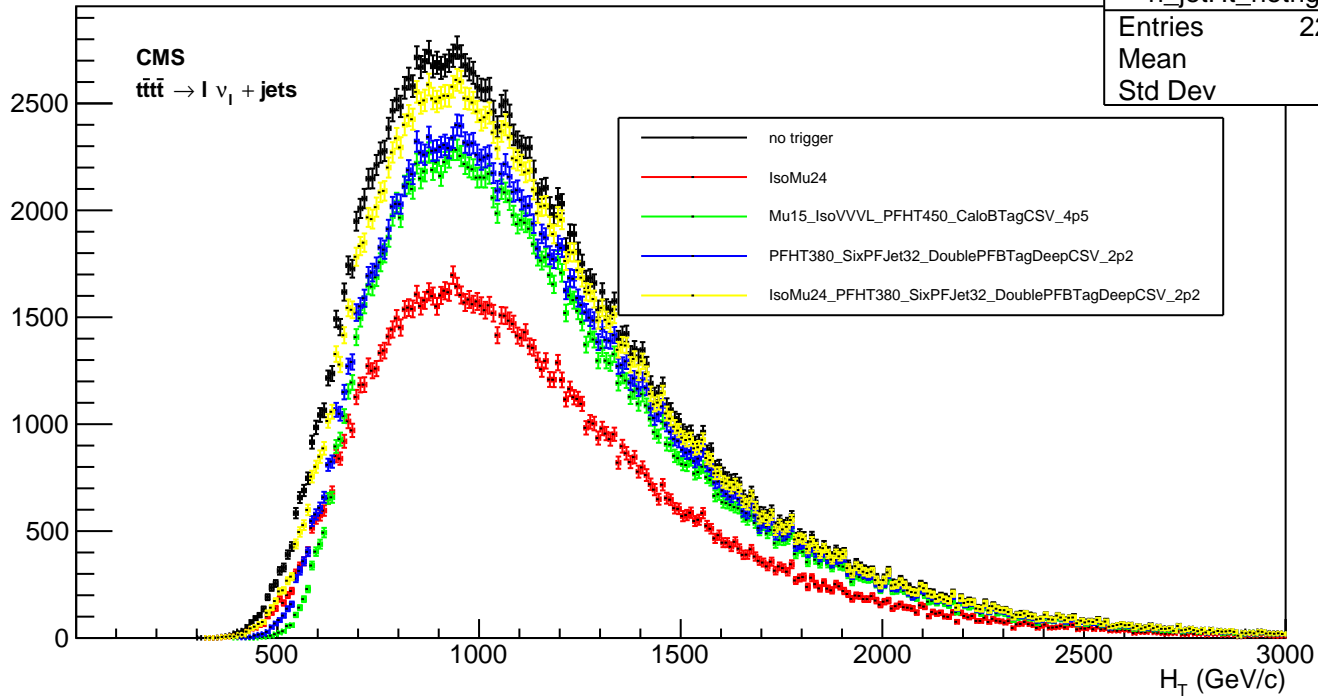
### Off-line (post-)selection Requisites for:

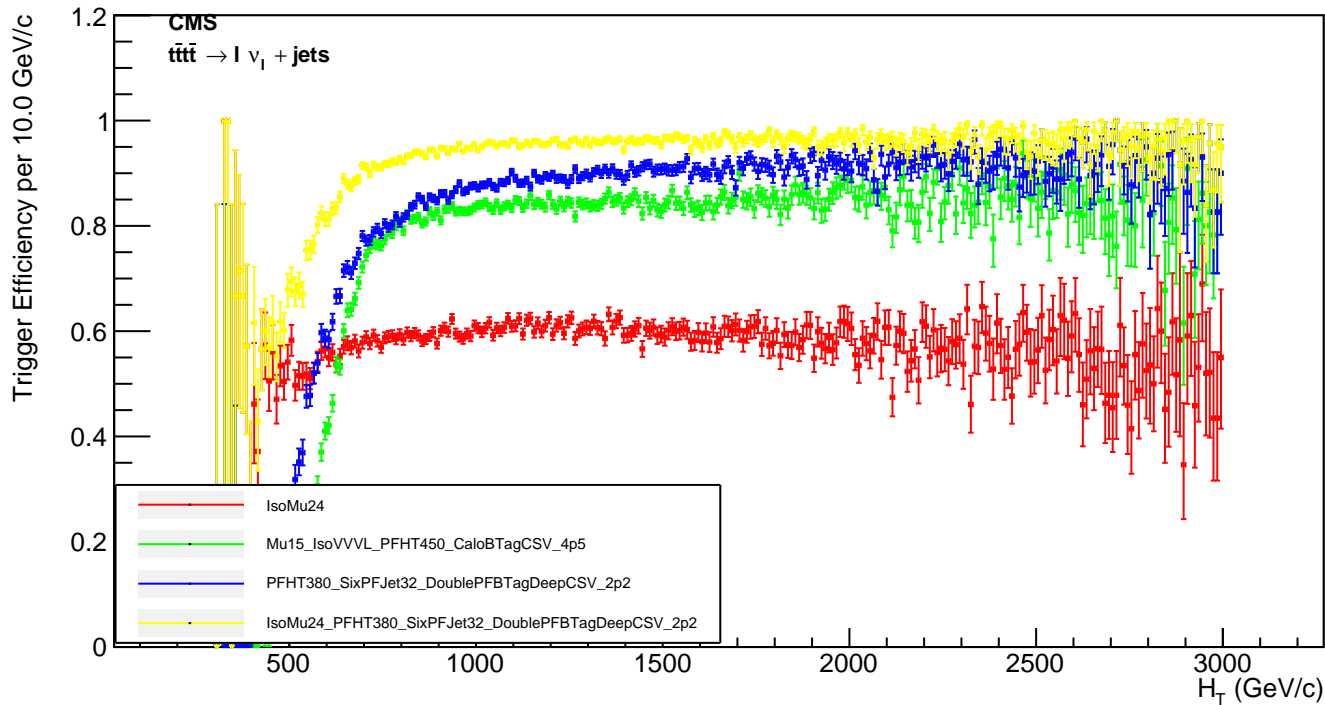
- **Jets:**  $\text{jetId} > 2$ ,  $p_T > 30$  and  $|\eta| < 2.4$  (for at least 6)  
 $\text{btagDeepFlavB} > 0.7489$  (for at least one jet)
- **Muons:** has tightId,  $|\eta| < 2.4$  and  $\text{miniPFRellso\_all} < 0.15$  (for at least 1)

Number of Events per 10 GeV/c

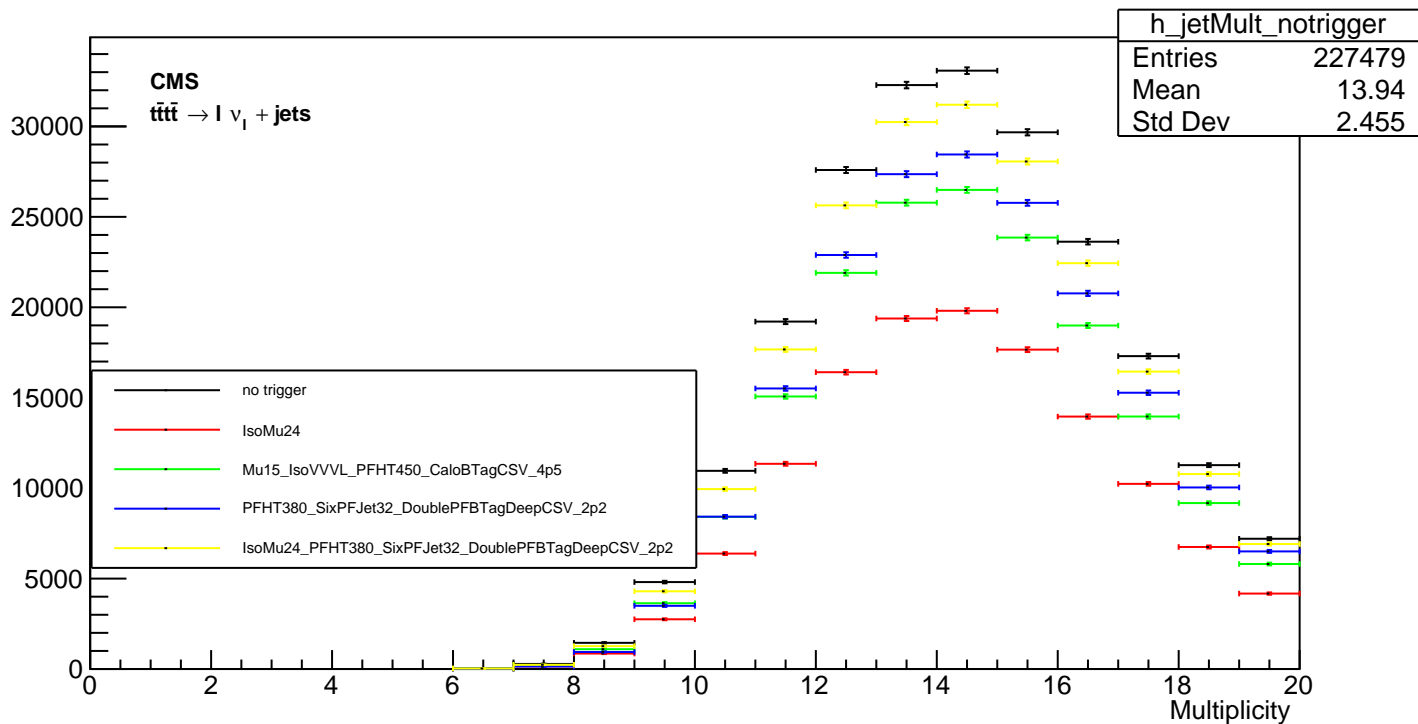
**CMS**  
 **$t\bar{t}t\bar{t} \rightarrow l \nu_l + \text{jets}$**

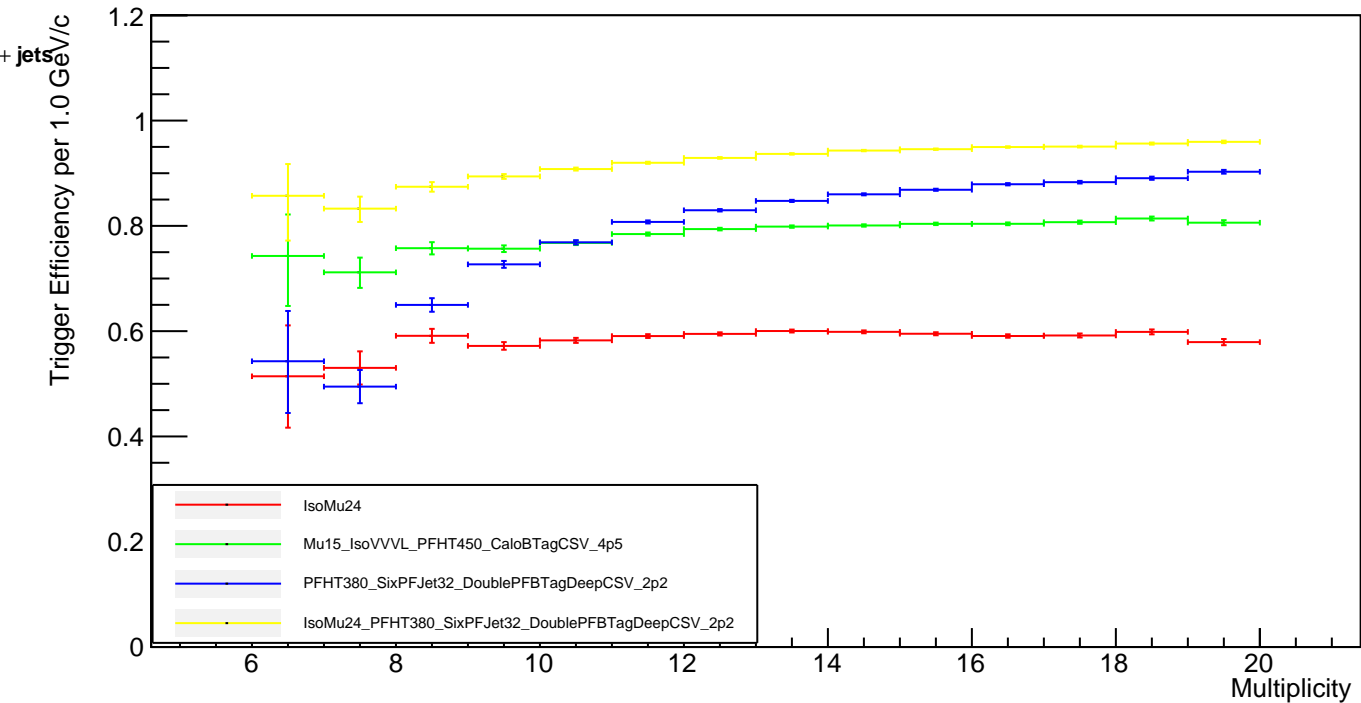
h_jetHt_notrigger	
Entries	227479
Mean	1148
Std Dev	414.9

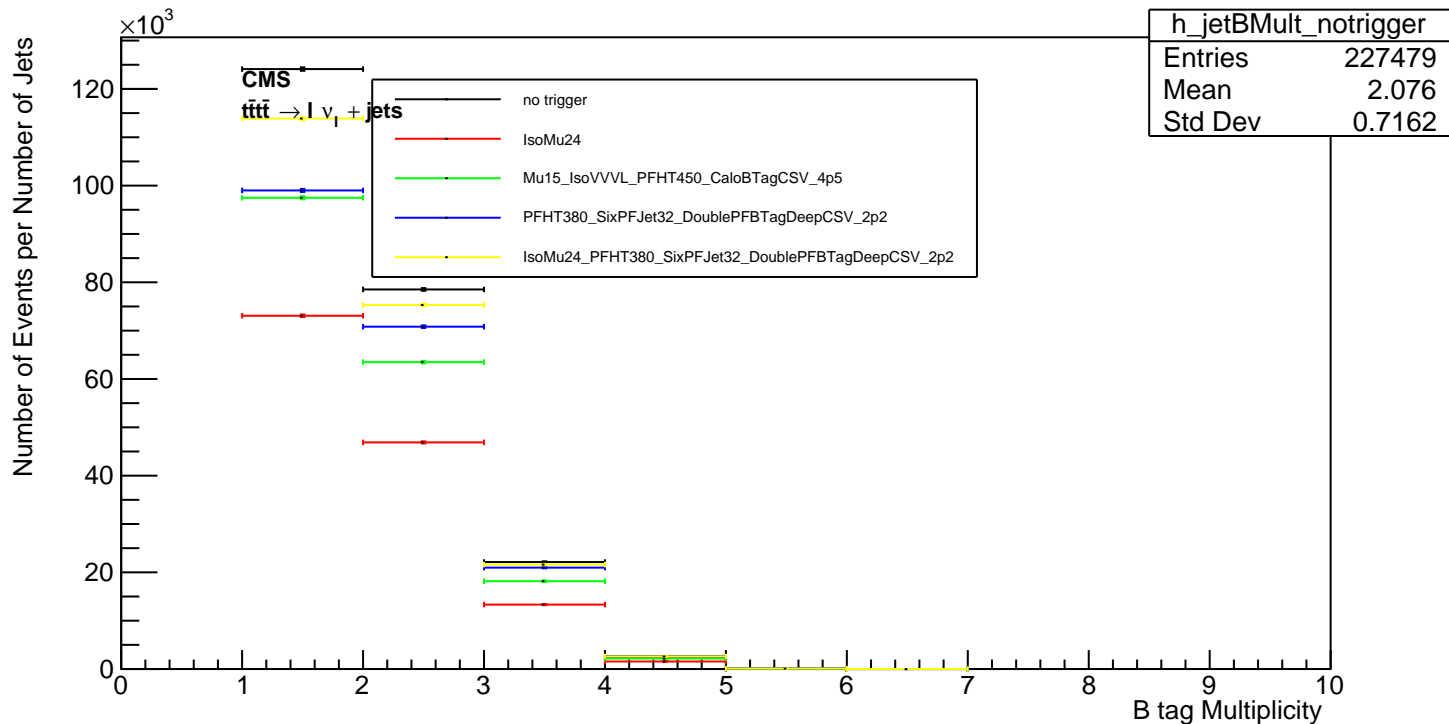


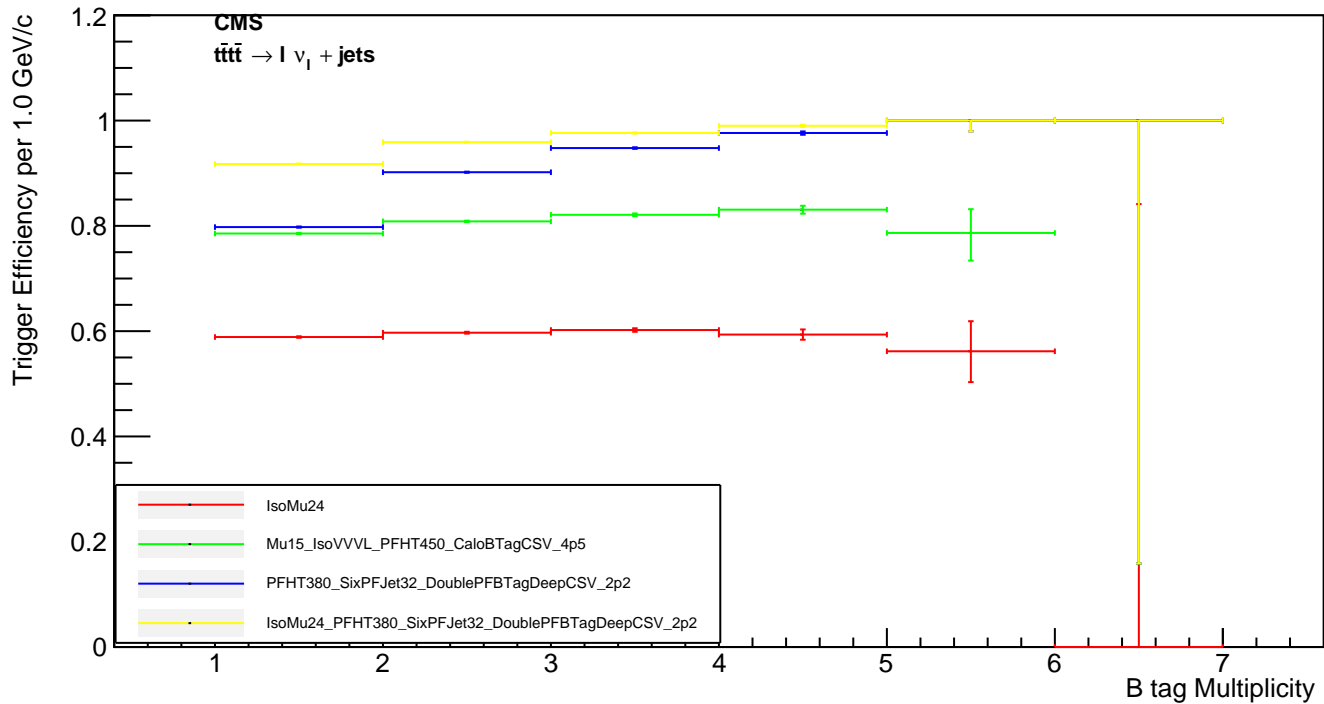


Number of Events per Number of Jets

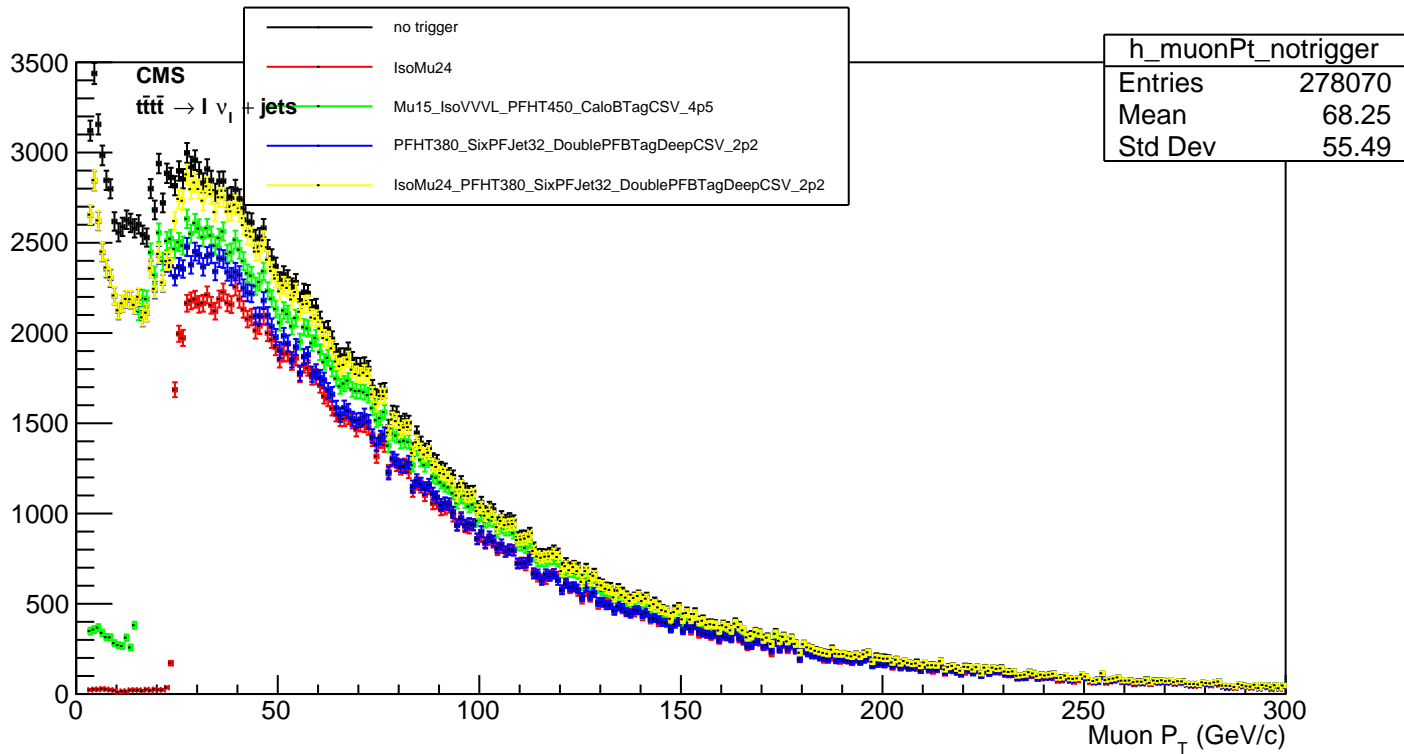




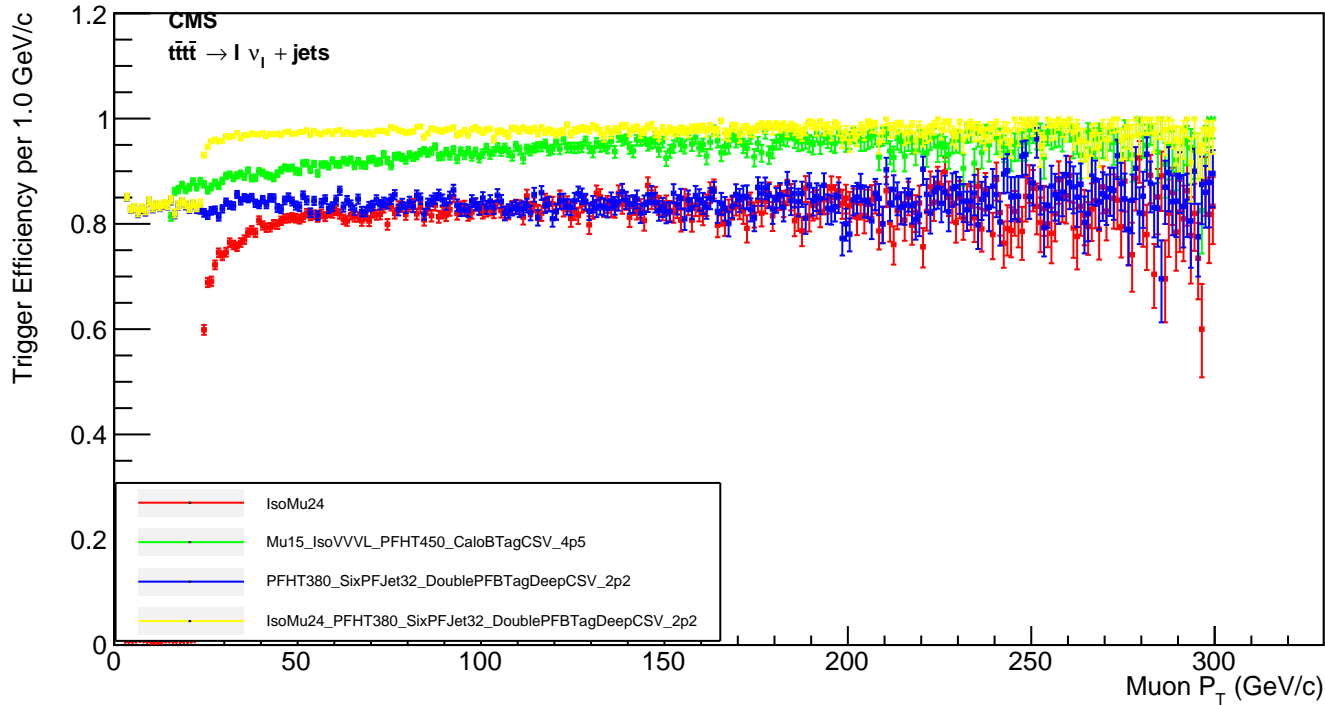




Number of Events per 1 GeV/c





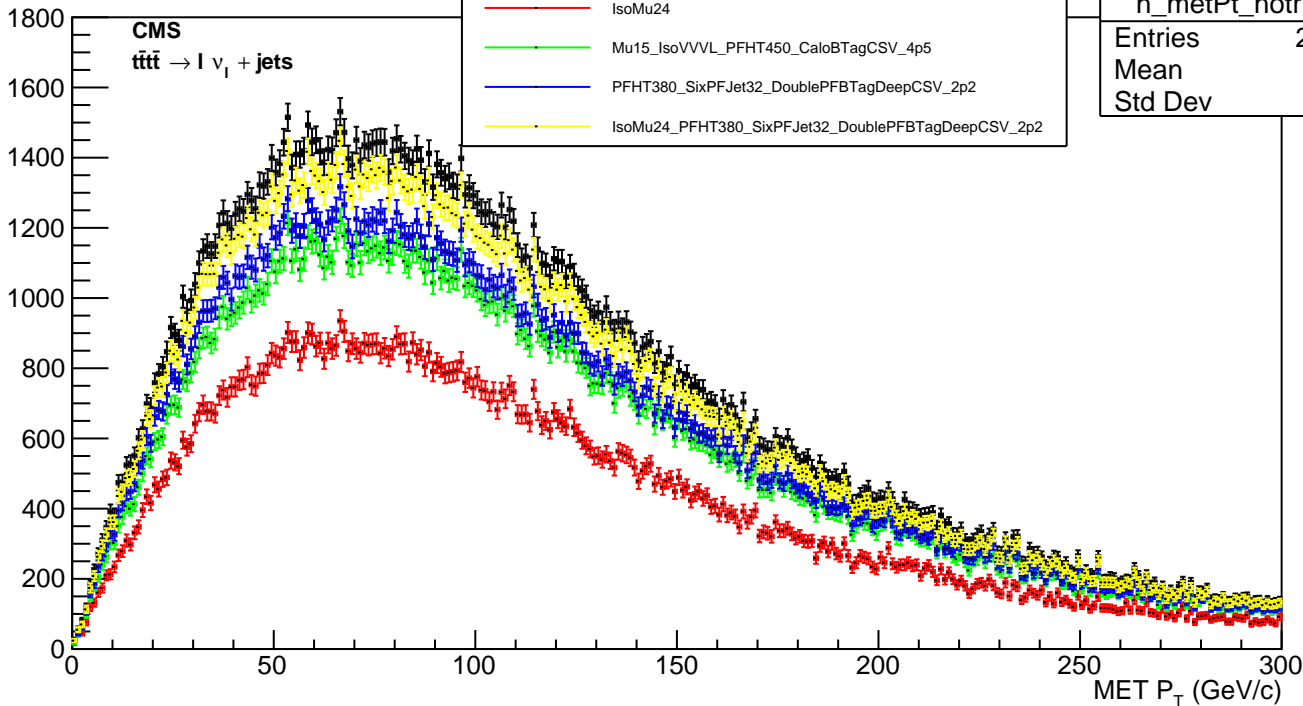


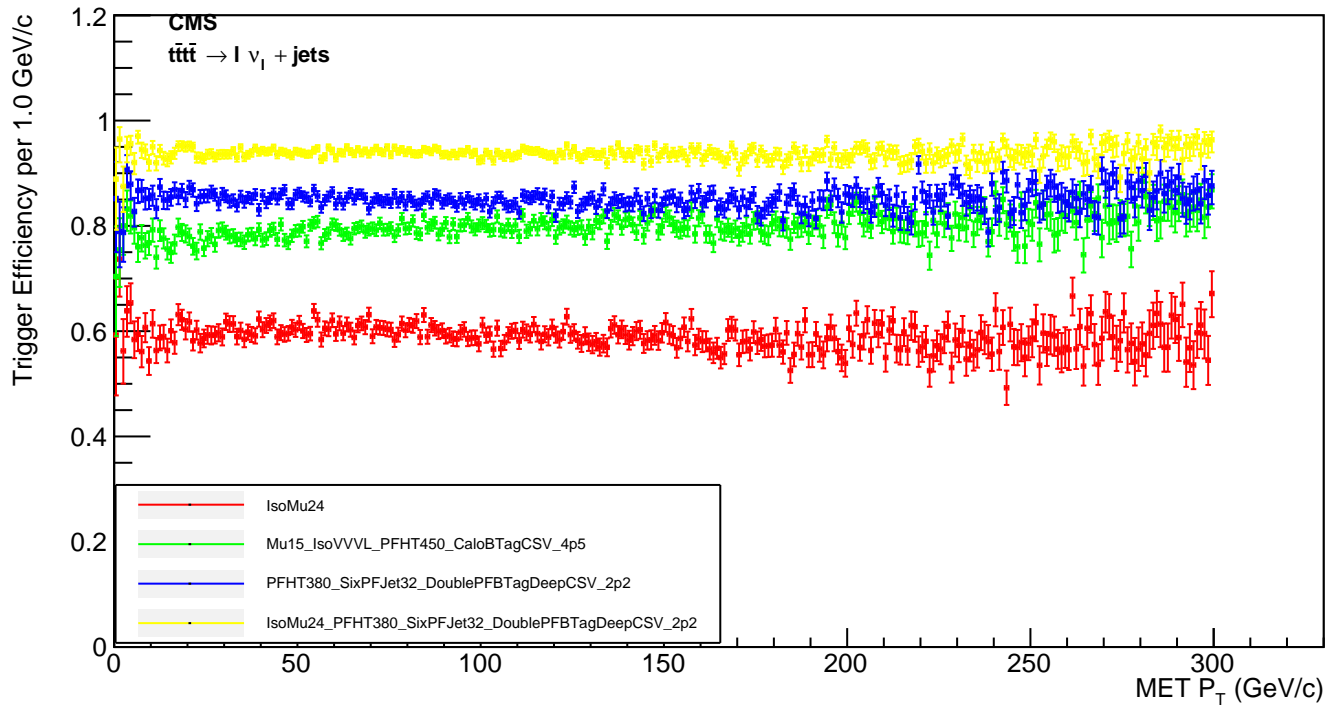
Number of Events per 1 GeV/c

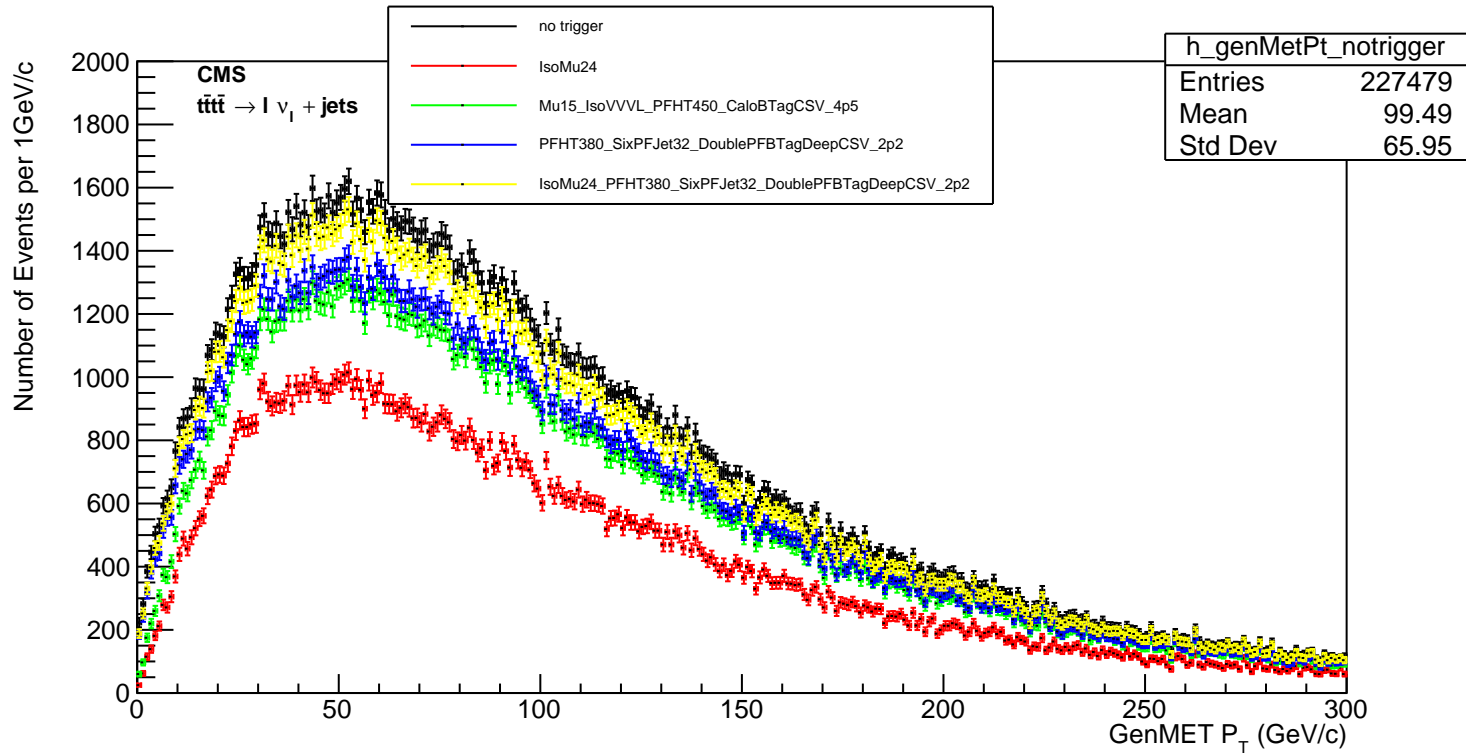
**CMS**  
 **$t\bar{t}\bar{t} \rightarrow l \nu_l + \text{jets}$**

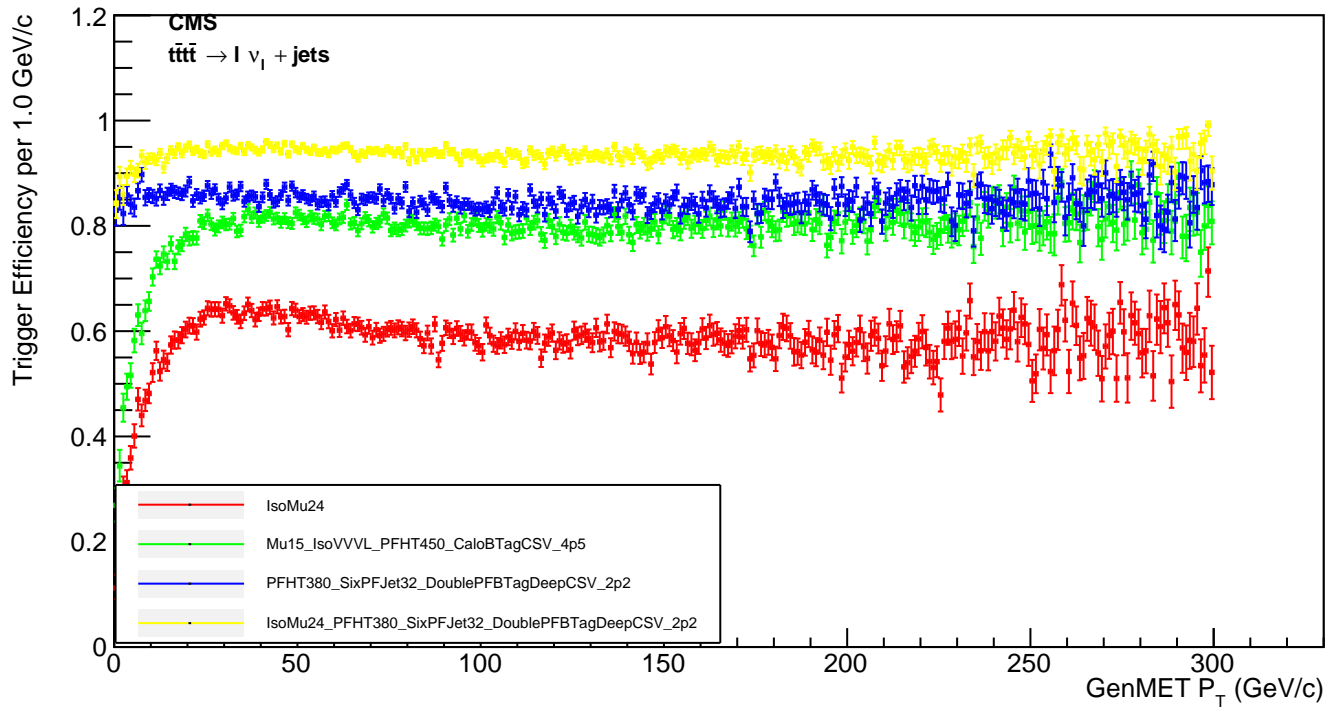
- no trigger
- IsoMu24
- Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5
- PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2
- IsoMu24\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

h_metPt_notrigger	
Entries	227479
Mean	110.3
Std Dev	65.61

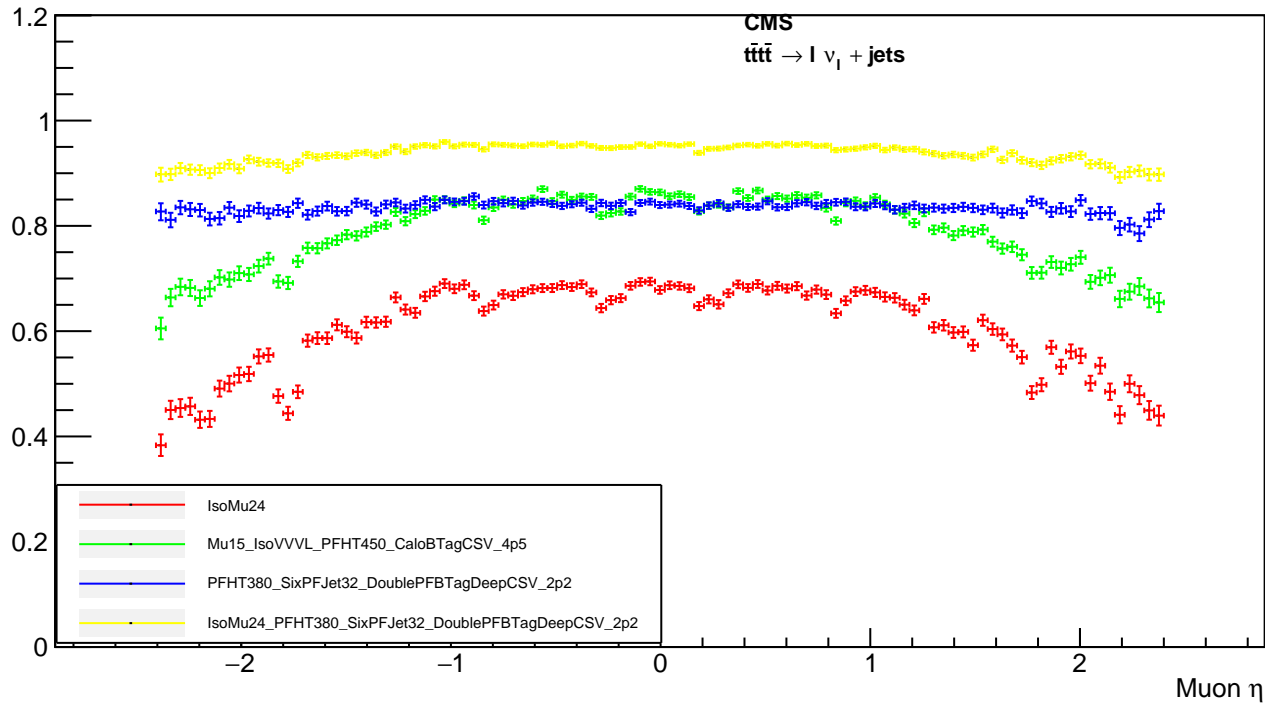








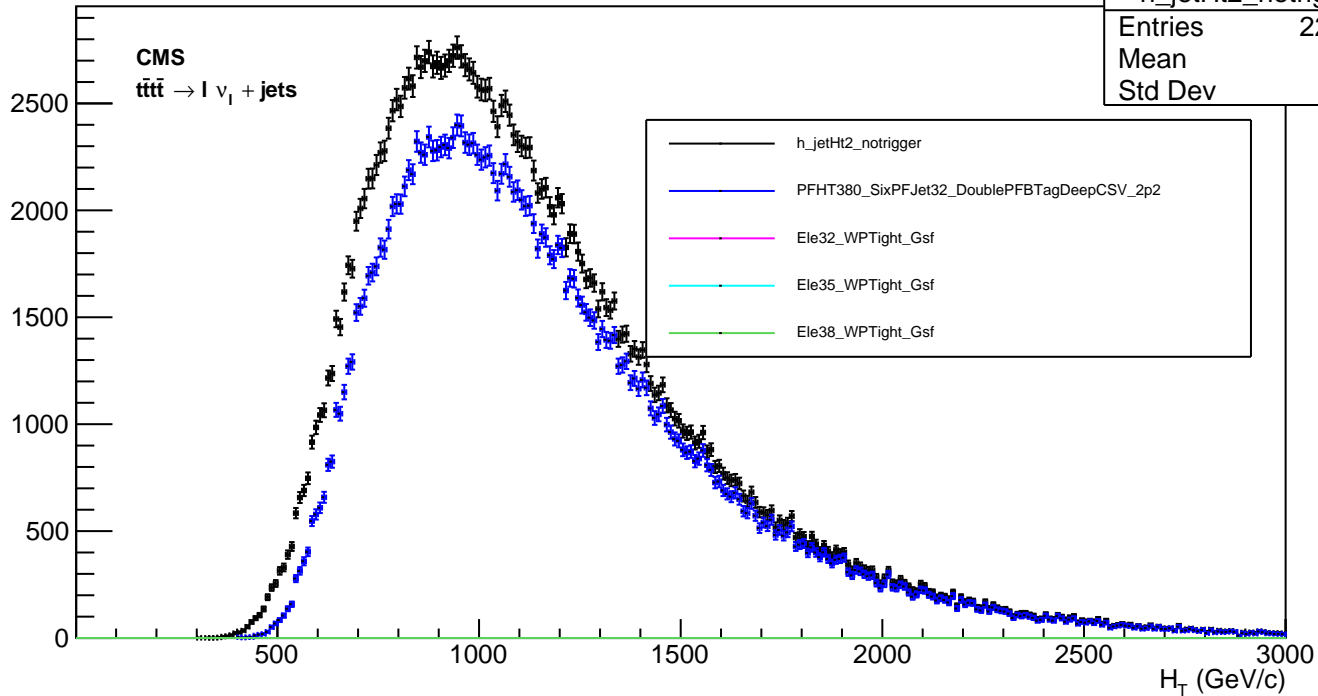
Trigger Efficiency per 0.04666666666666667 GeV/c

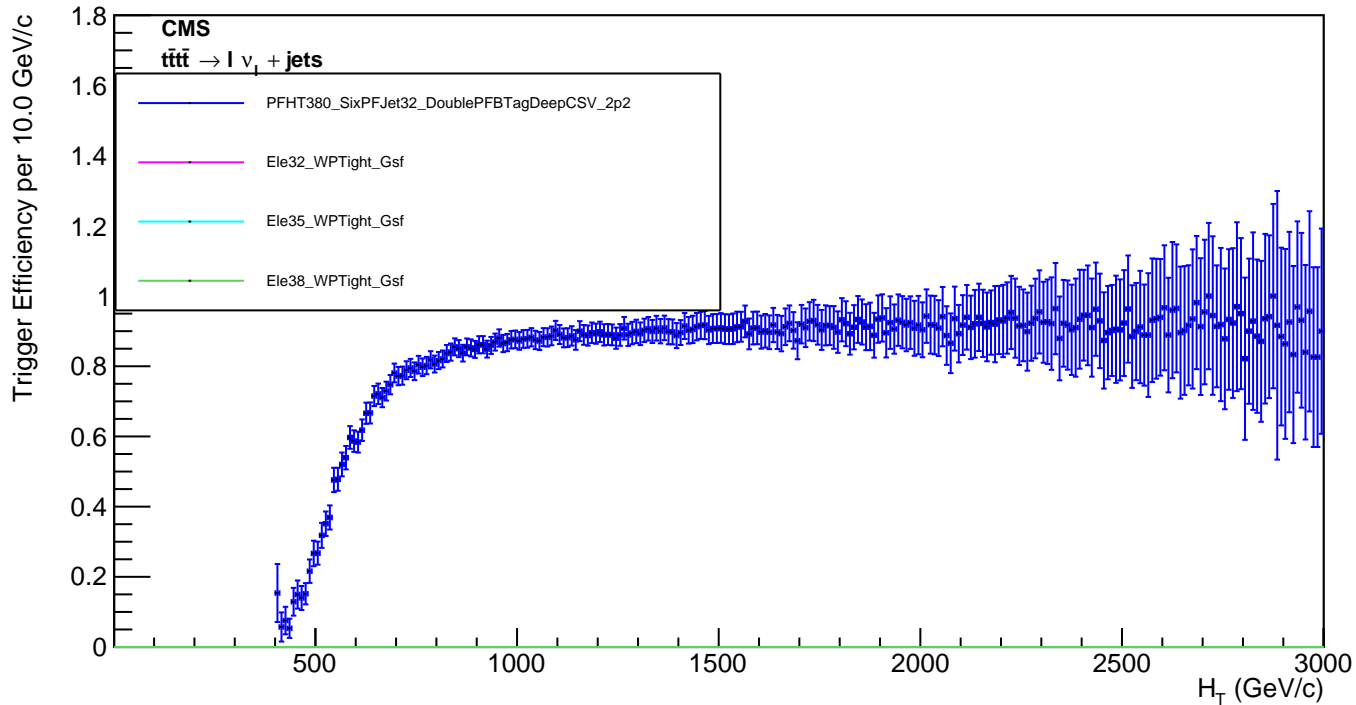


Number of Events per 10 GeV/c

**CMS**  
 **$t\bar{t}t\bar{t} \rightarrow l \nu_l + \text{jets}$**

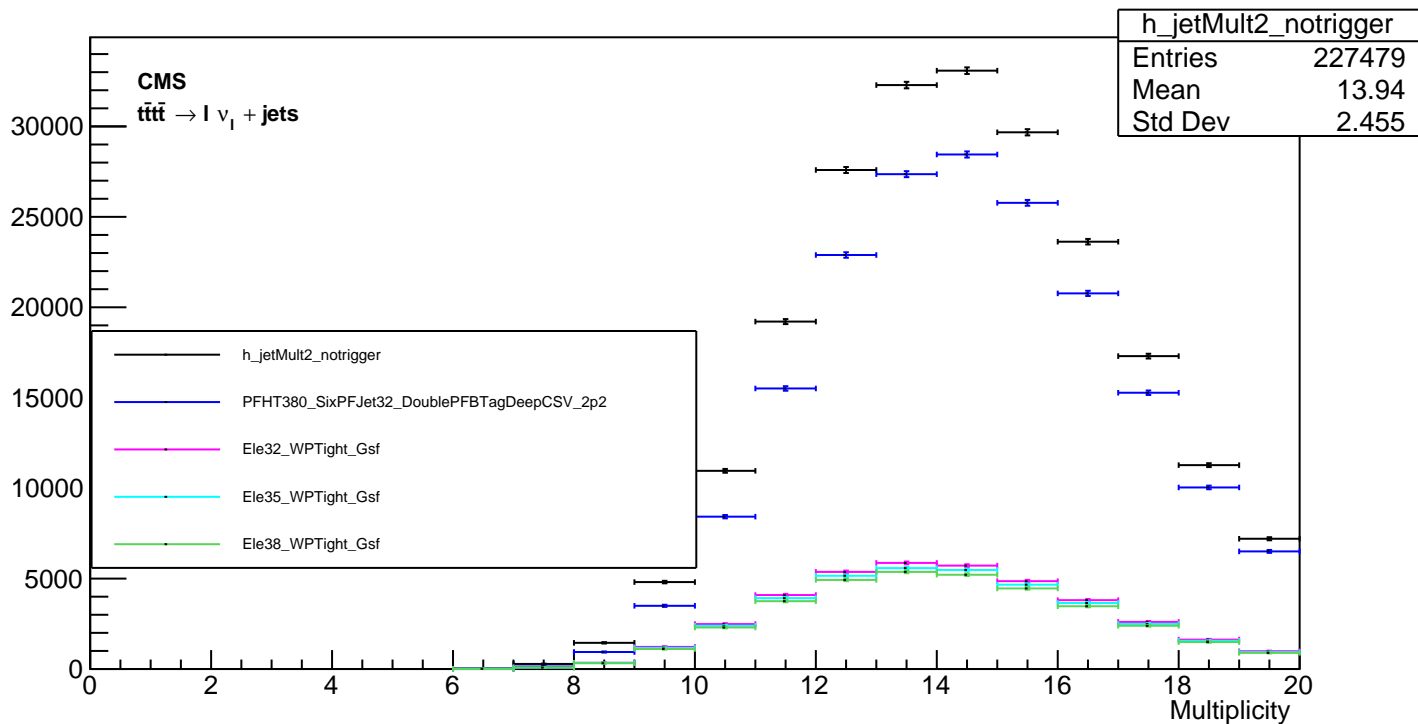
h_jetHt2_notrigger	
Entries	227479
Mean	1148
Std Dev	414.9

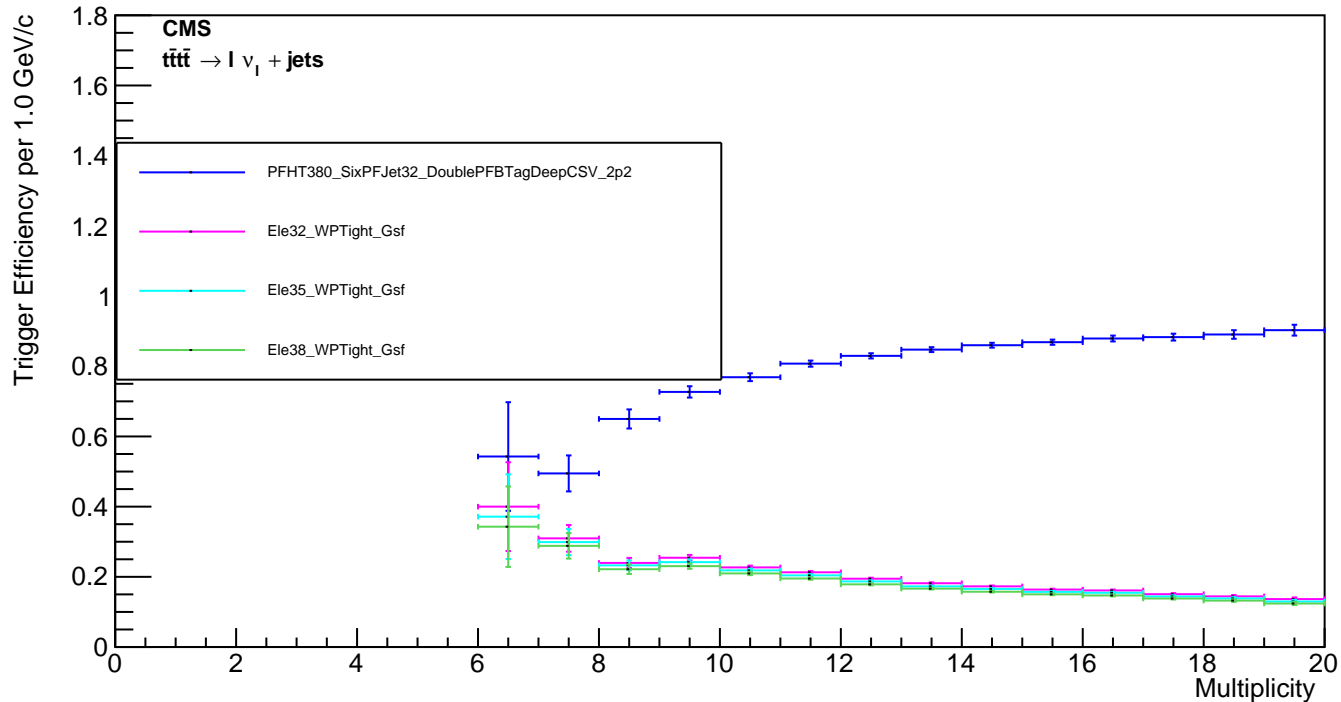


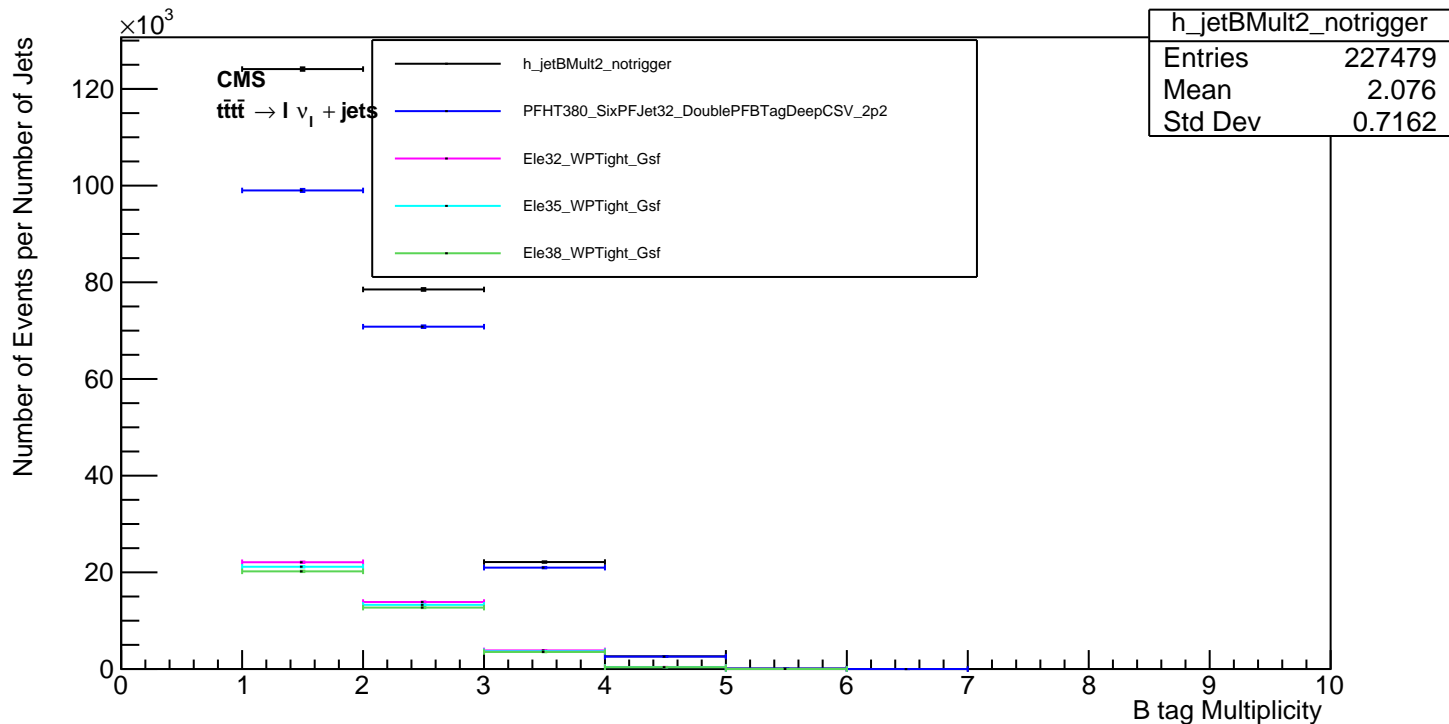


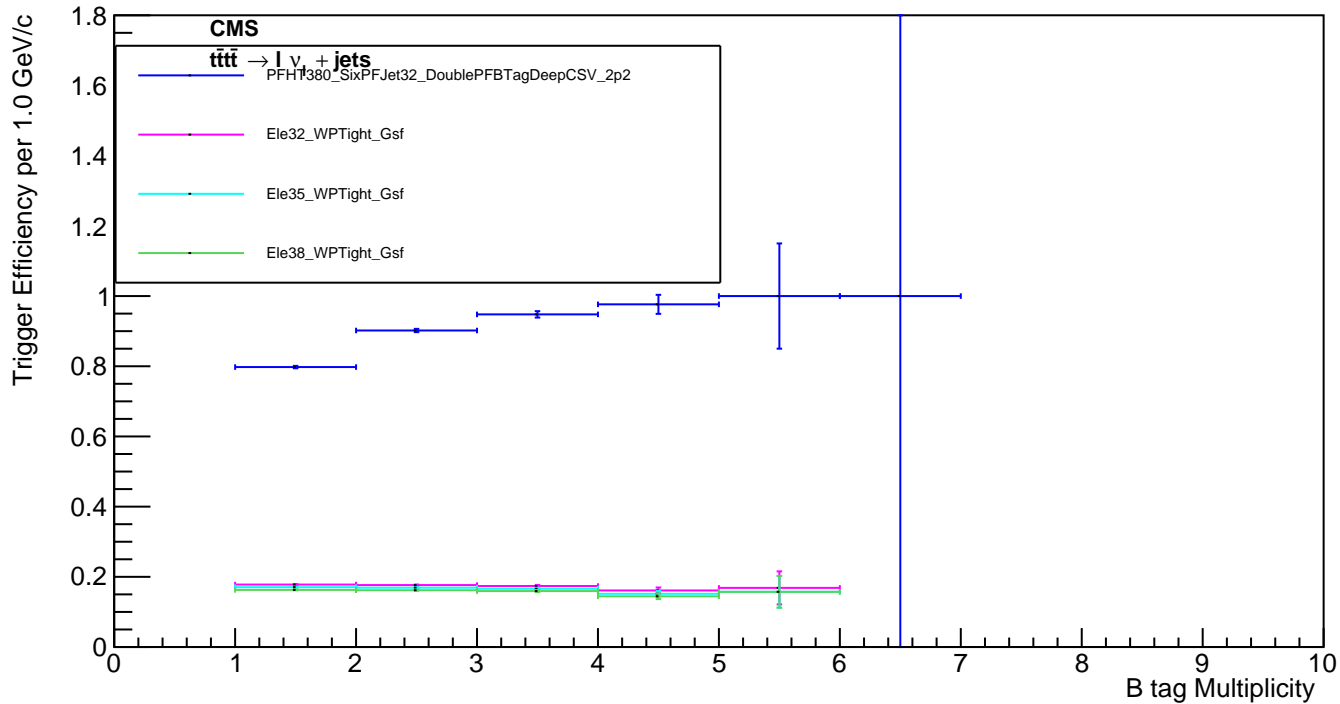


Number of Events per Number of Jets

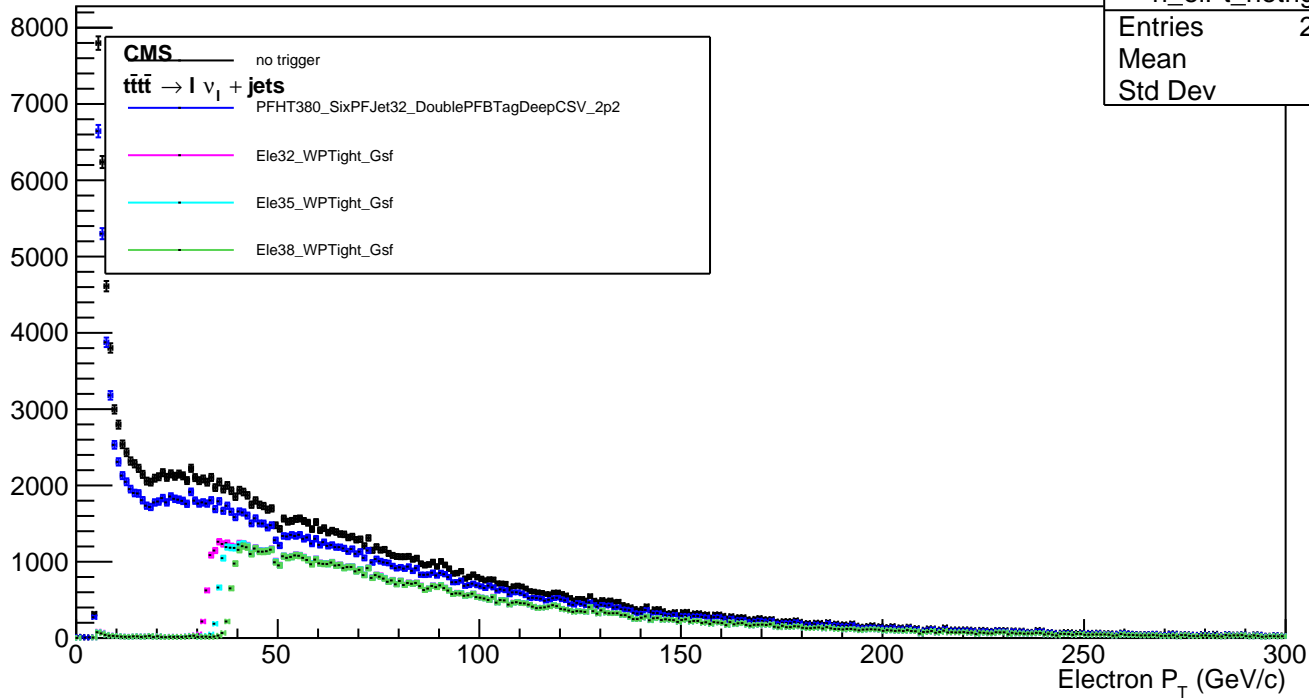




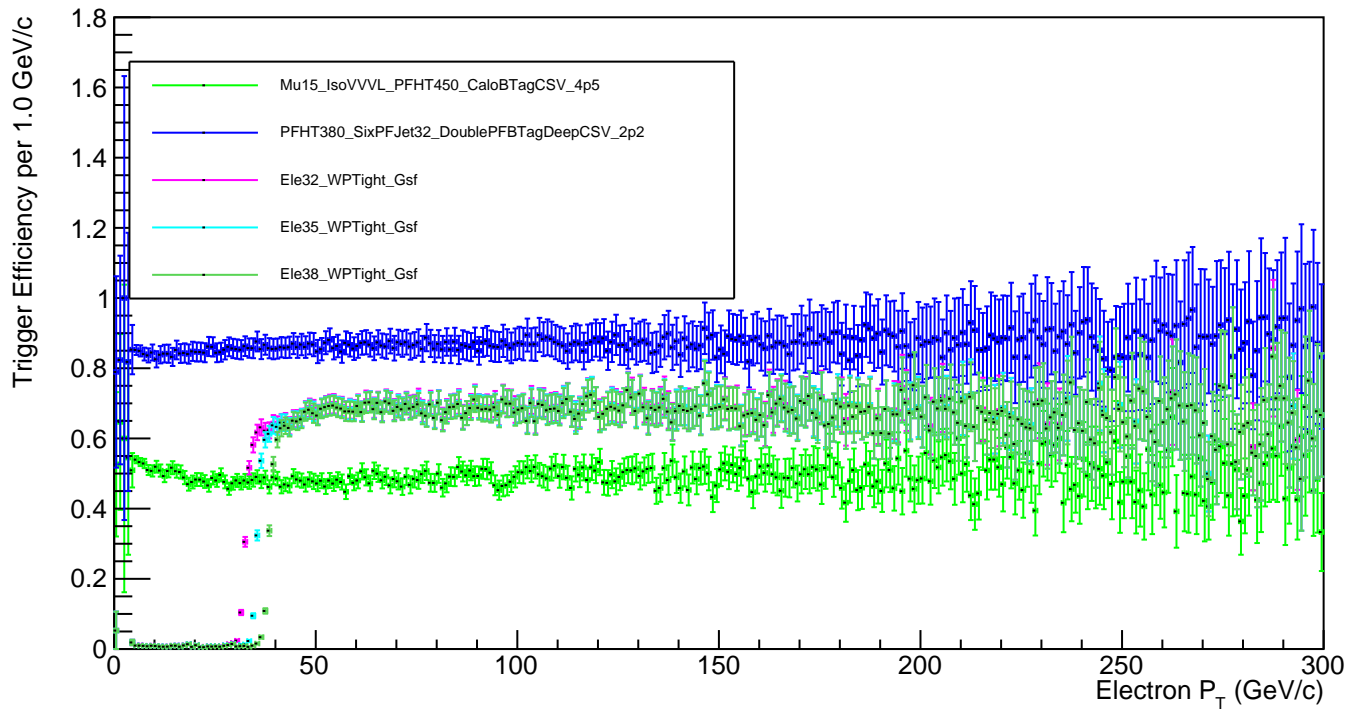




Number of Events per 1 GeV/c



h_elPt_notrigger	
Entries	216015
Mean	65.26
Std Dev	56.73

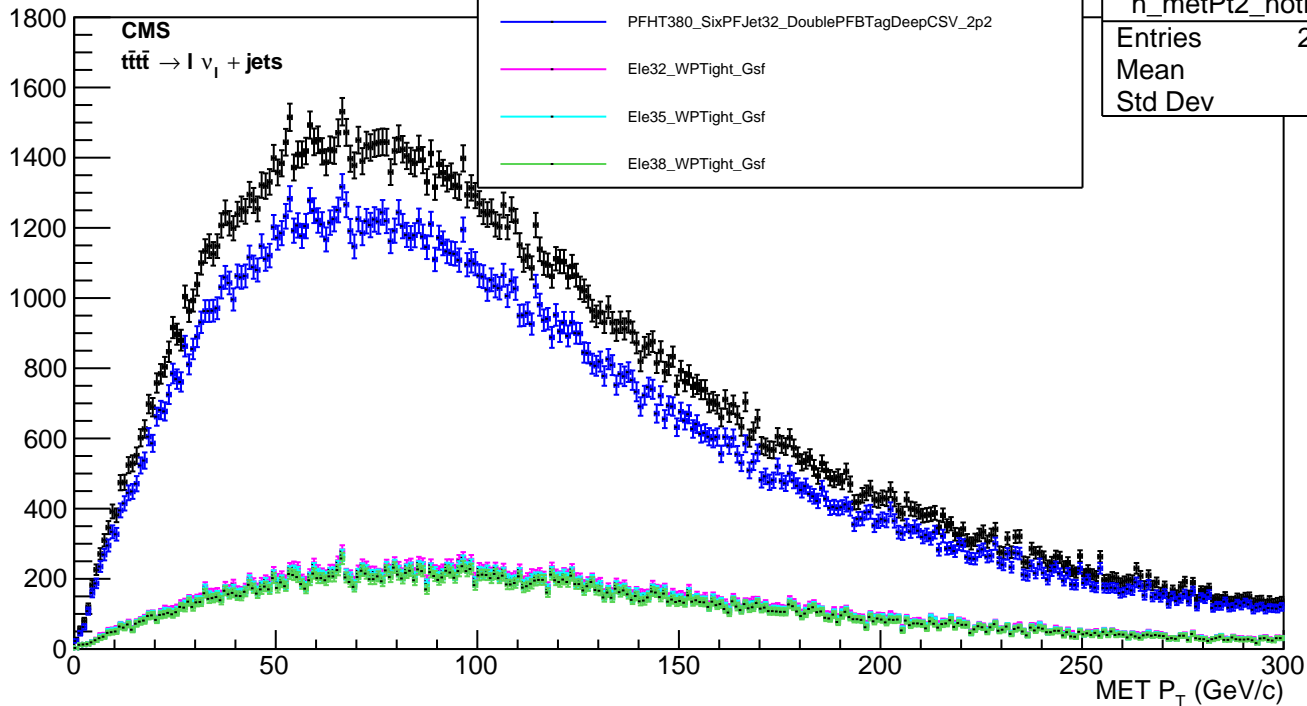


Number of Events per 1 GeV/c

**CMS**  
 $t\bar{t}\bar{t} \rightarrow l \nu_l + \text{jets}$

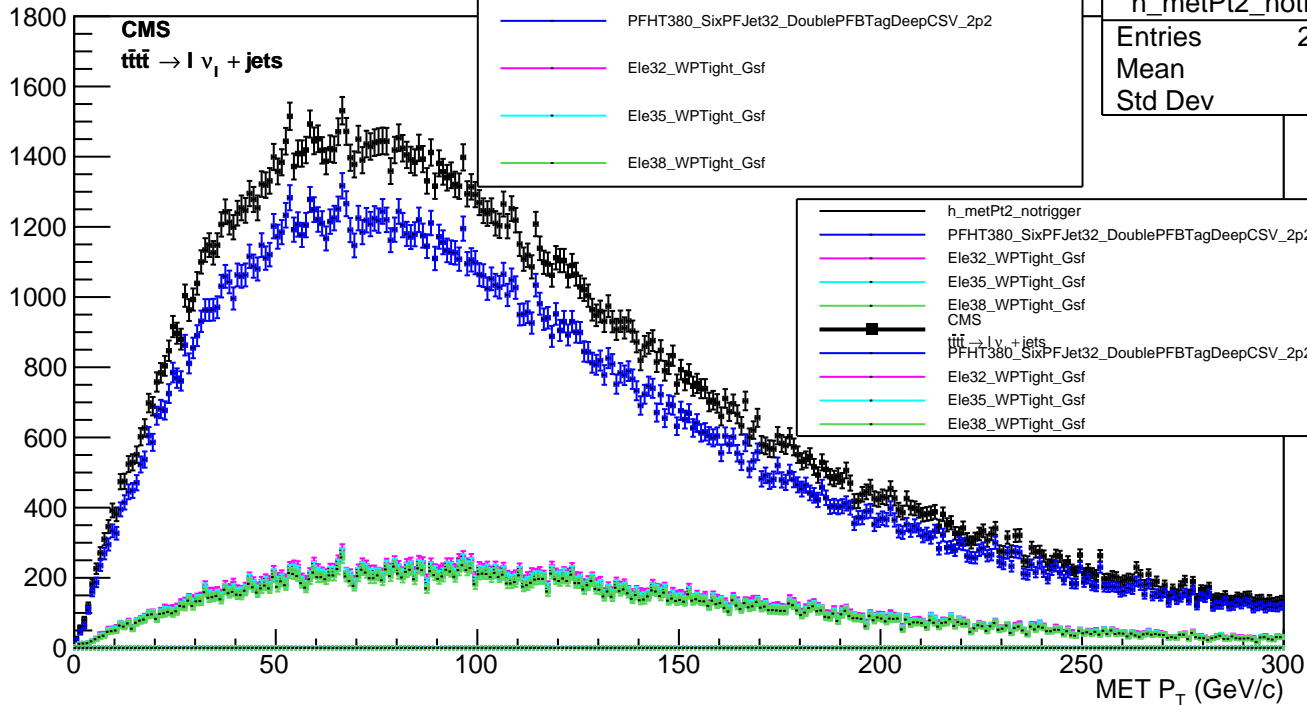
- h\_metPt2\_notrigger
- PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2
- Ele32\_WPTight\_Gsf
- Ele35\_WPTight\_Gsf
- Ele38\_WPTight\_Gsf

h_metPt2_notrigger	
Entries	227479
Mean	110.3
Std Dev	65.61



Number of Events per 1 GeV/c

**CMS**  
 $t\bar{t}t\bar{t} \rightarrow l \nu_l + \text{jets}$



h\_metPt2\_notrigger

Entries 227479

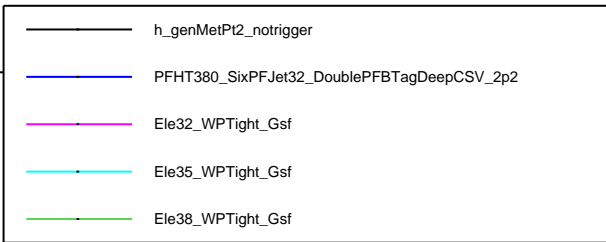
Mean 110.3

Std Dev 65.61

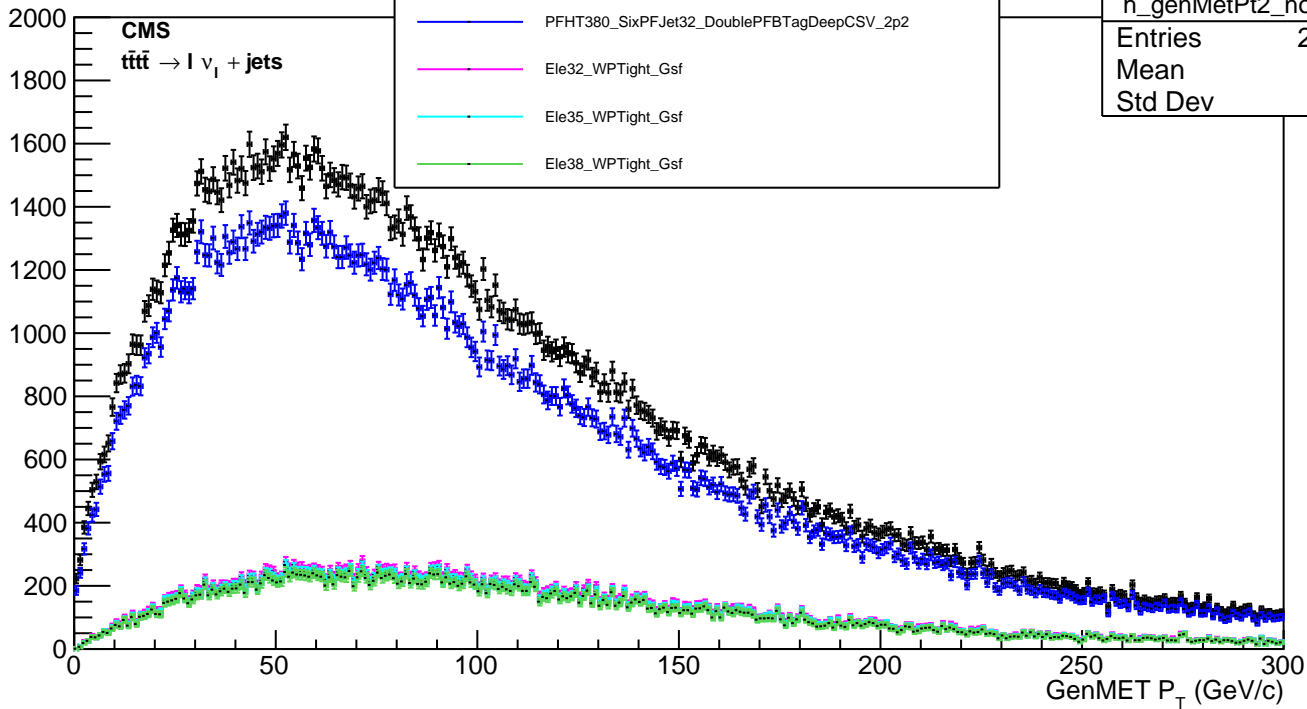


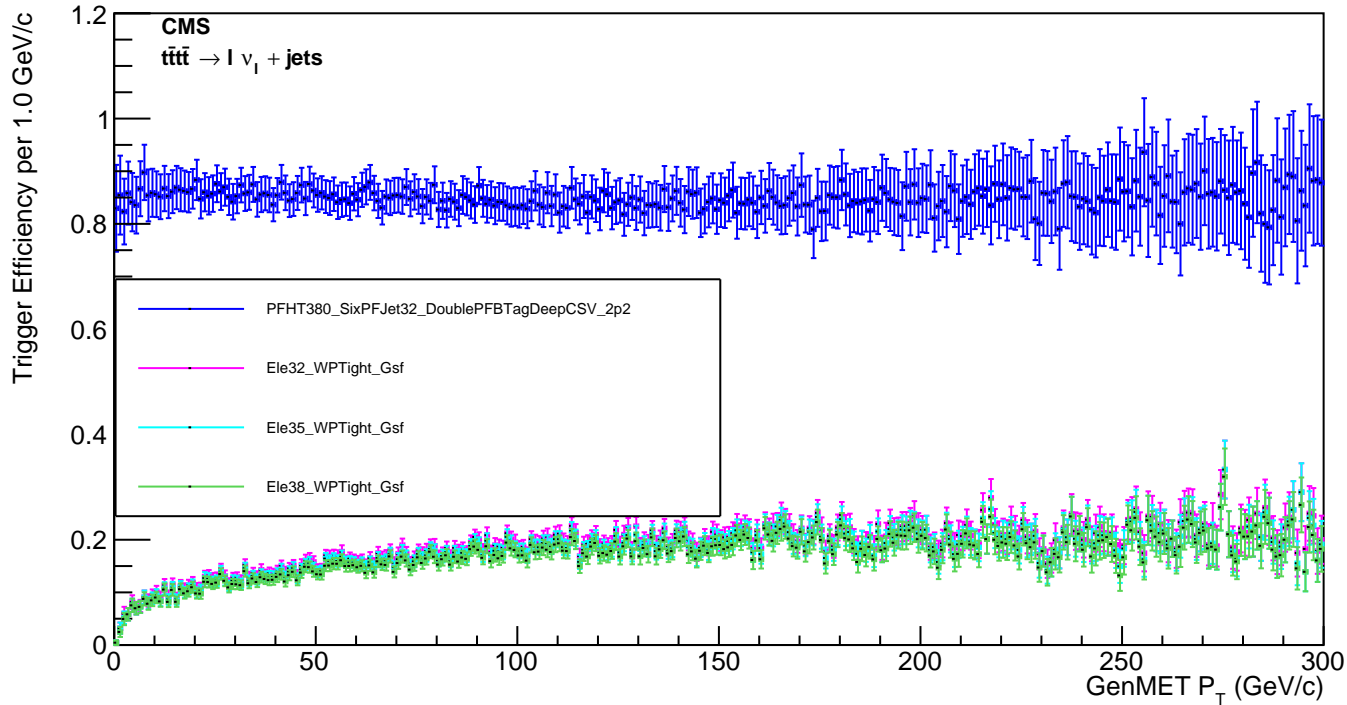
Number of Events per 1GeV/c

**CMS**  
 **$t\bar{t}\bar{t} \rightarrow l \nu_l + \text{jets}$**

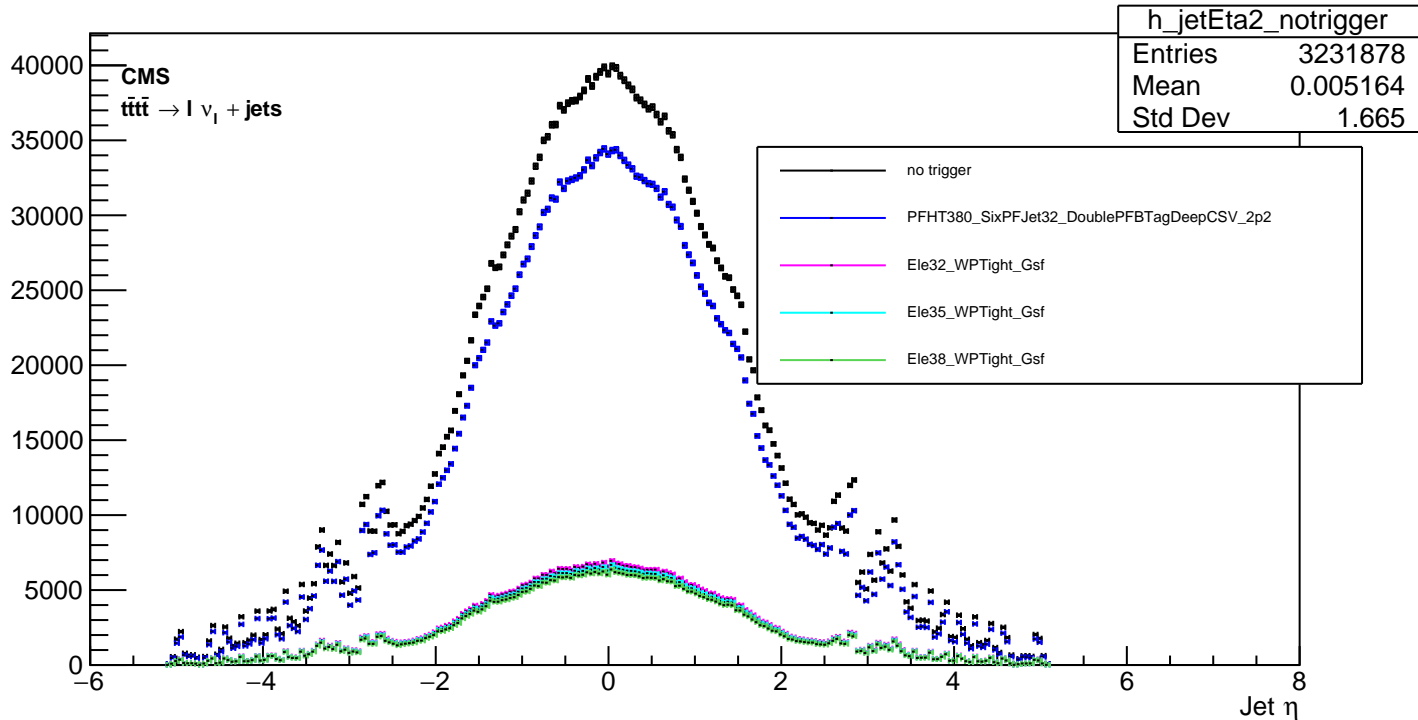


h_genMetPt2_notrigger	
Entries	227479
Mean	99.49
Std Dev	65.95

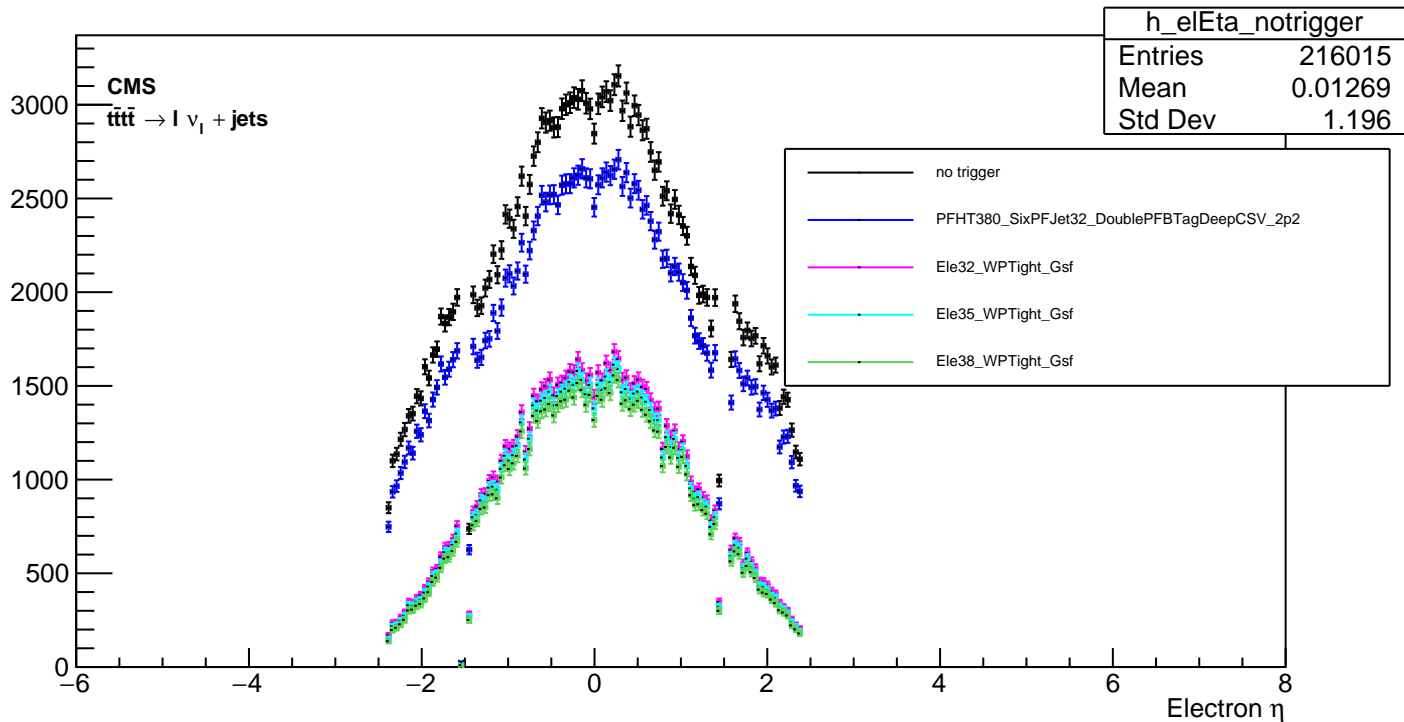




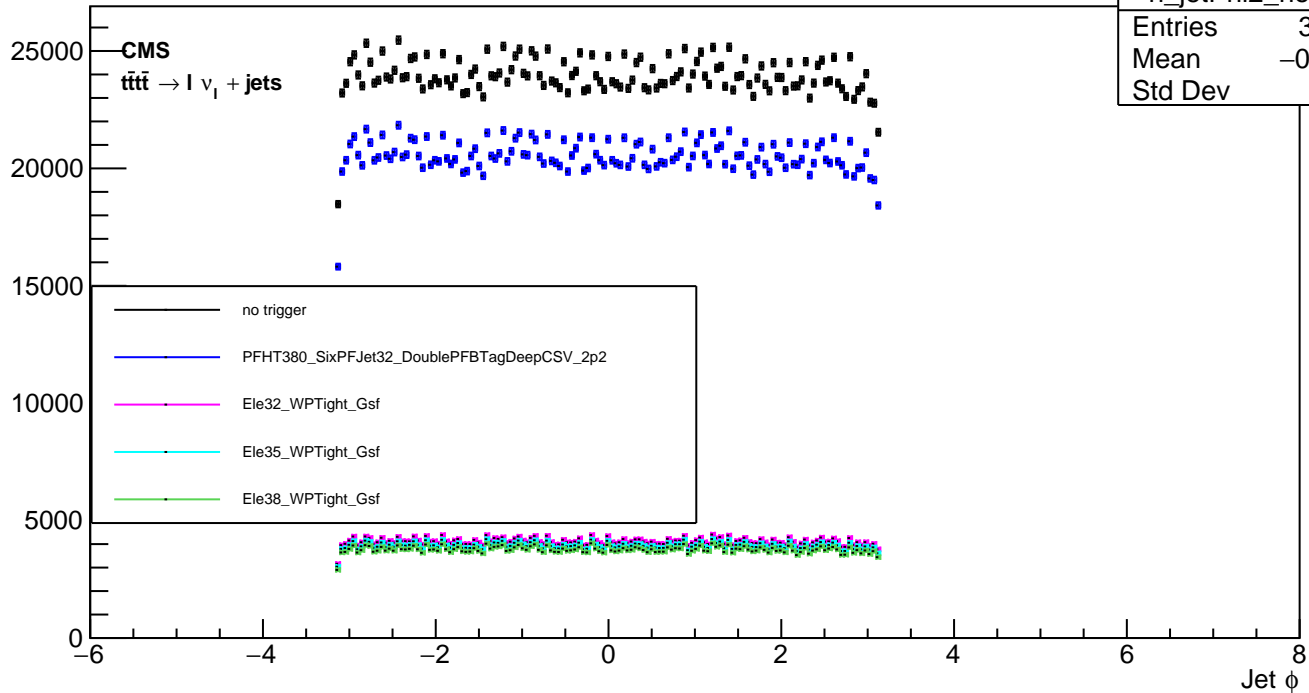
Number of Events per  $\delta\eta = 0.046$



Number of Events per  $\delta\eta = 0.046$



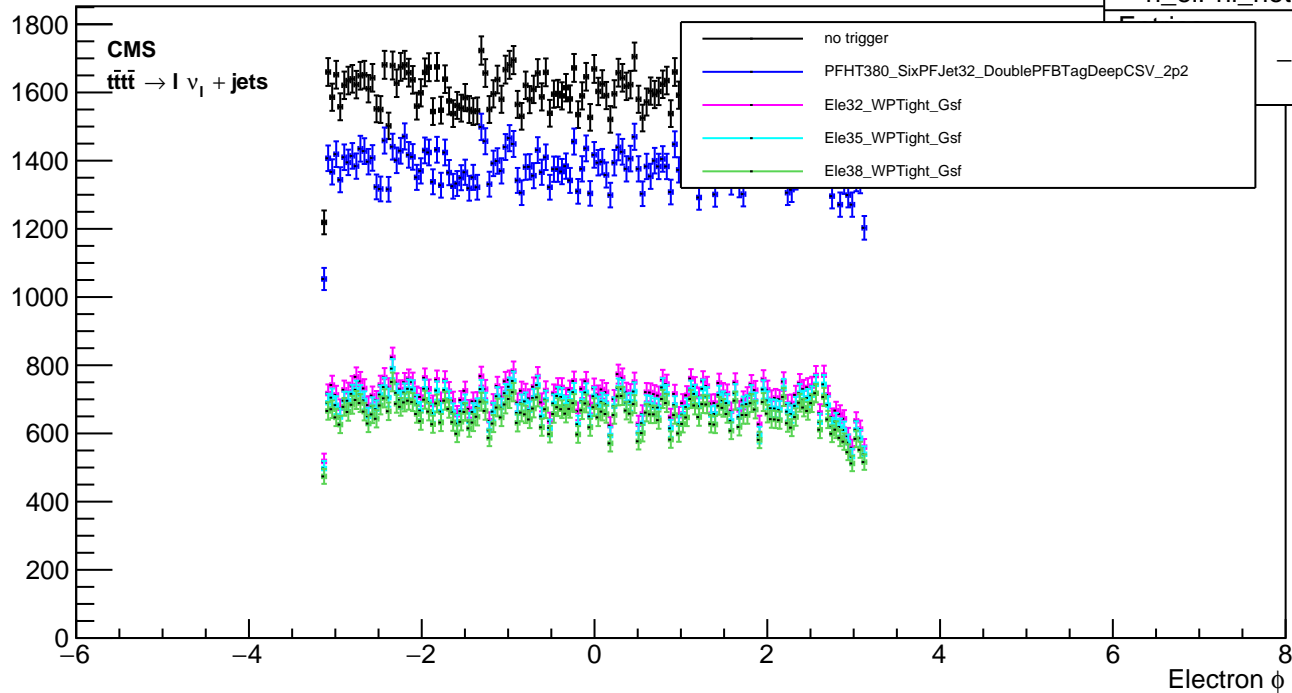
Number of Events per  $\delta\phi = 0.046$



h_jetPhi2_notrigger	
Entries	3231878
Mean	-0.009751
Std Dev	1.812

Number of Events per  $\delta\phi = 0.046$

**CMS**  
 **$t\bar{t}t\bar{t} \rightarrow l \nu_l + \text{jets}$**



h\_elPhi\_nottrigger

216015

-0.01194

1.811

