

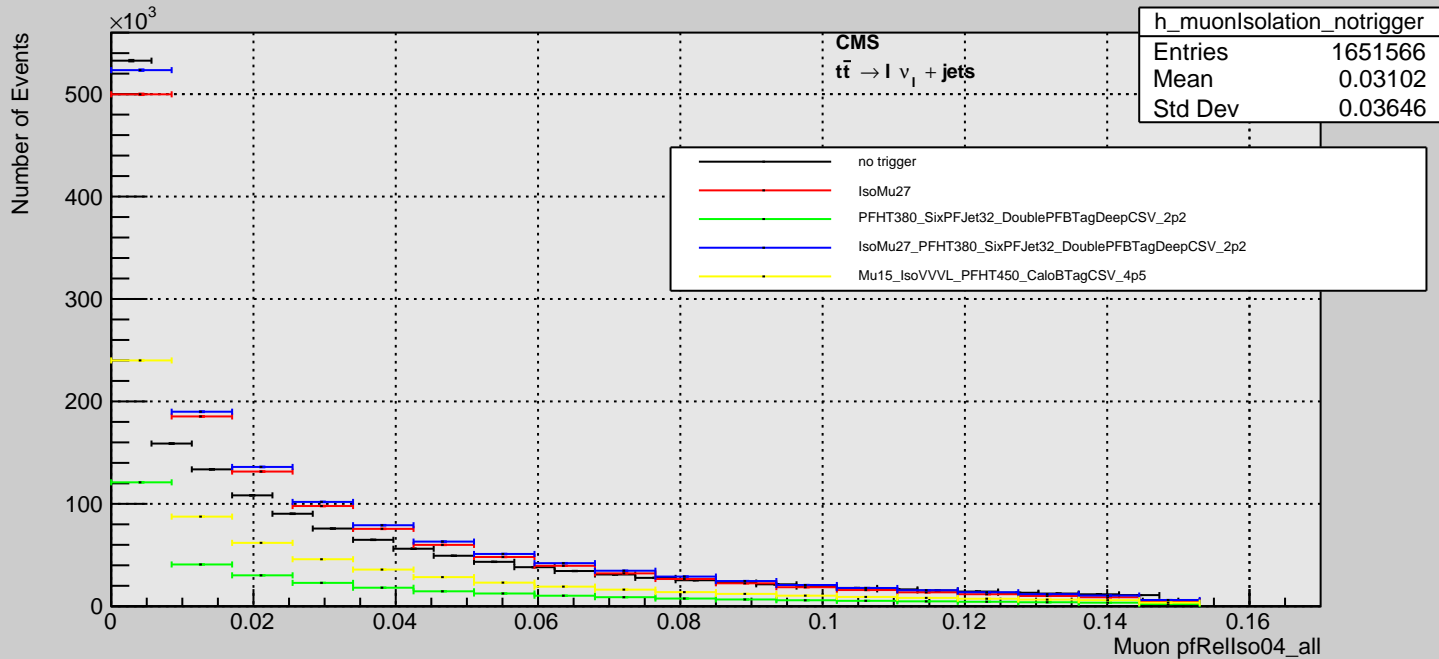
**On-line (pre-)selection Requisites for:**

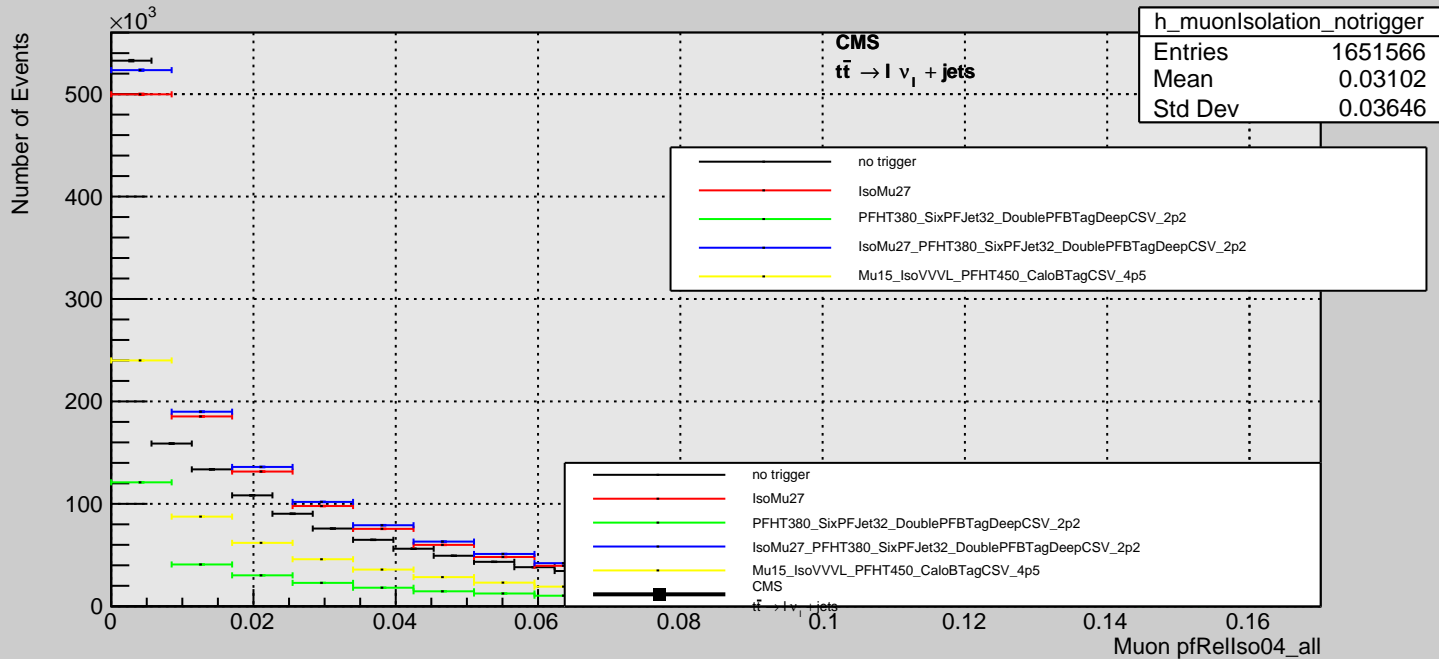
- **Jets:** number  $> 5$
- **Muons plus Electrons:** number  $> 0$

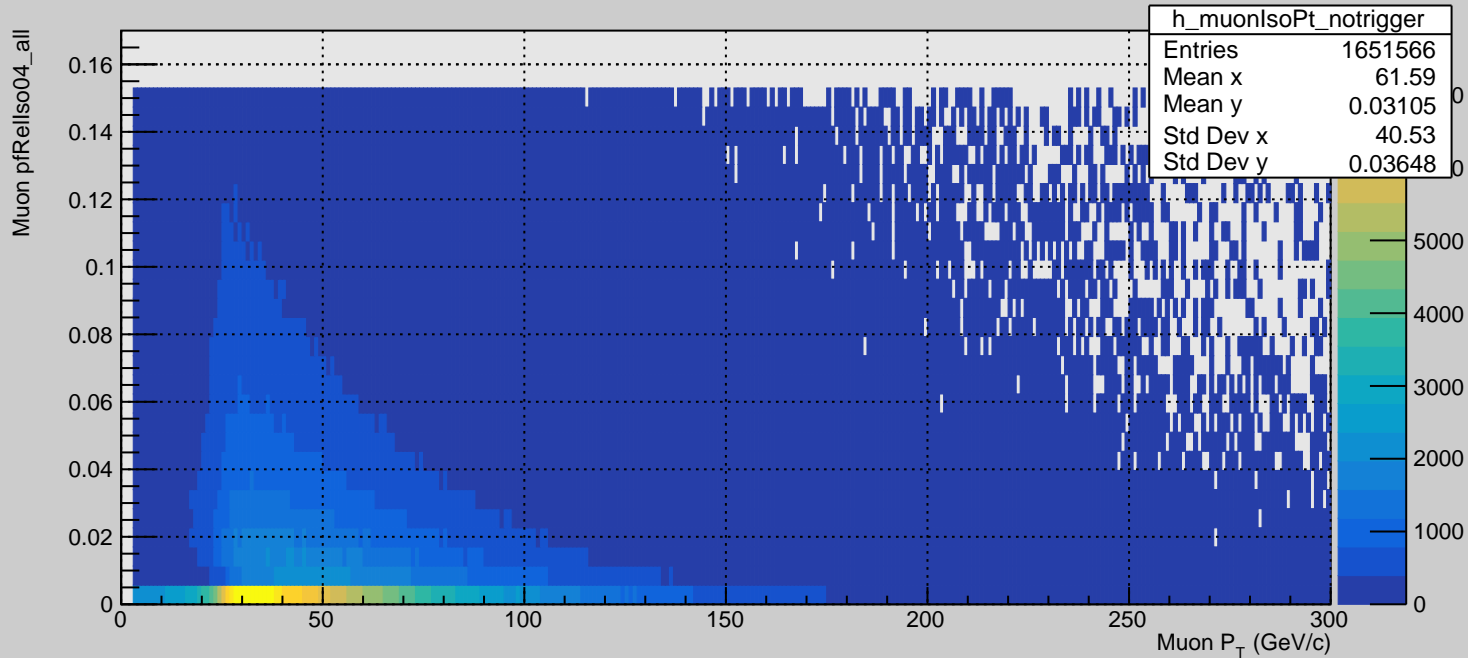
**Event Limit:** None (see last page)

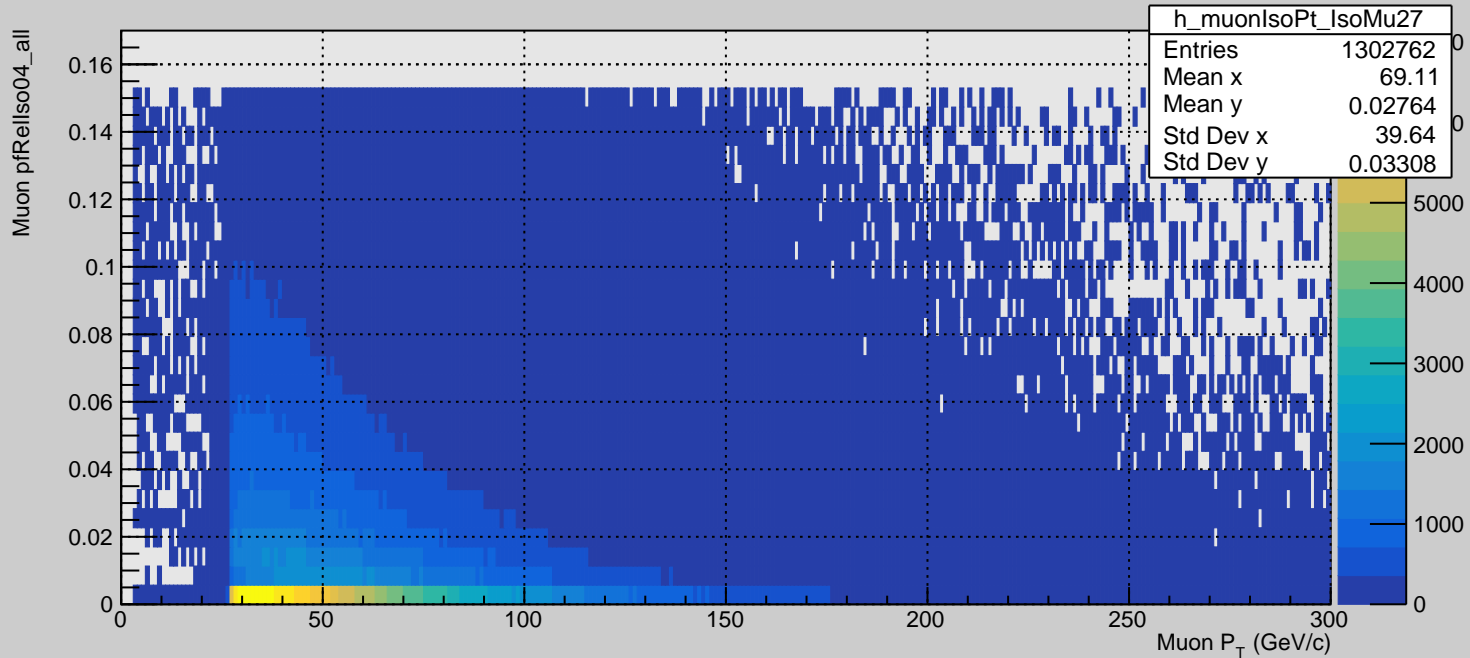
**Off-line (post-)selection Requisites for:**

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



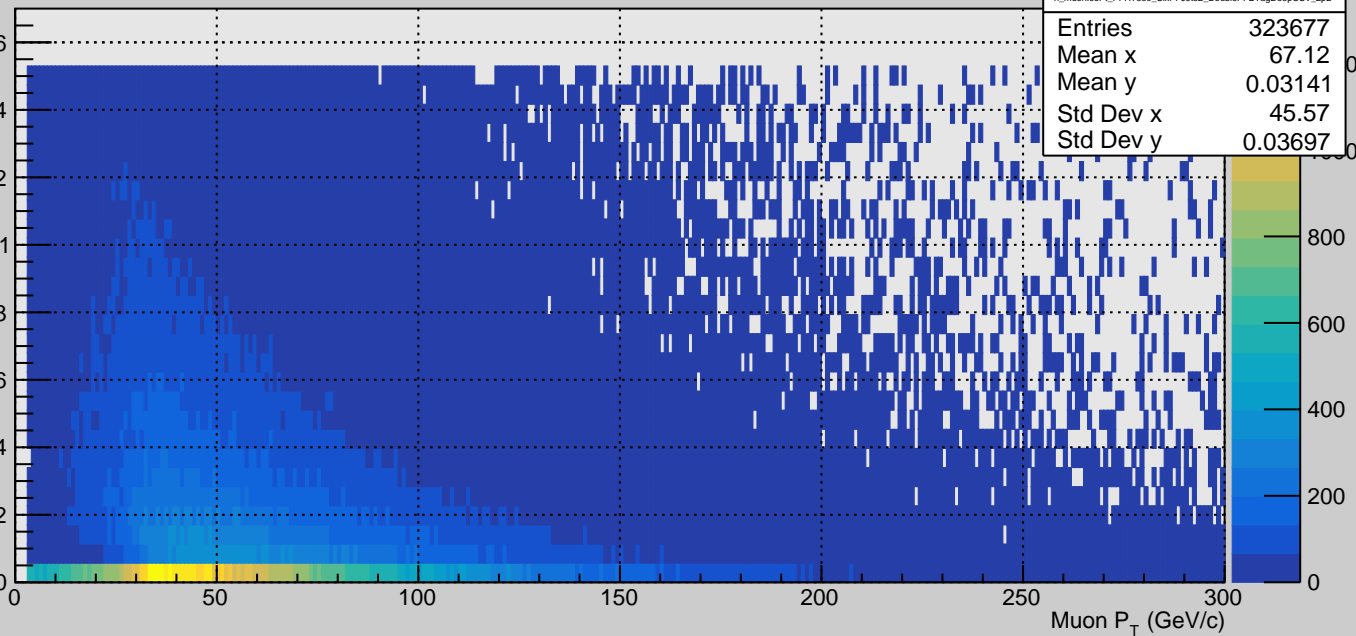




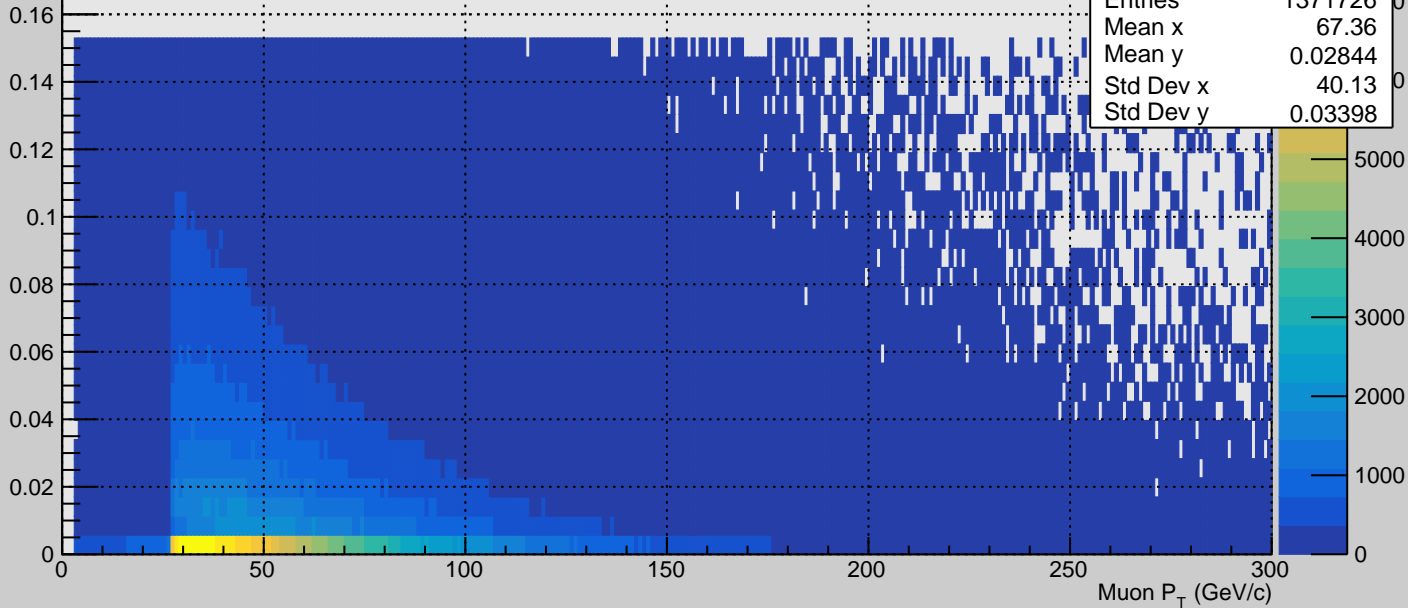


Muon pRelIso04\_all

0.16  
0.14  
0.12  
0.1  
0.08  
0.06  
0.04  
0.02  
0

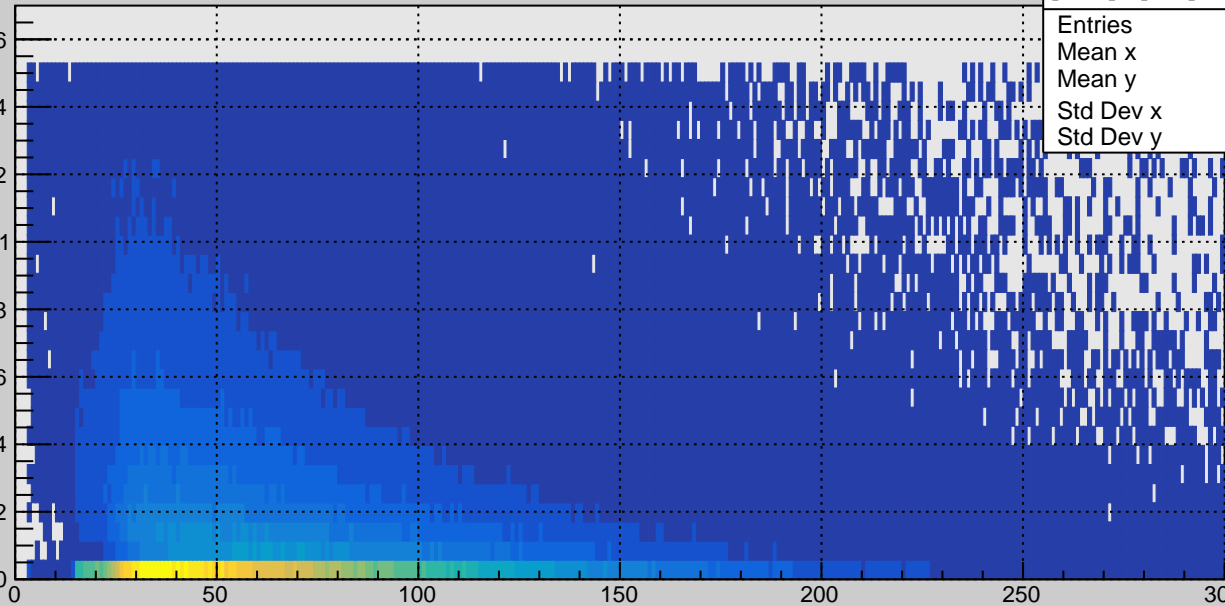


Muon pRelIso04\_all



Muon pfRelIso04\_all

0.16  
0.14  
0.12  
0.1  
0.08  
0.06  
0.04  
0.02  
0



h\_muonIsoPt\_Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5

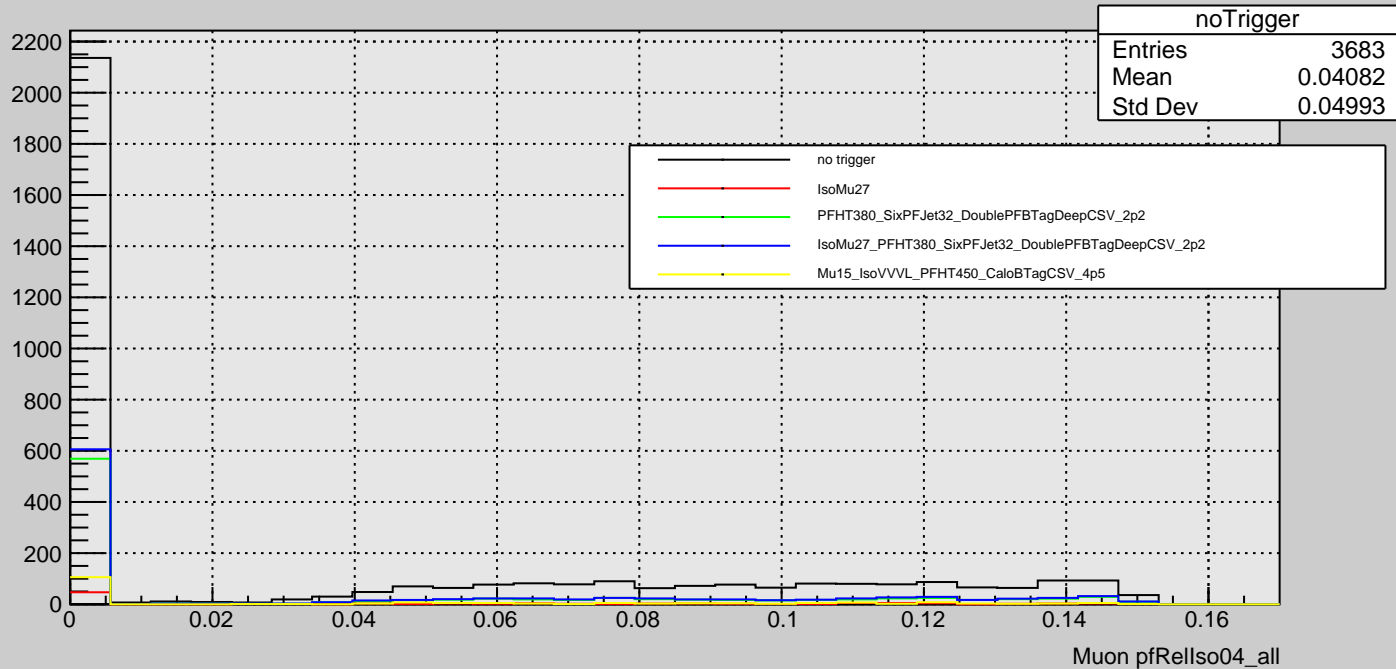
Entries	635253
Mean x	77.6
Mean y	0.02963
Std Dev x	49.07
Std Dev y	0.03531

1600  
1400  
1200  
1000  
800  
600  
400  
200  
0

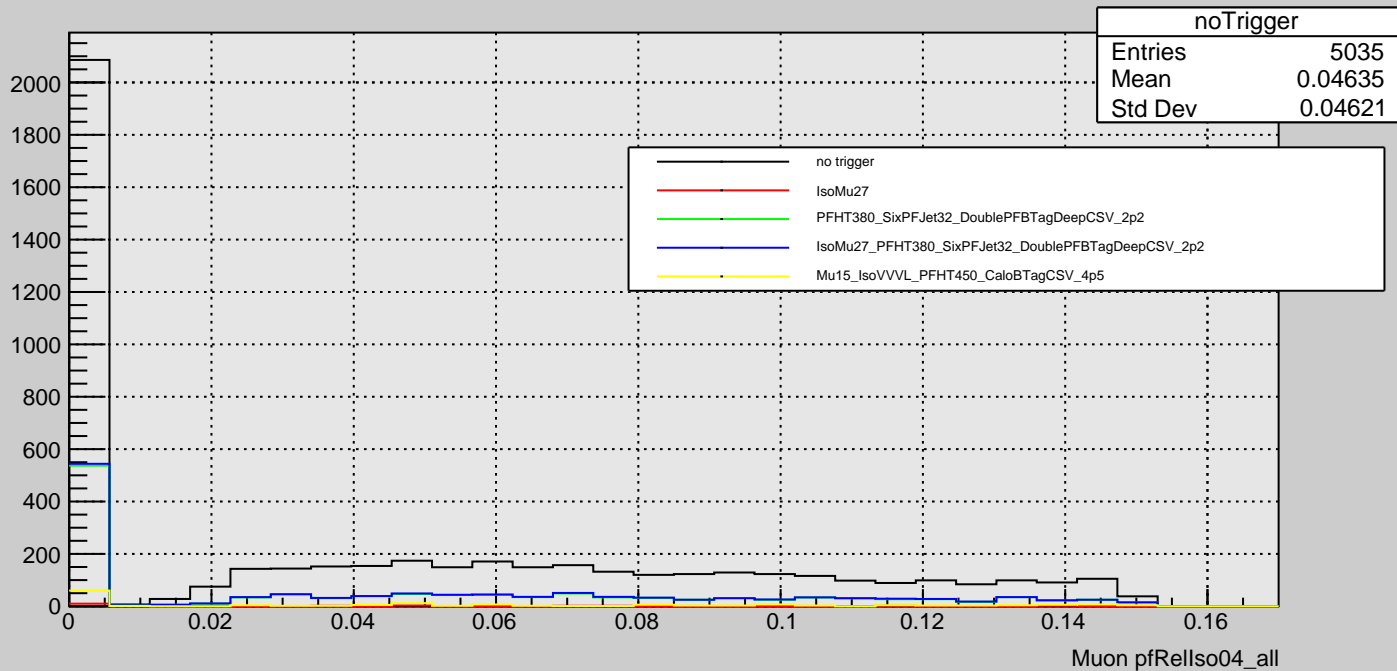
Muon  $P_T$  (GeV/c)



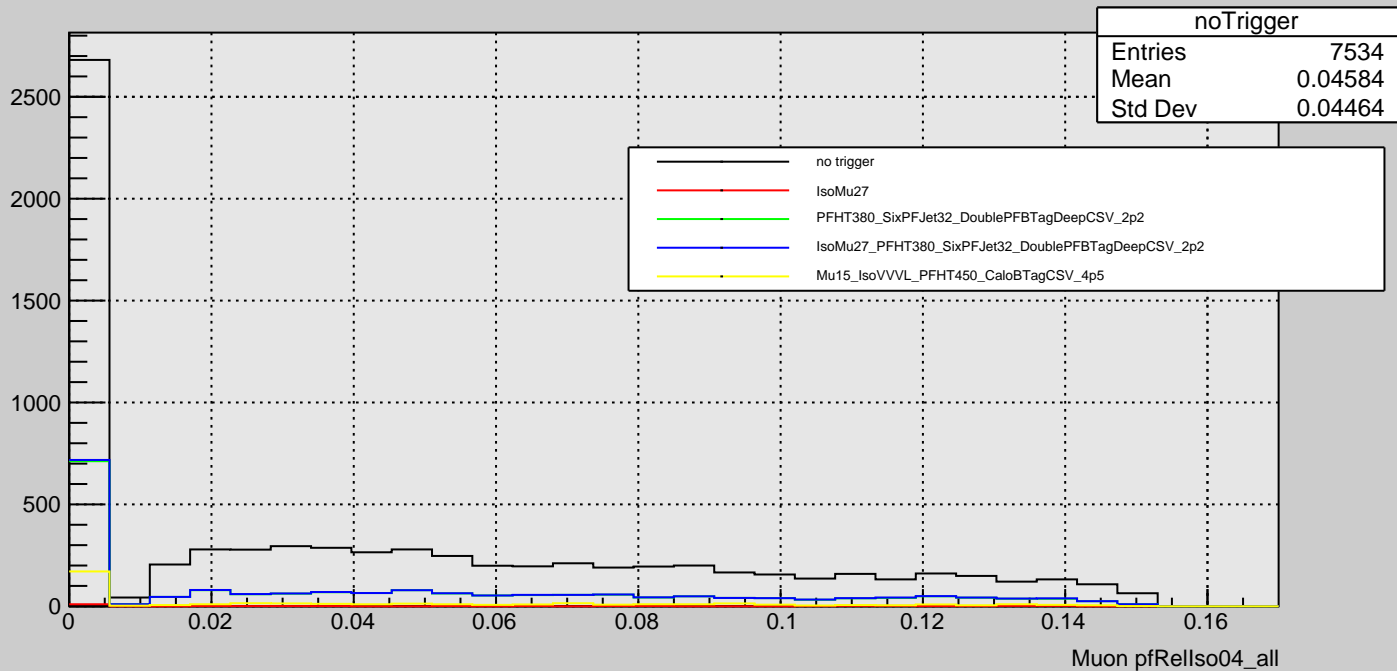
**Muon Pt = 5**



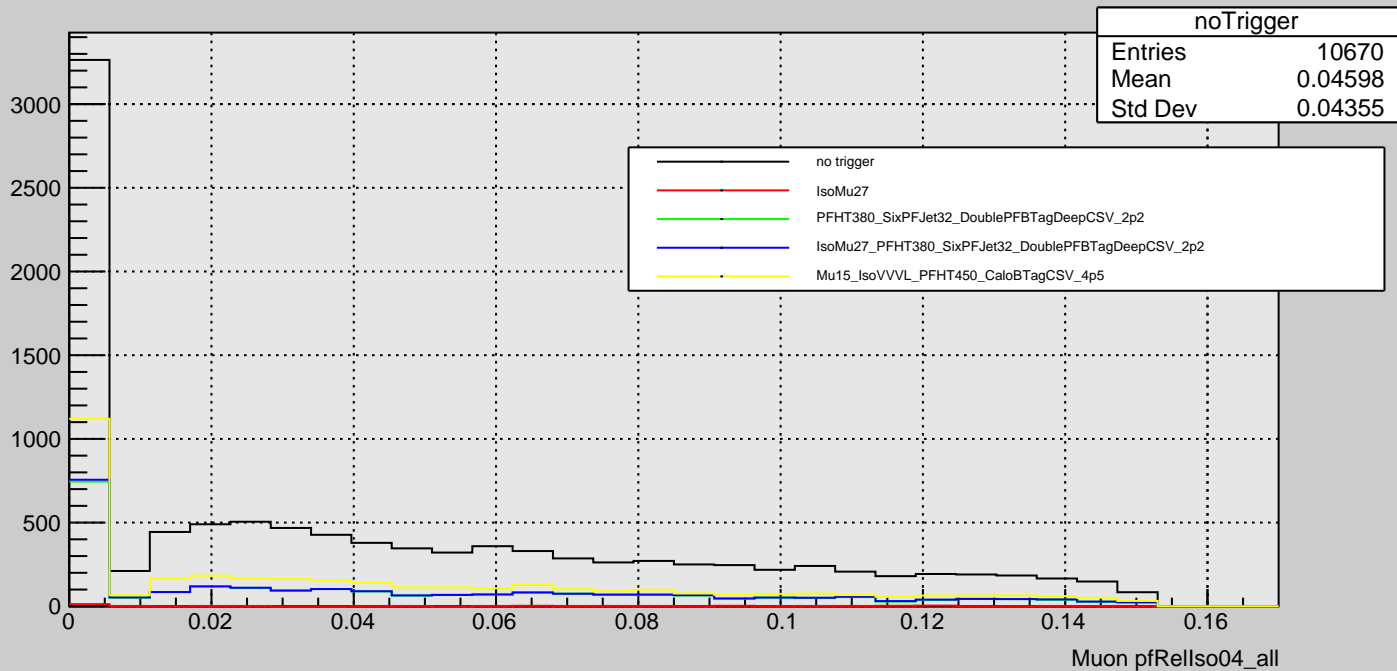
**Muon Pt = 10**



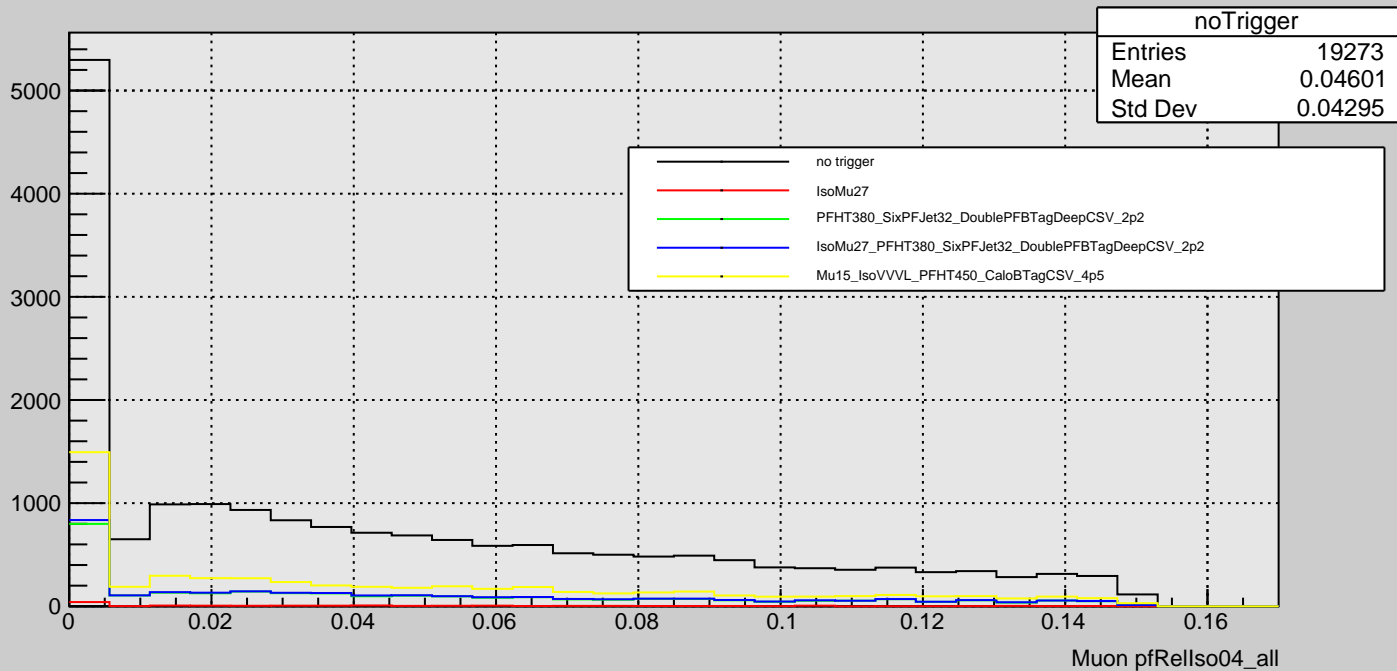
**Muon Pt = 15**



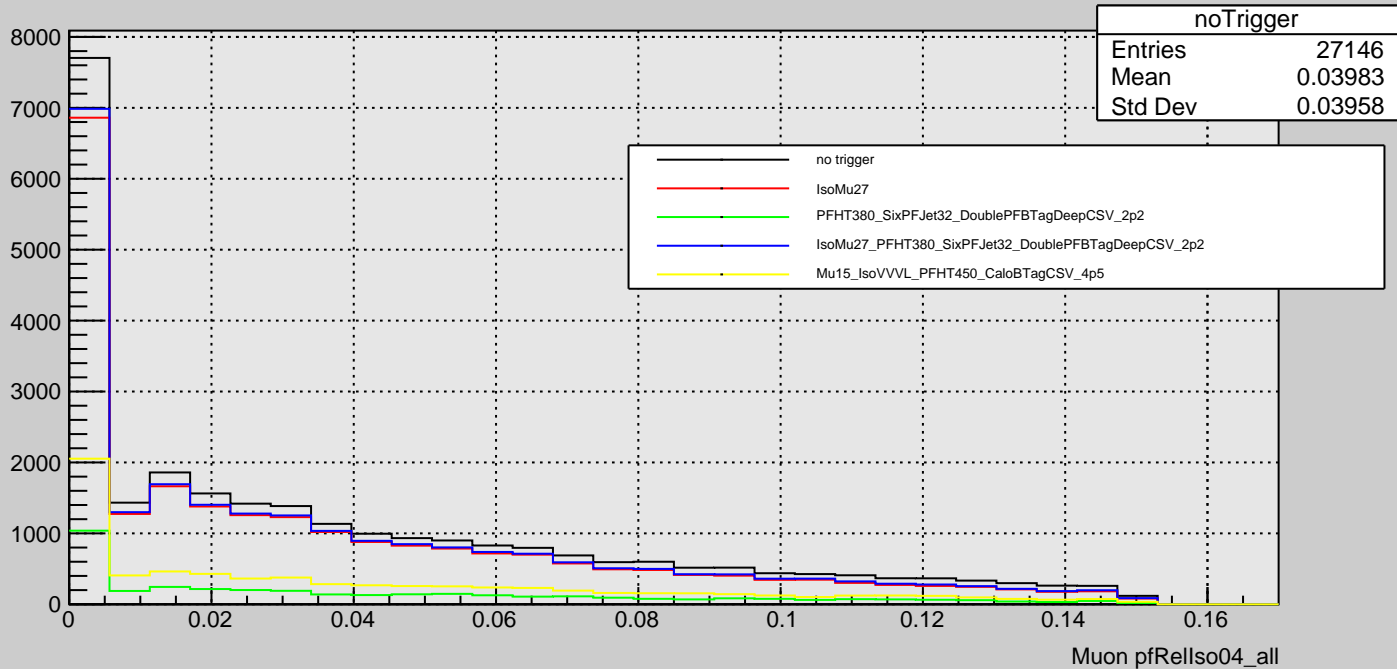
**Muon Pt = 20**



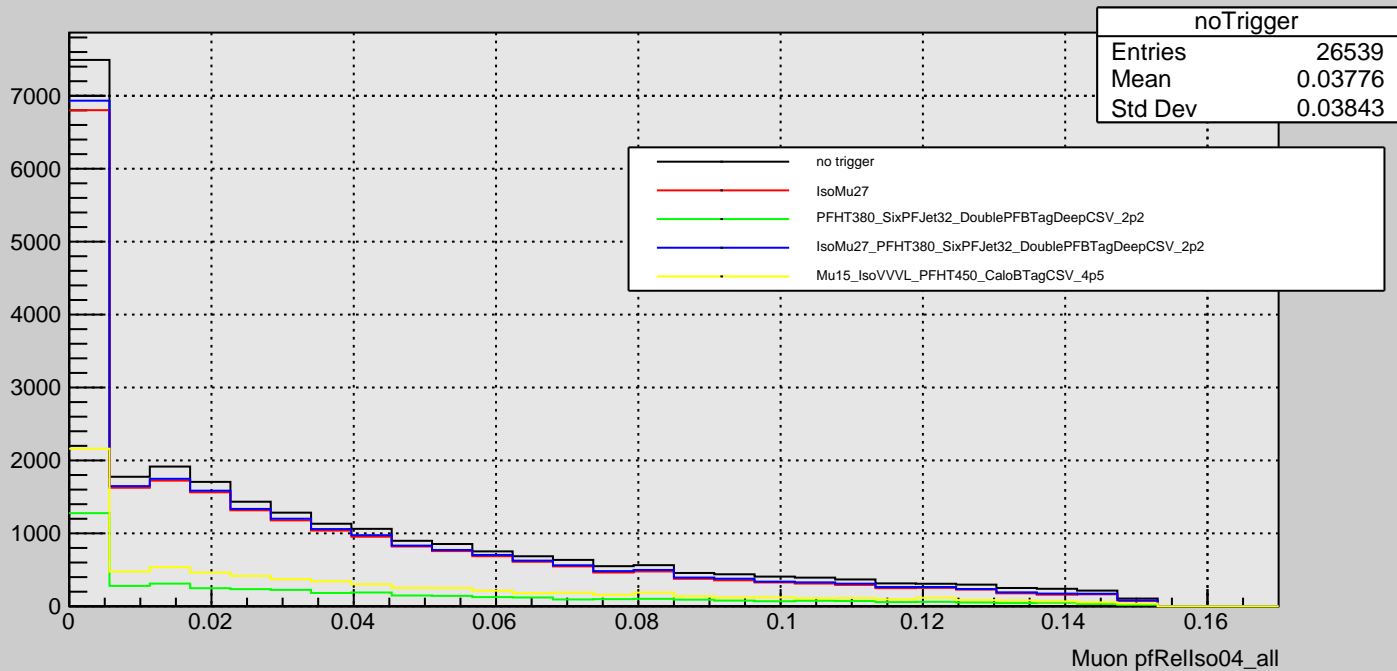
**Muon Pt = 25**



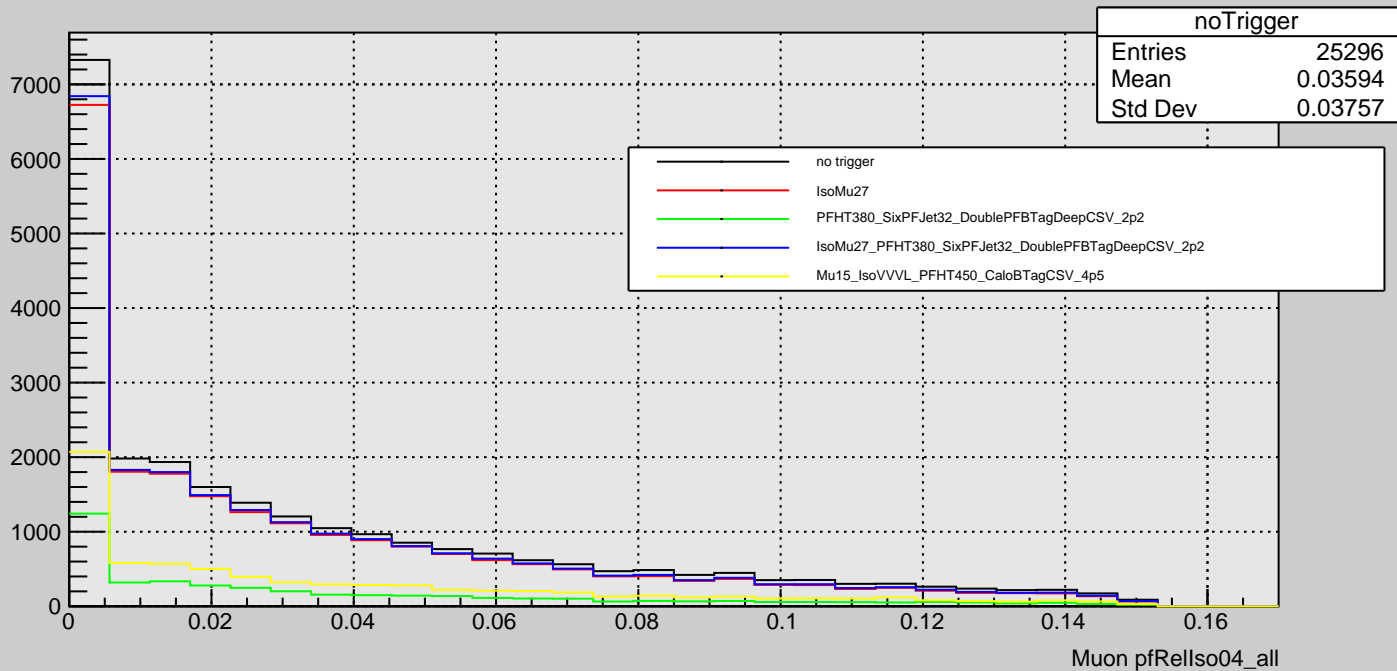
**Muon Pt = 30**



**Muon Pt = 35**

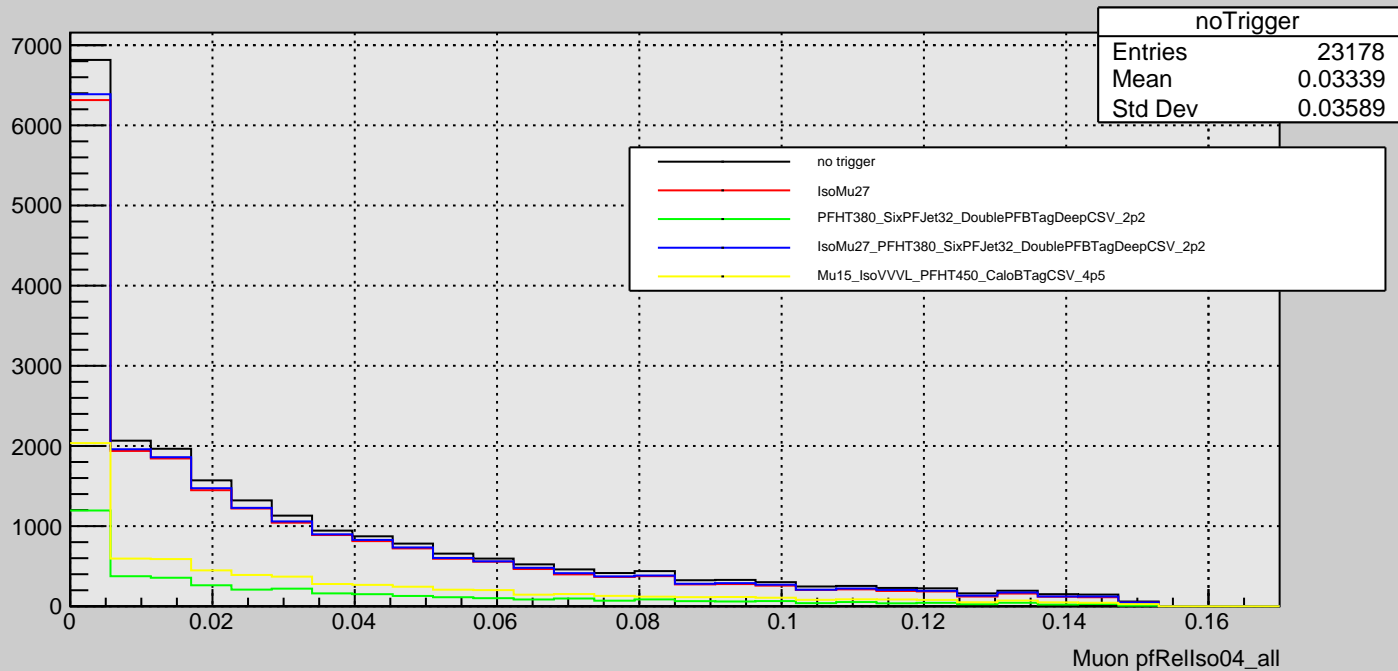


**Muon Pt = 40**

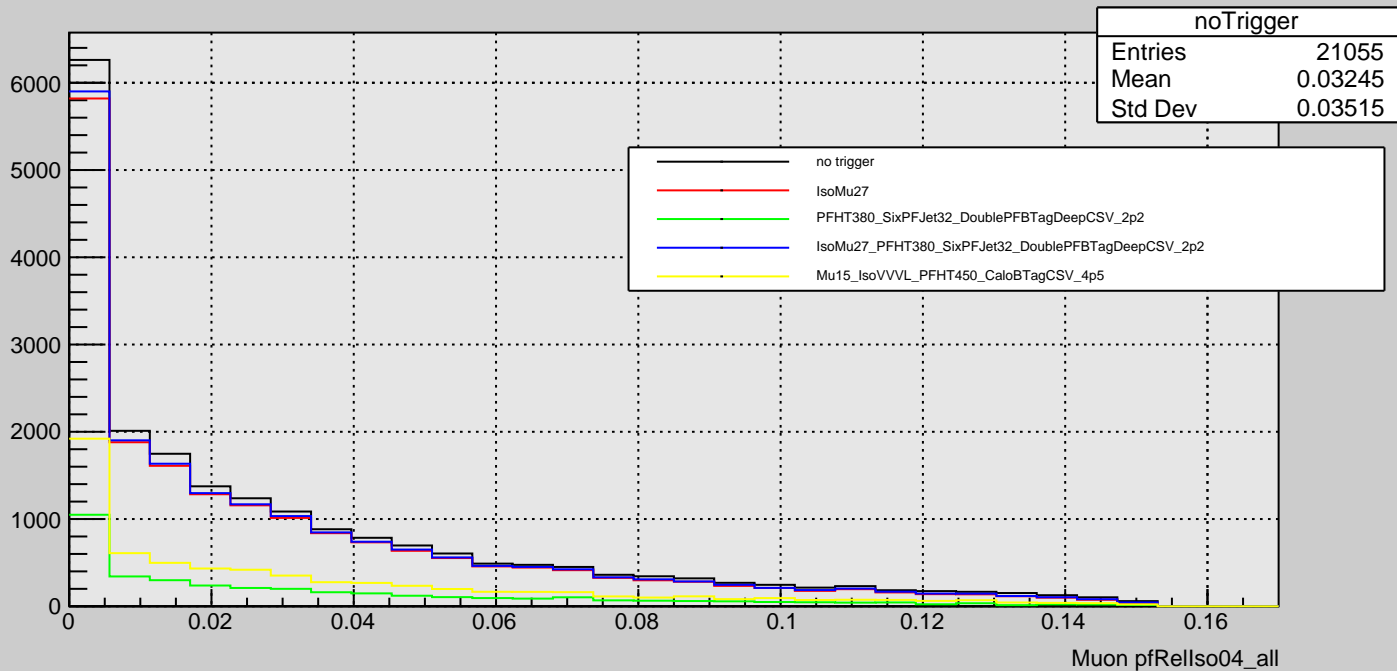




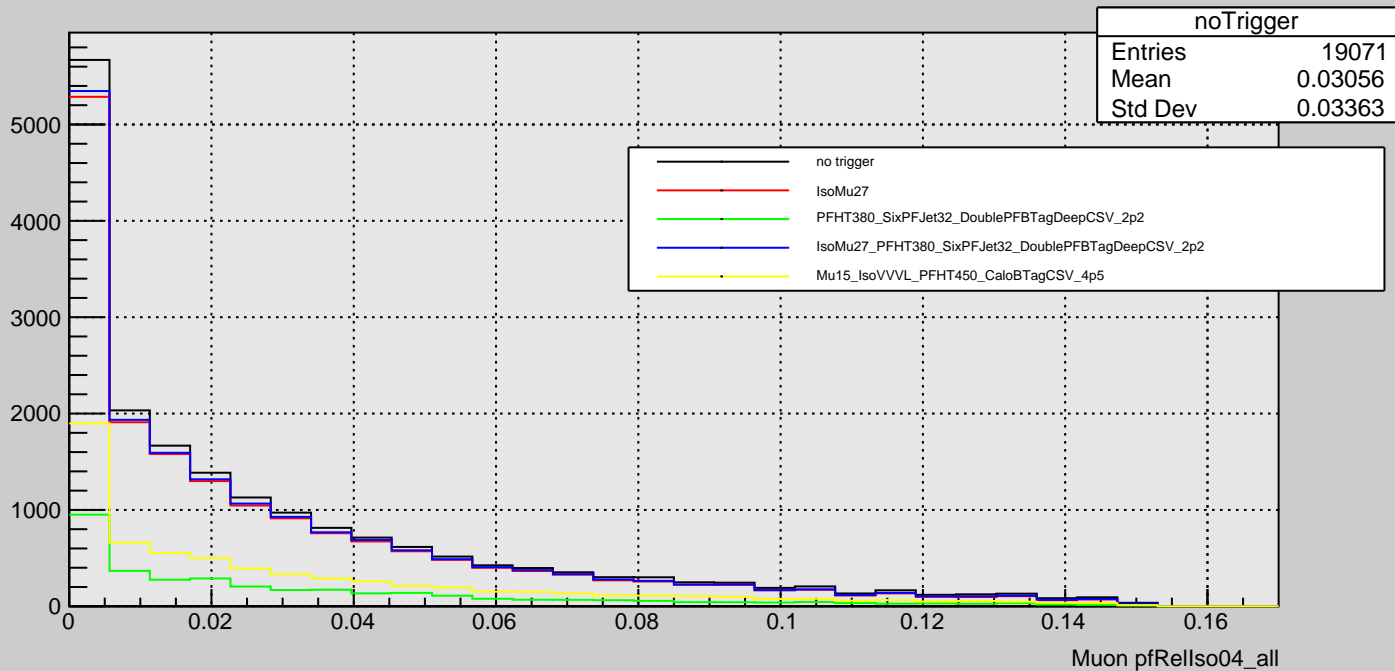
**Muon Pt = 45**



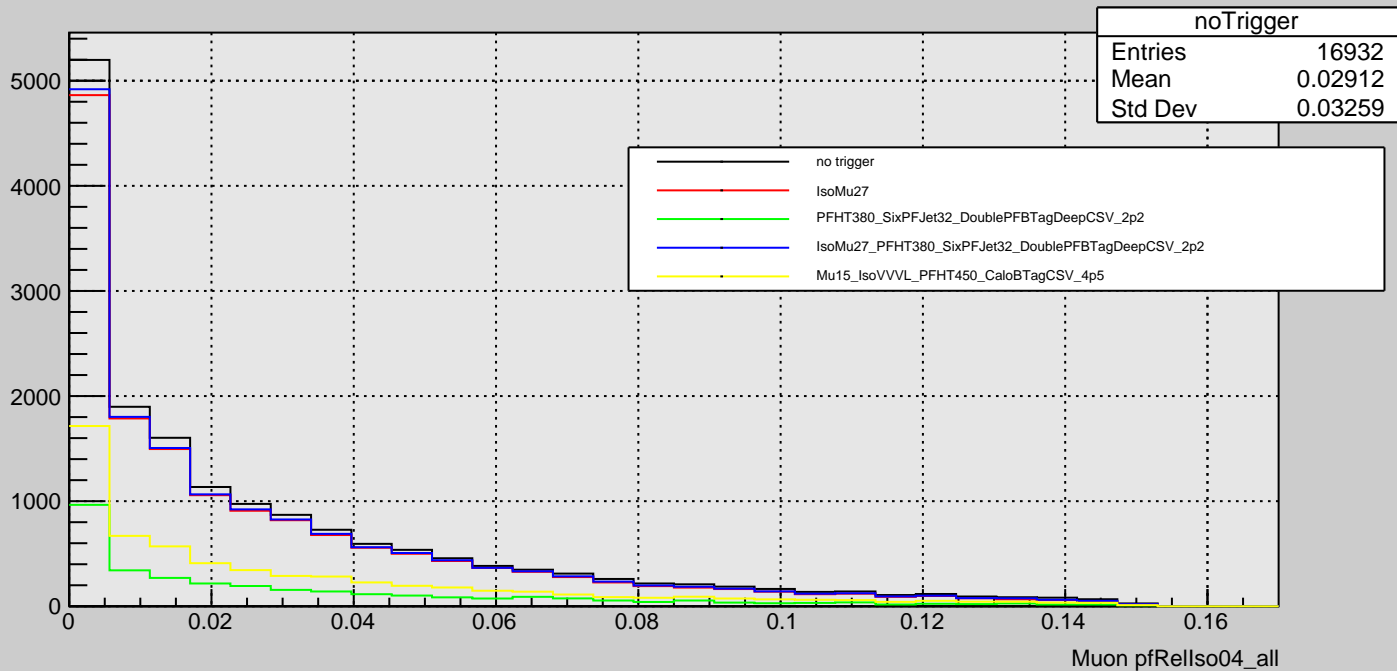
**Muon Pt = 50**



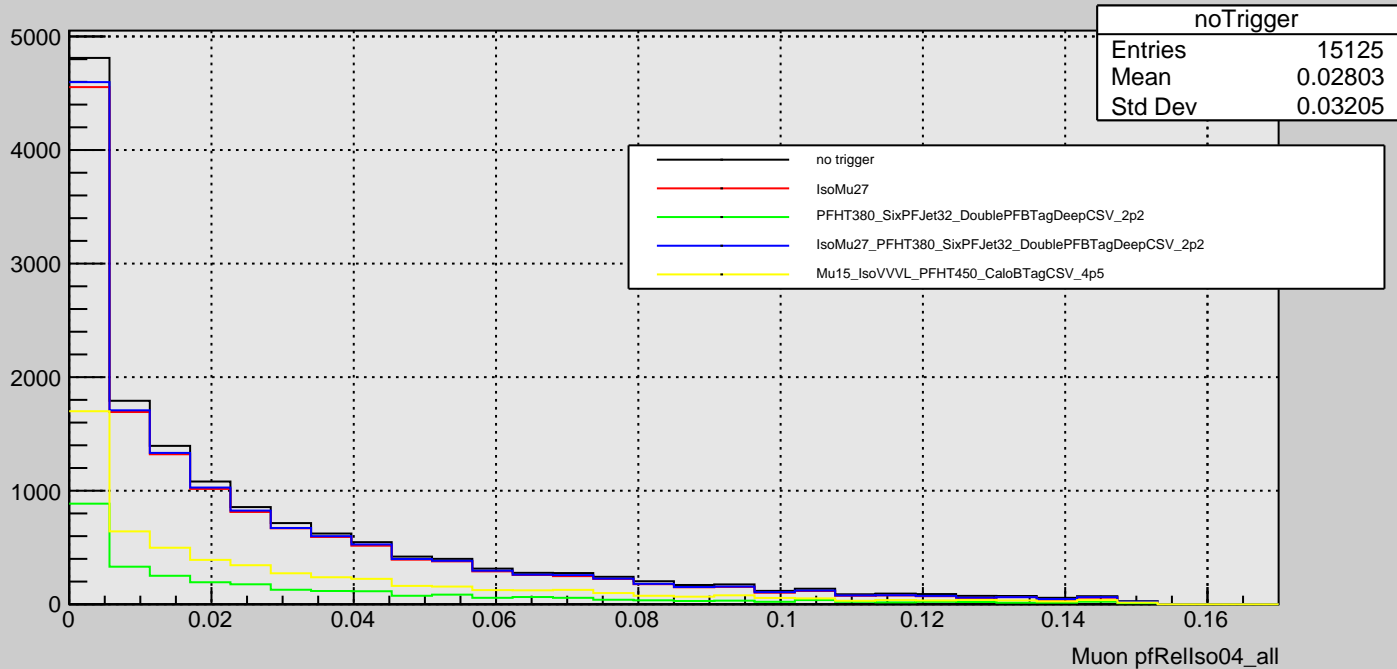
**Muon Pt = 55**



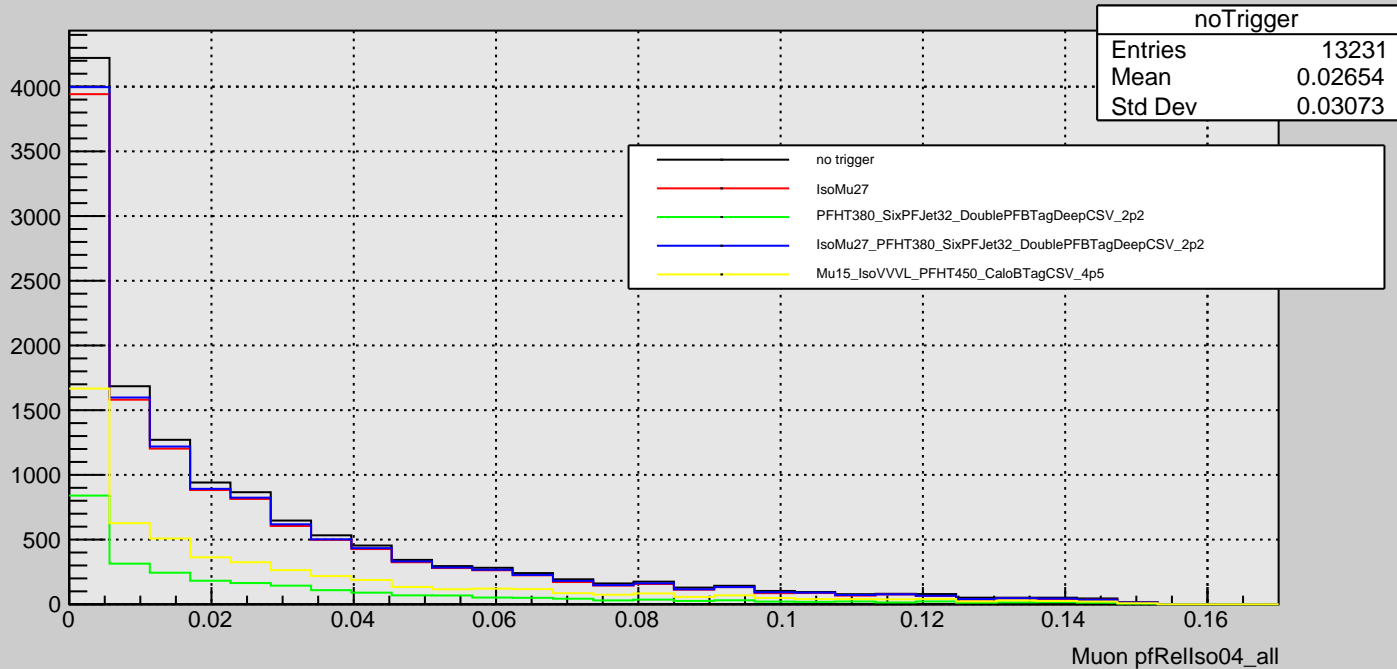
**Muon Pt = 60**



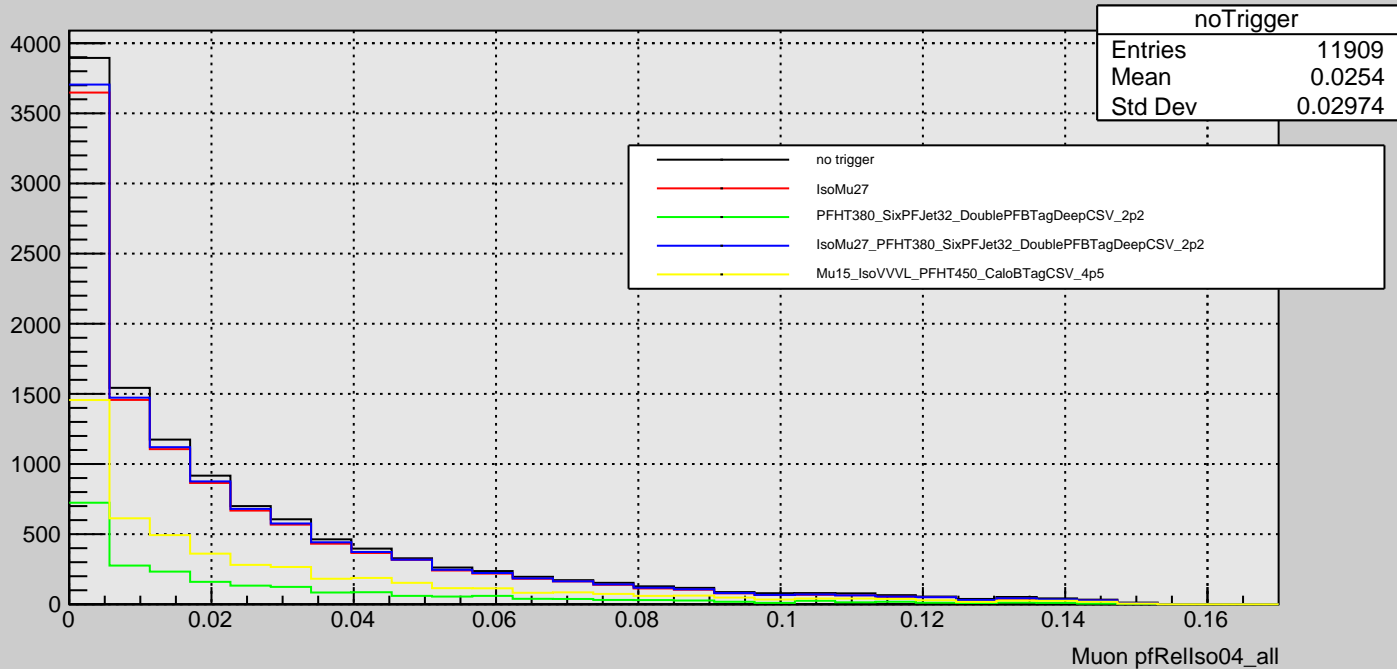
**Muon Pt = 65**



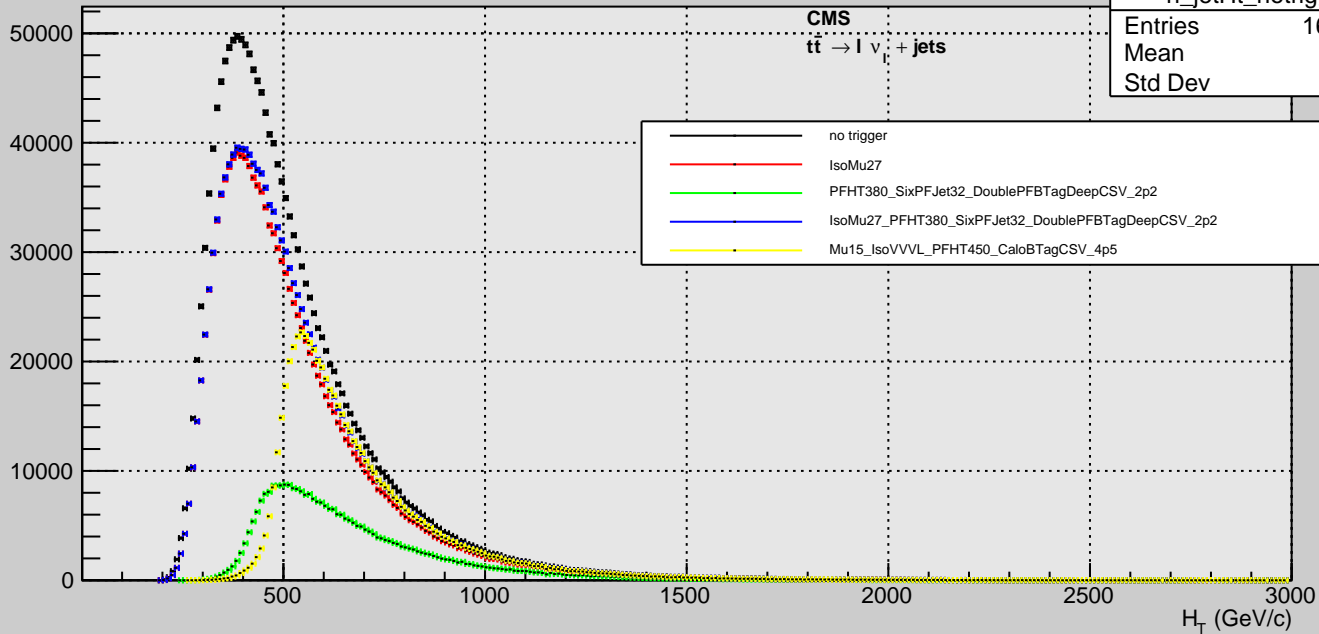
**Muon Pt = 70**



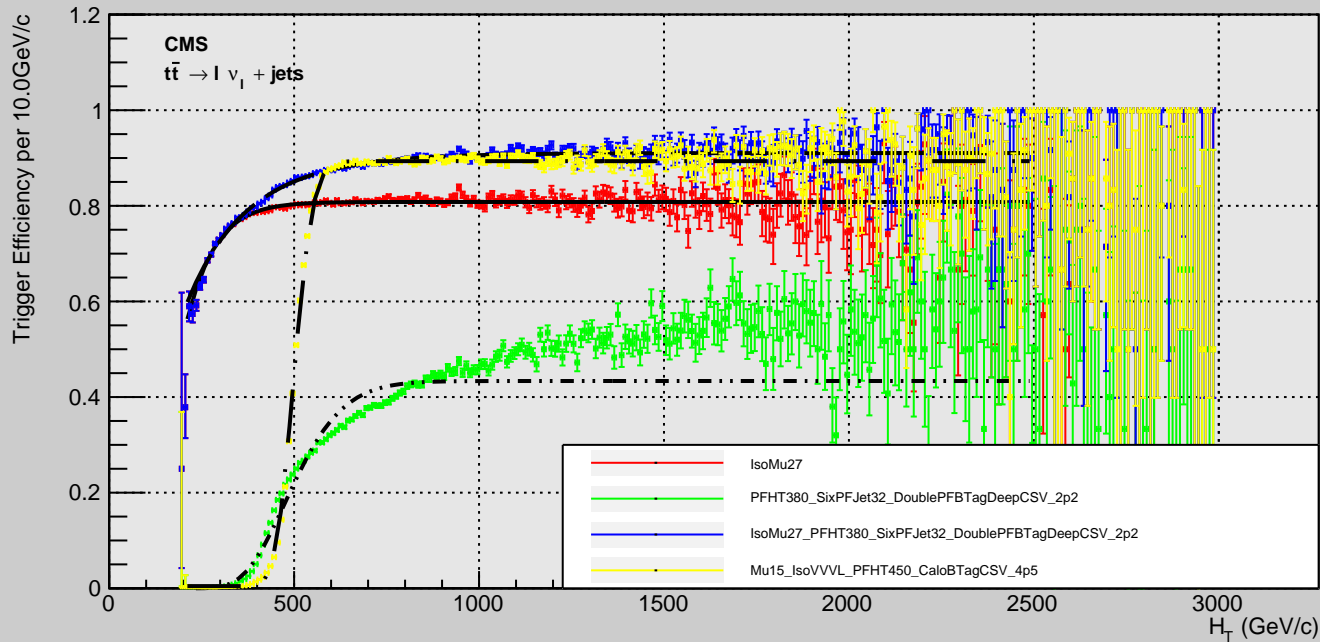
**Muon Pt = 75**



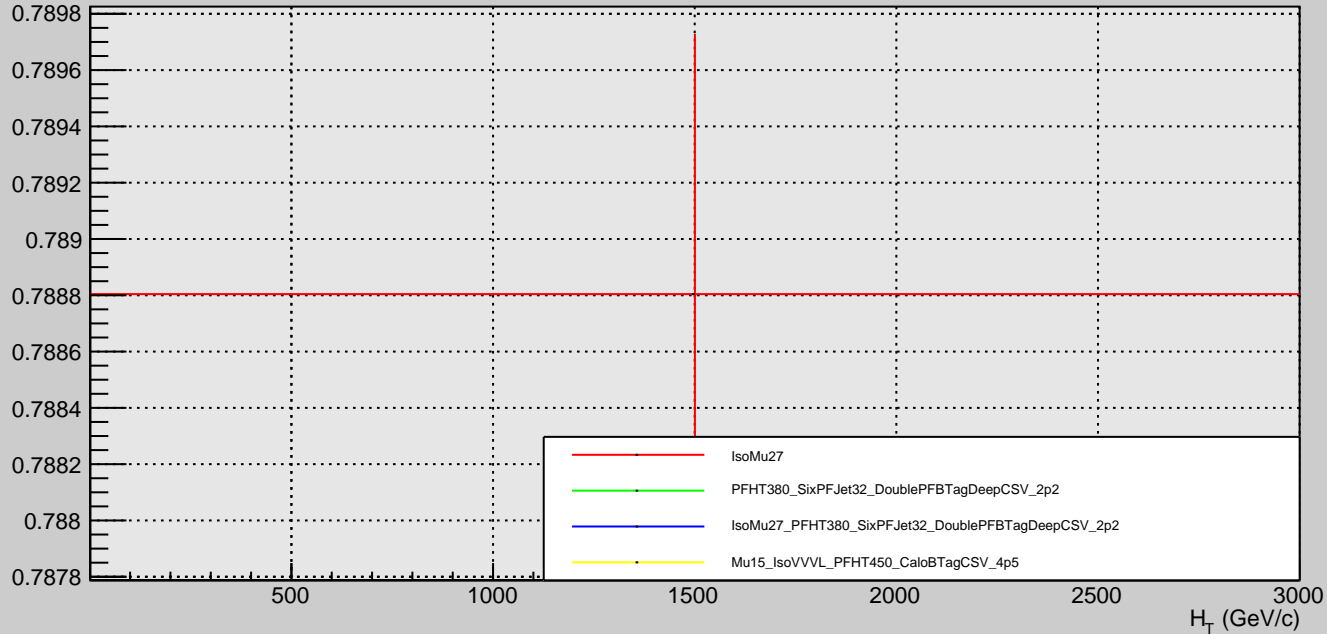
Number of Events per 10 GeV/c

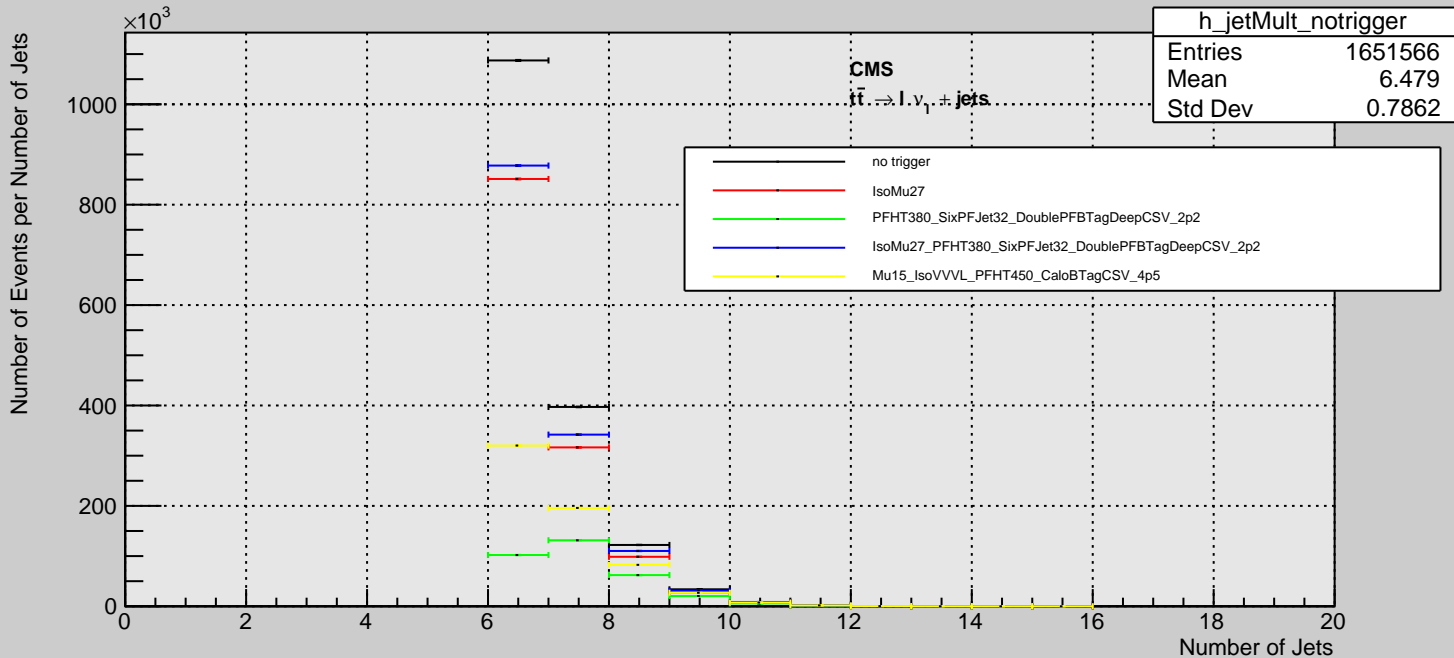


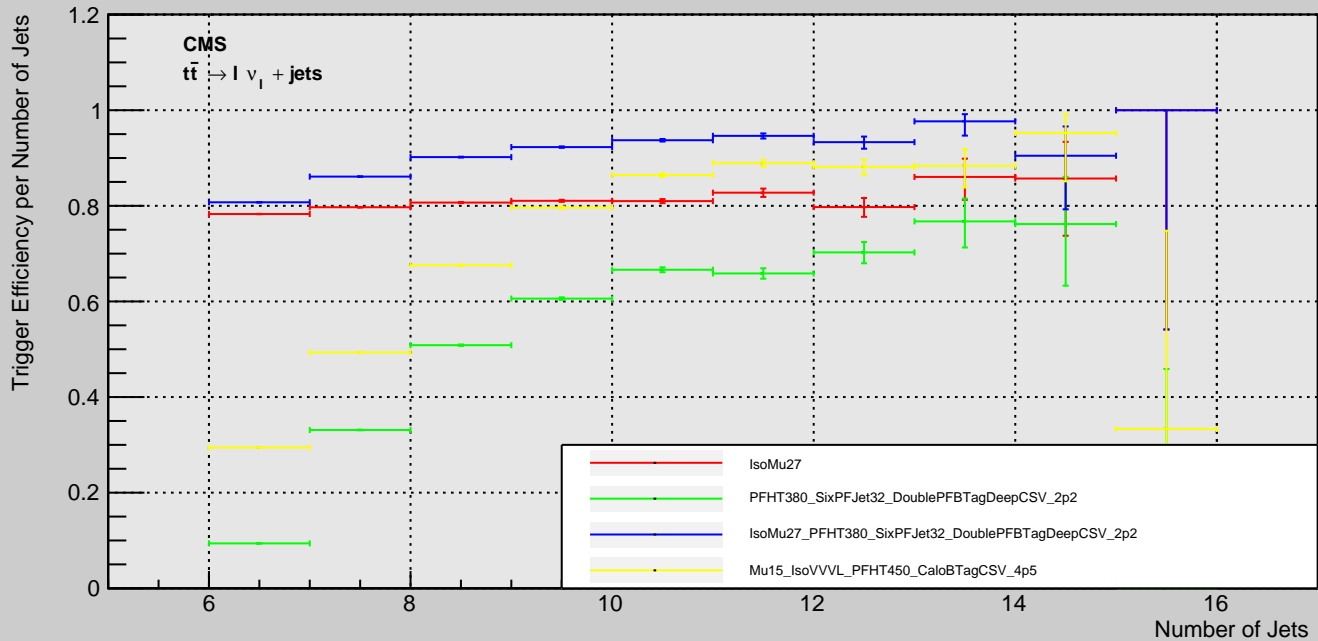


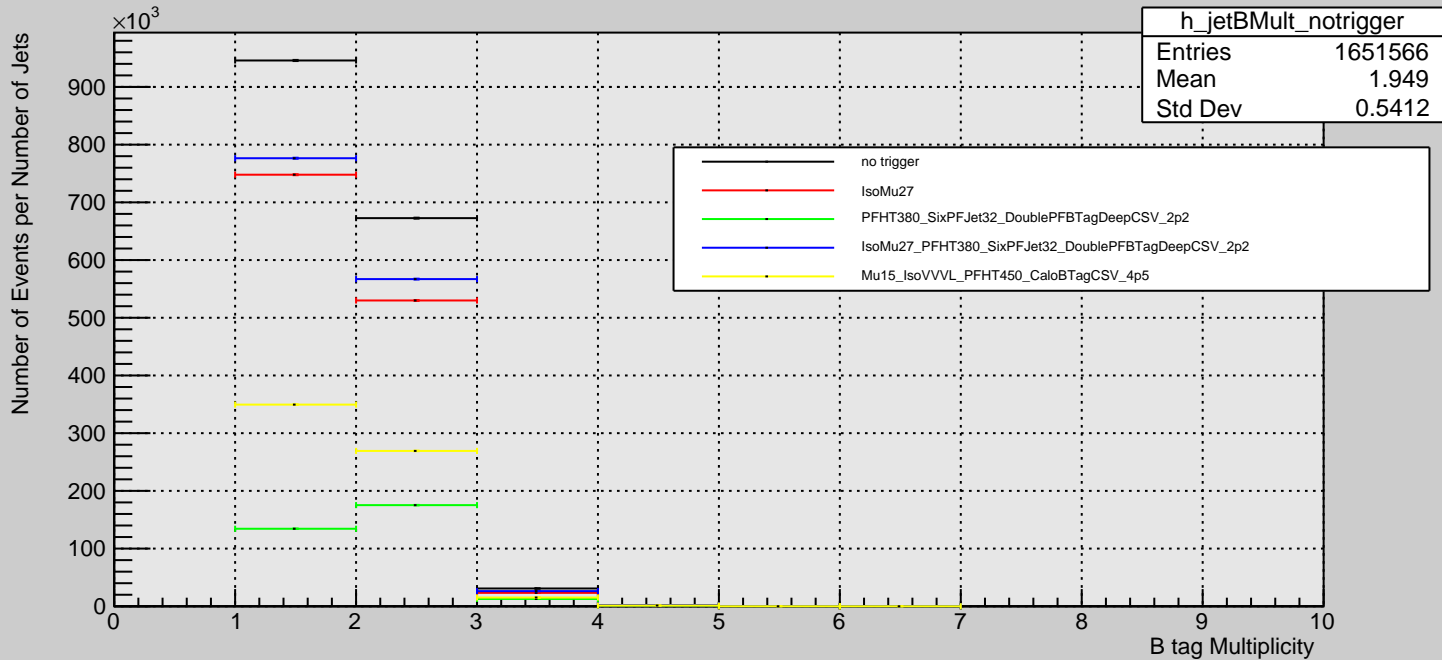


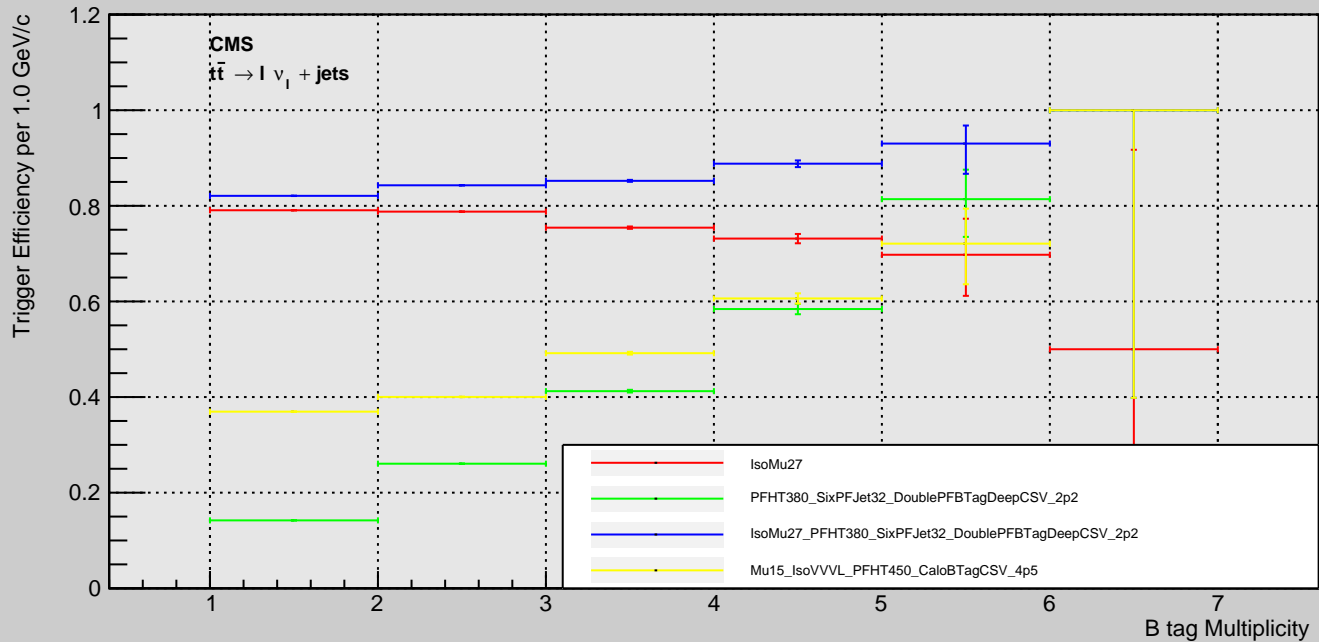
Trigger Efficiency per 2999.0 GeV/c

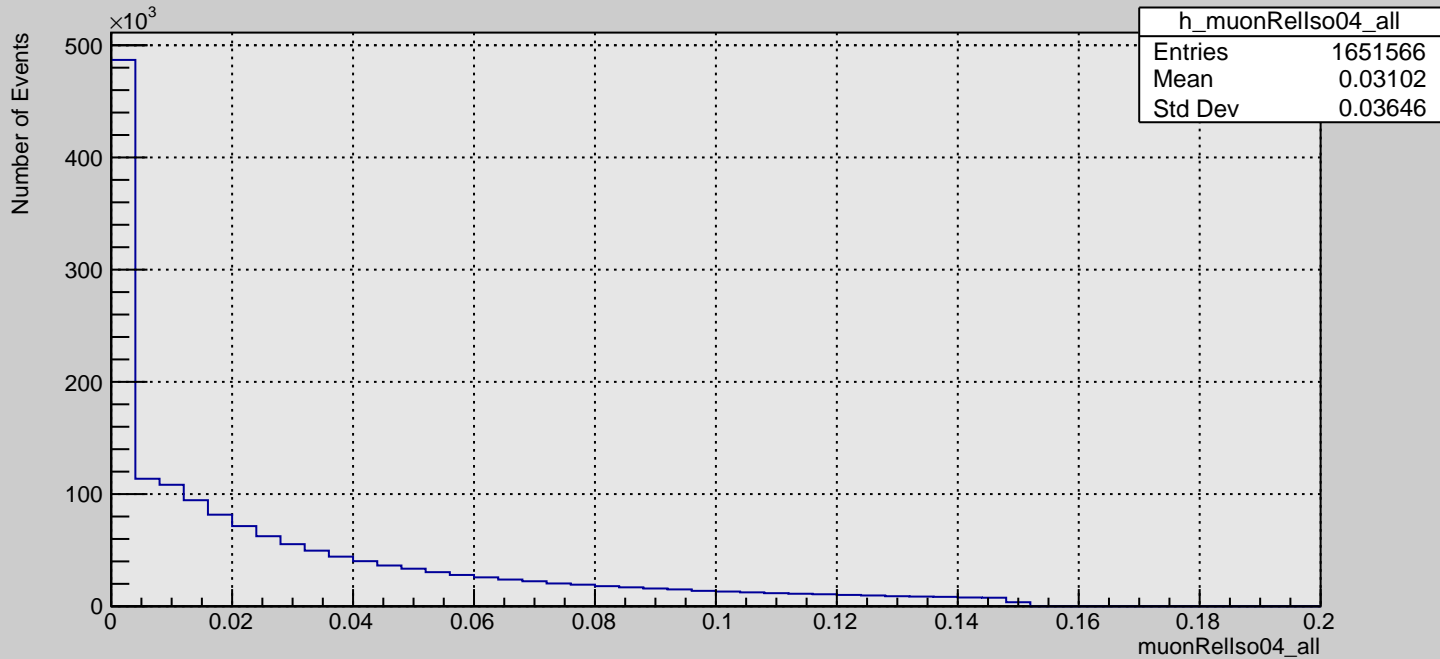






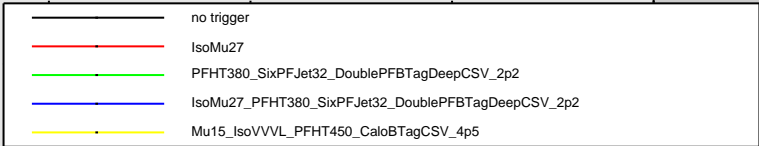




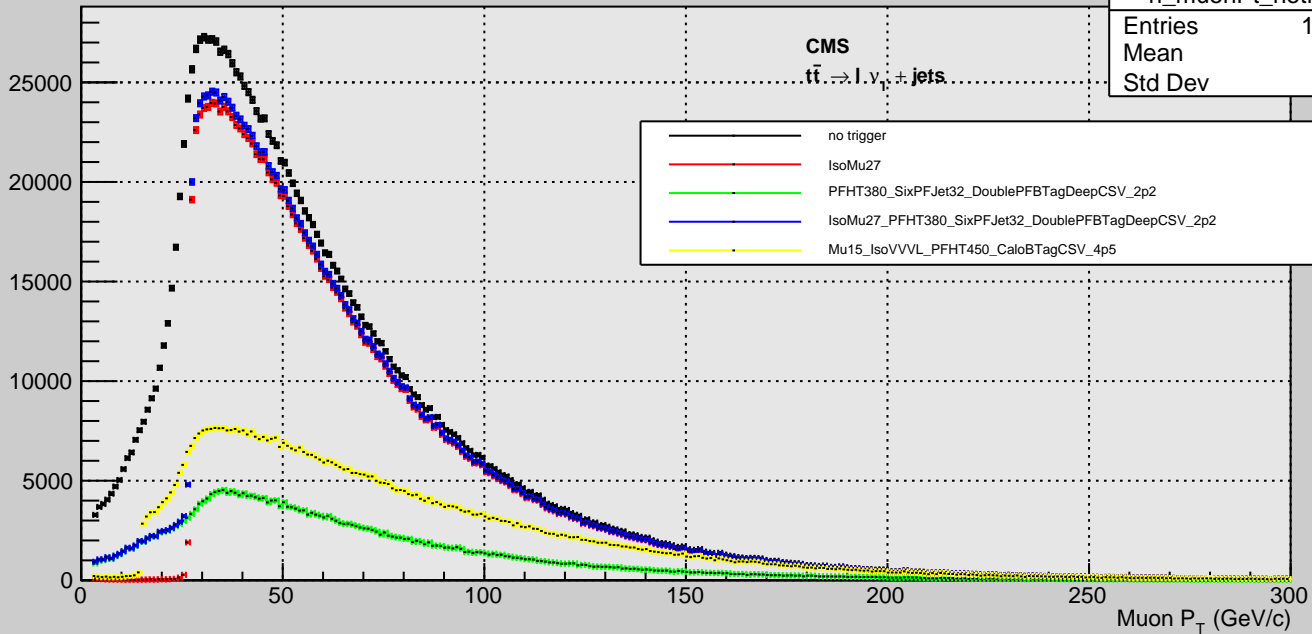


h_muonPt_notrigger	
Entries	1651566
Mean	61.59
Std Dev	40.53

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

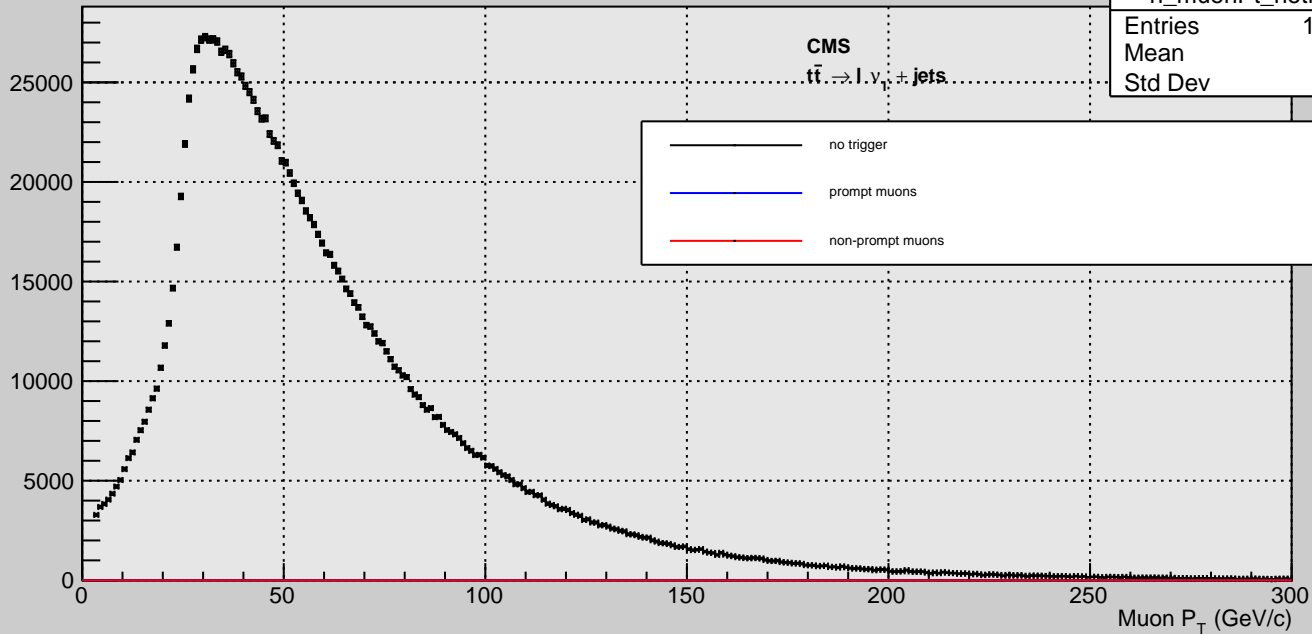


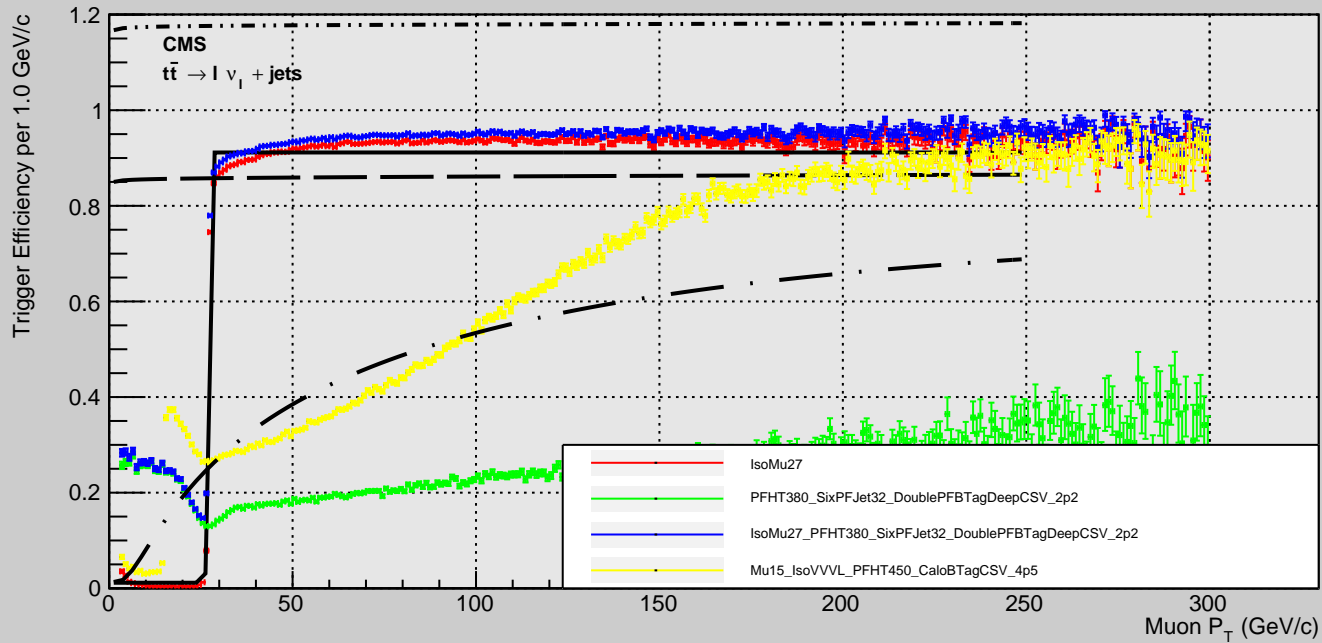
Number of Events per 1 GeV/c

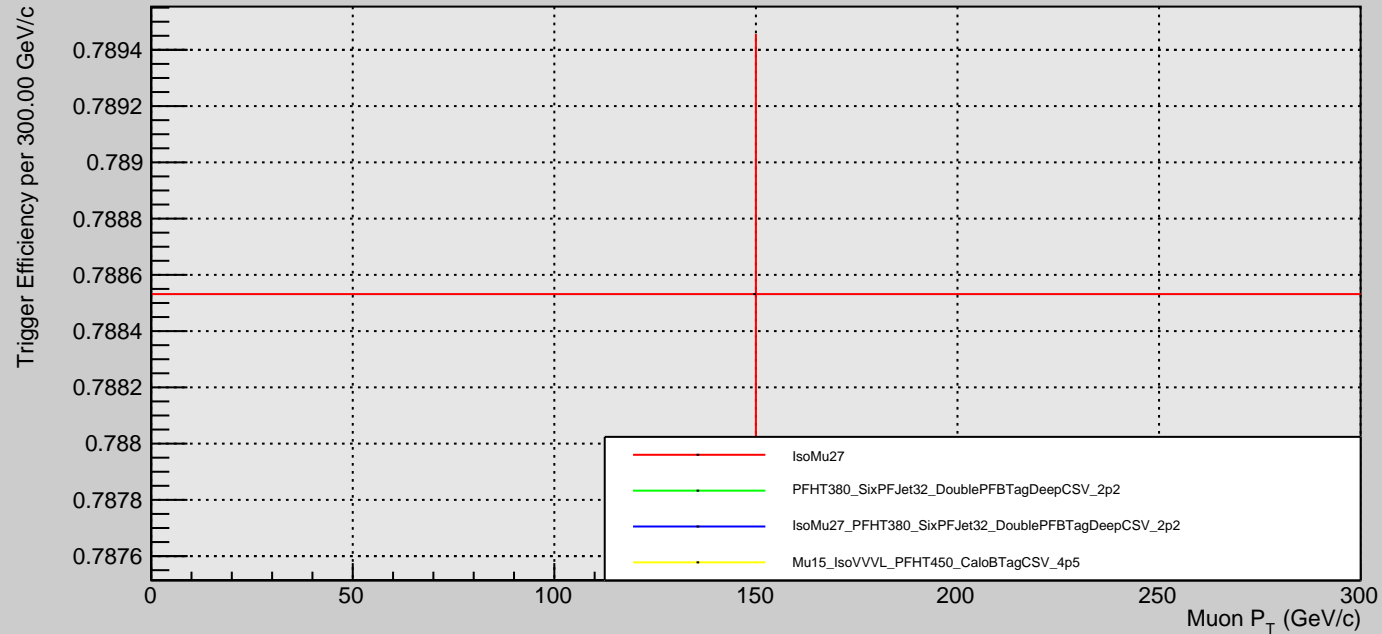




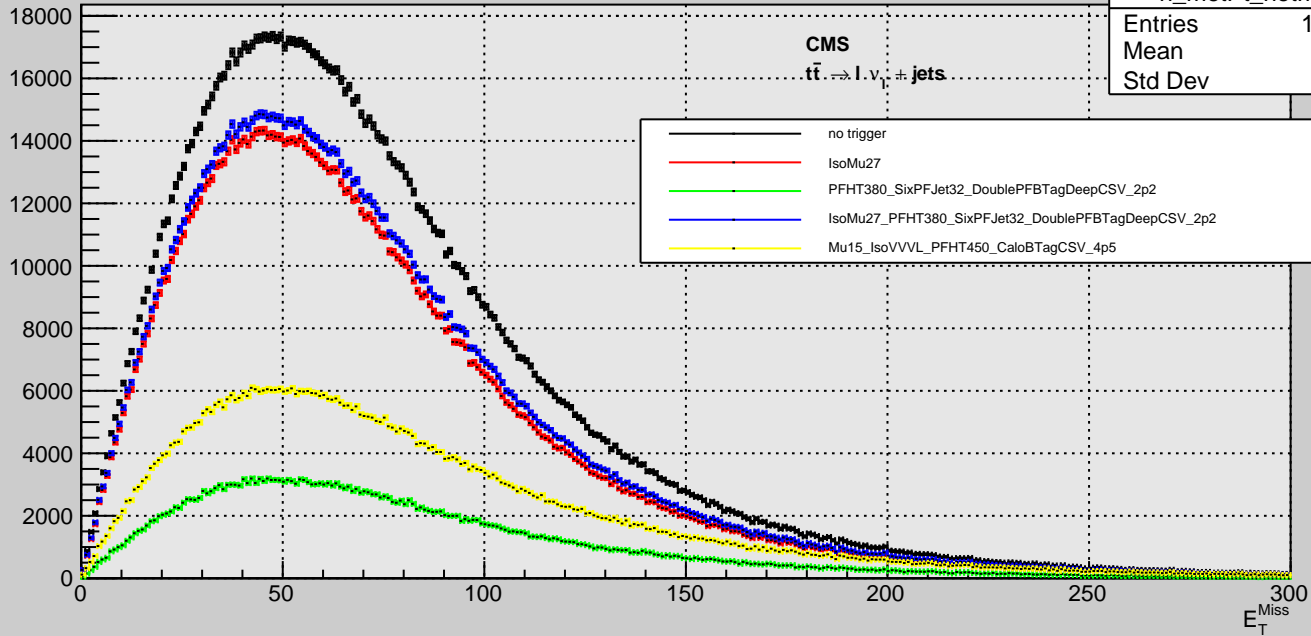
Number of Events per 1 GeV/c





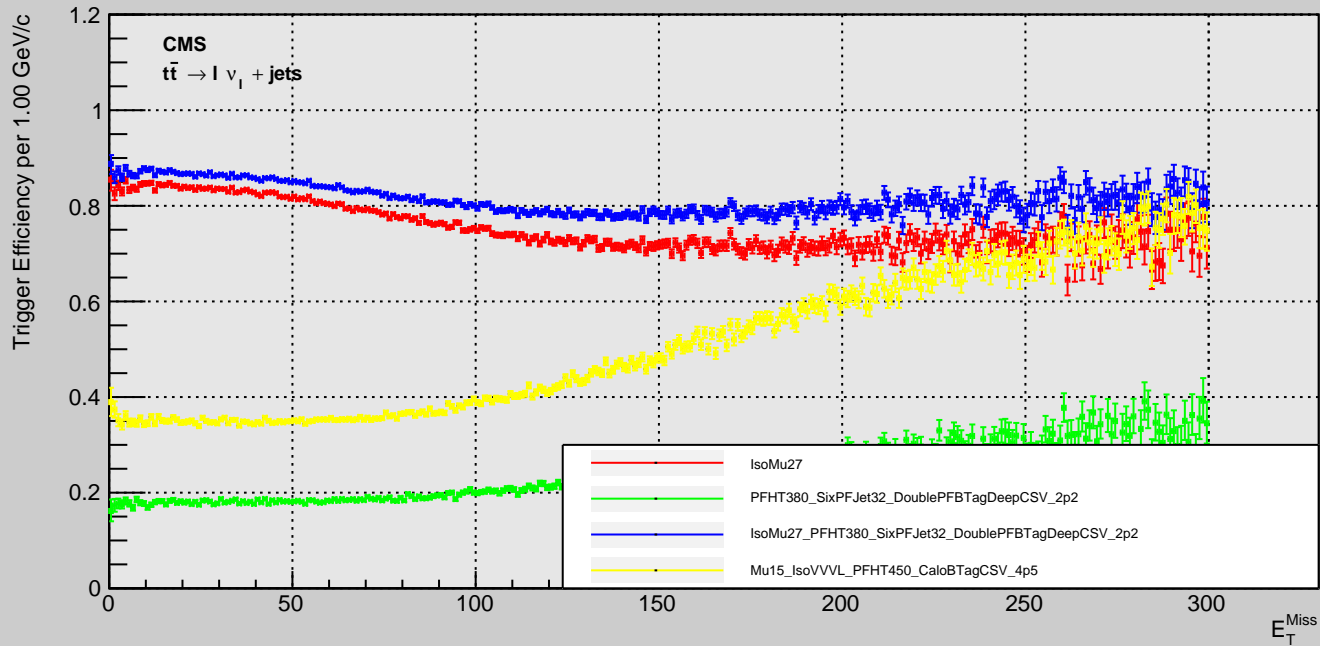


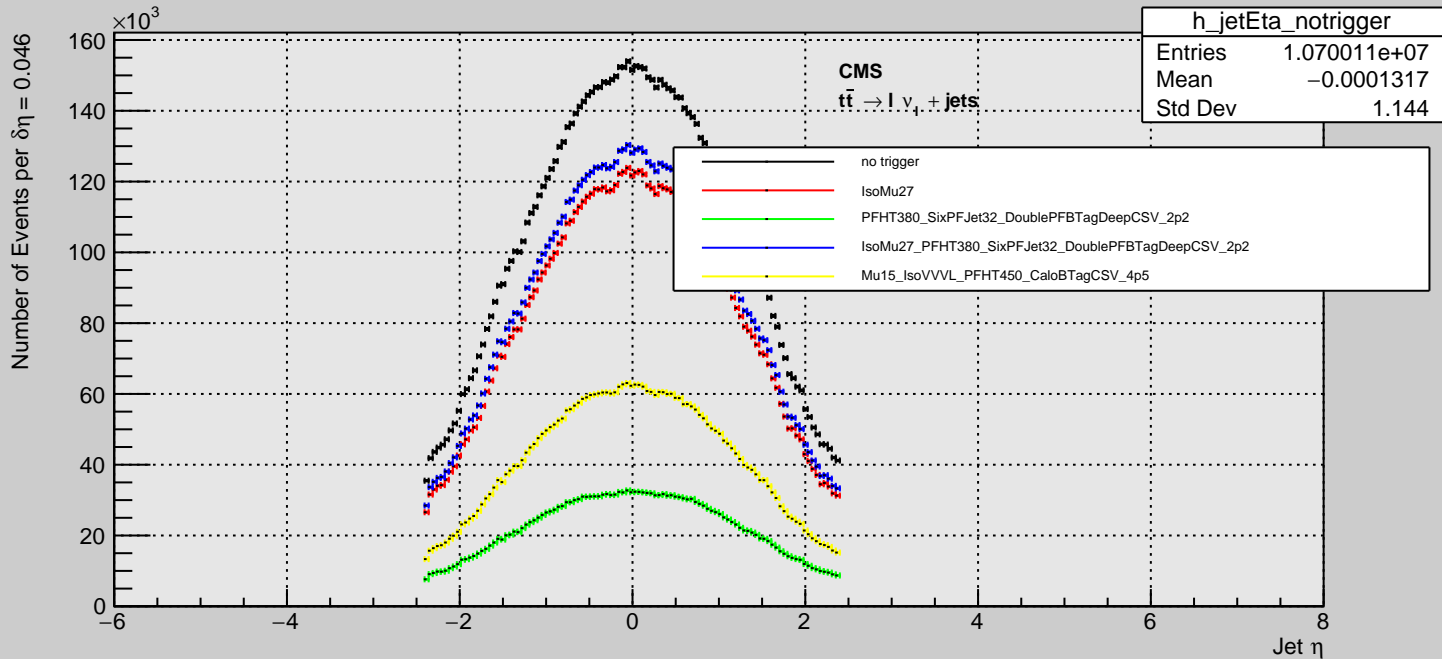
Number of Events per 1 GeV/c



h\_metPt\_notrigger

Entries	1651566
Mean	74.35
Std Dev	47.57





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

