

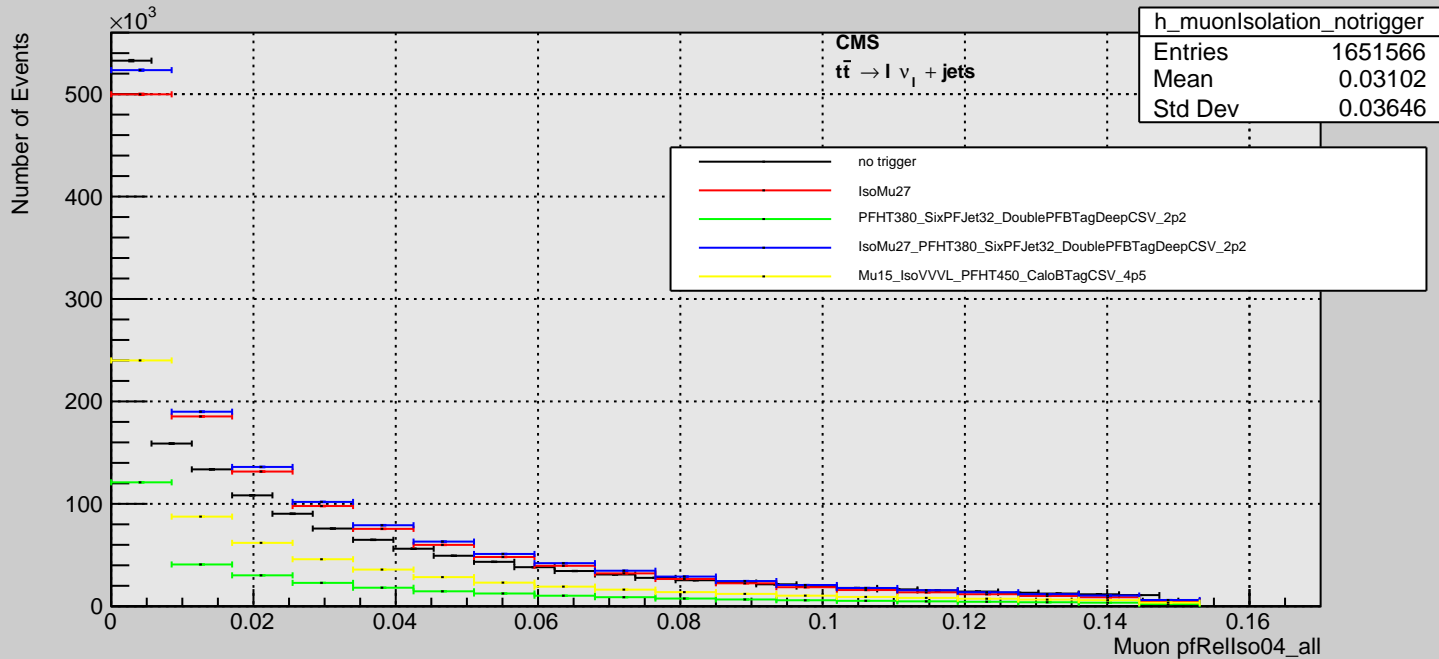
**On-line (pre-)selection Requisites for:**

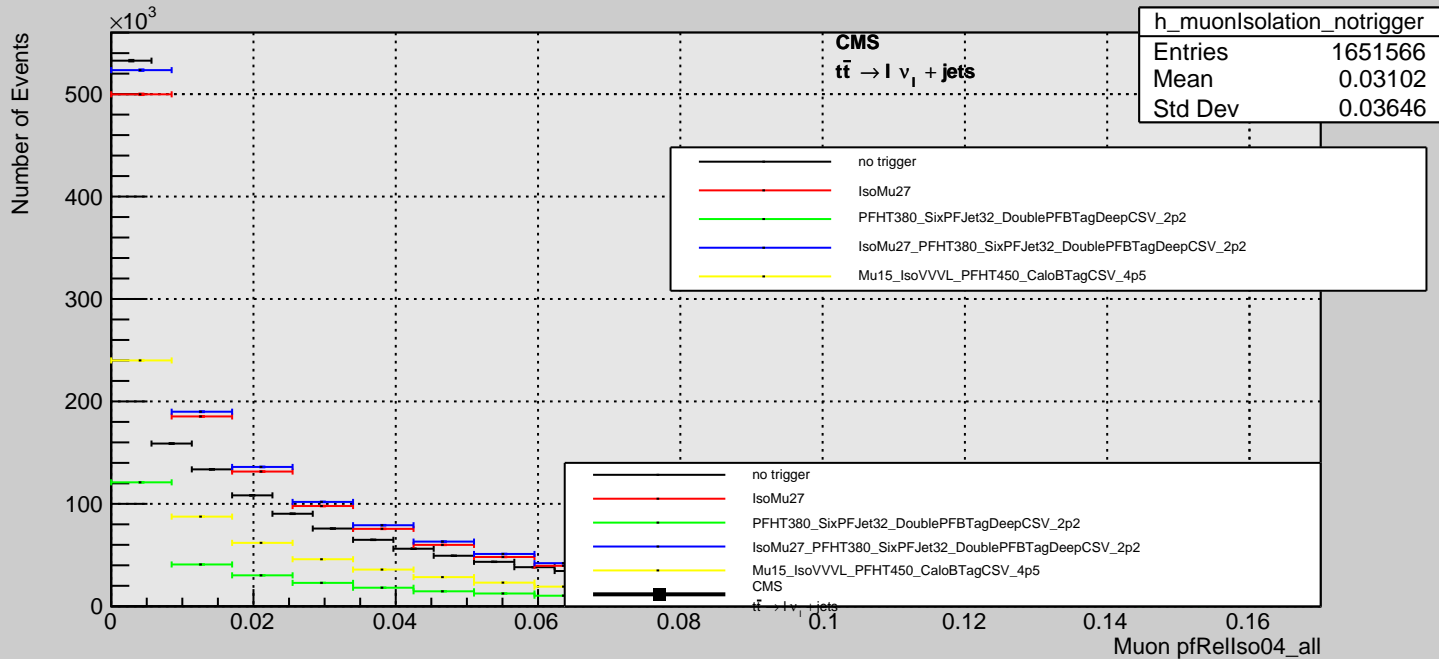
- **Jets:** number  $> 5$
- **Muons plus Electrons:** number  $> 0$

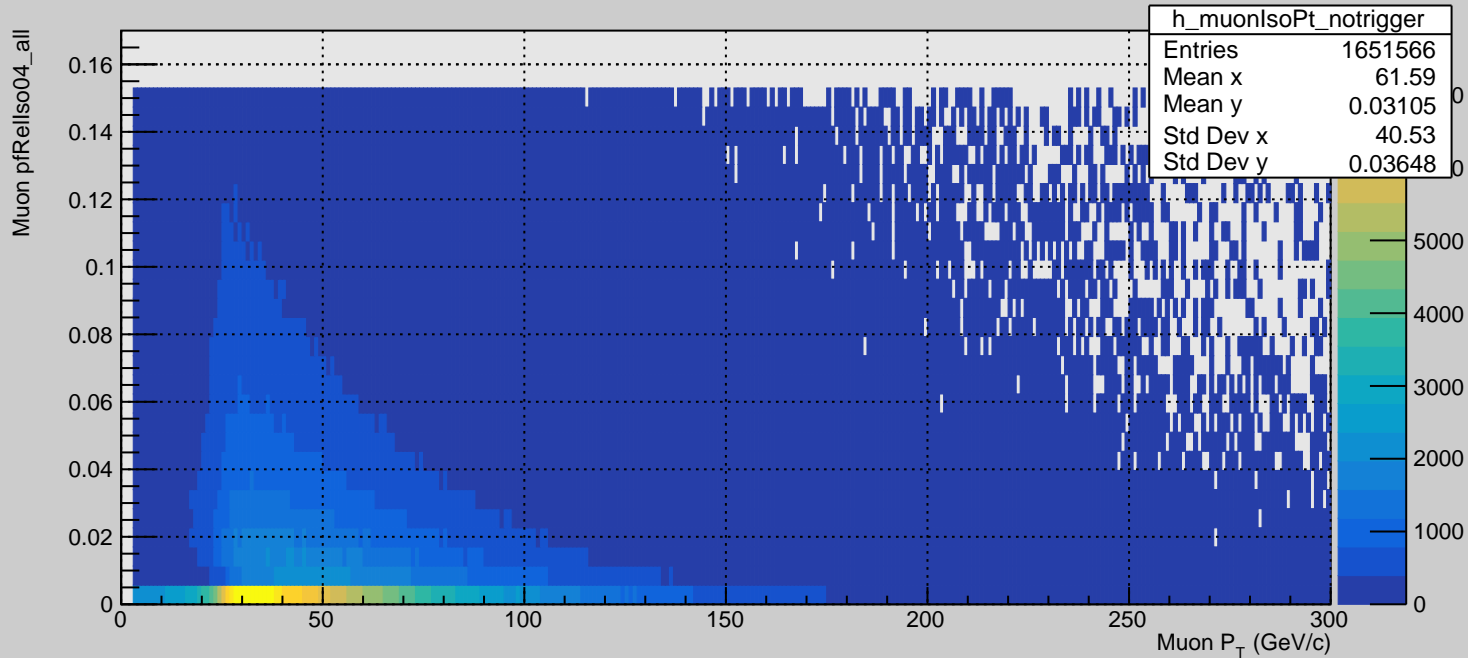
**Event Limit:** None (see last page)

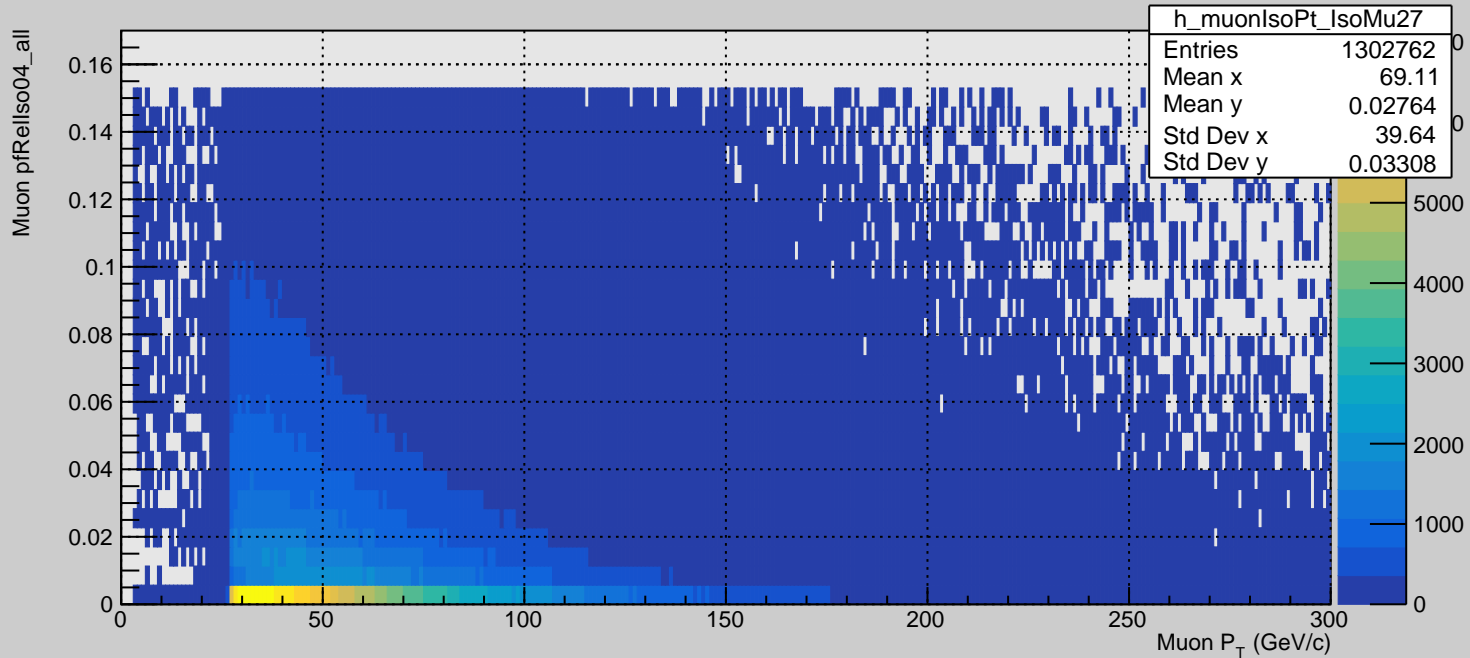
**Off-line (post-)selection Requisites for:**

- **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  $\text{miniPFRellso\_all} < 0.15$  (for at least 1)



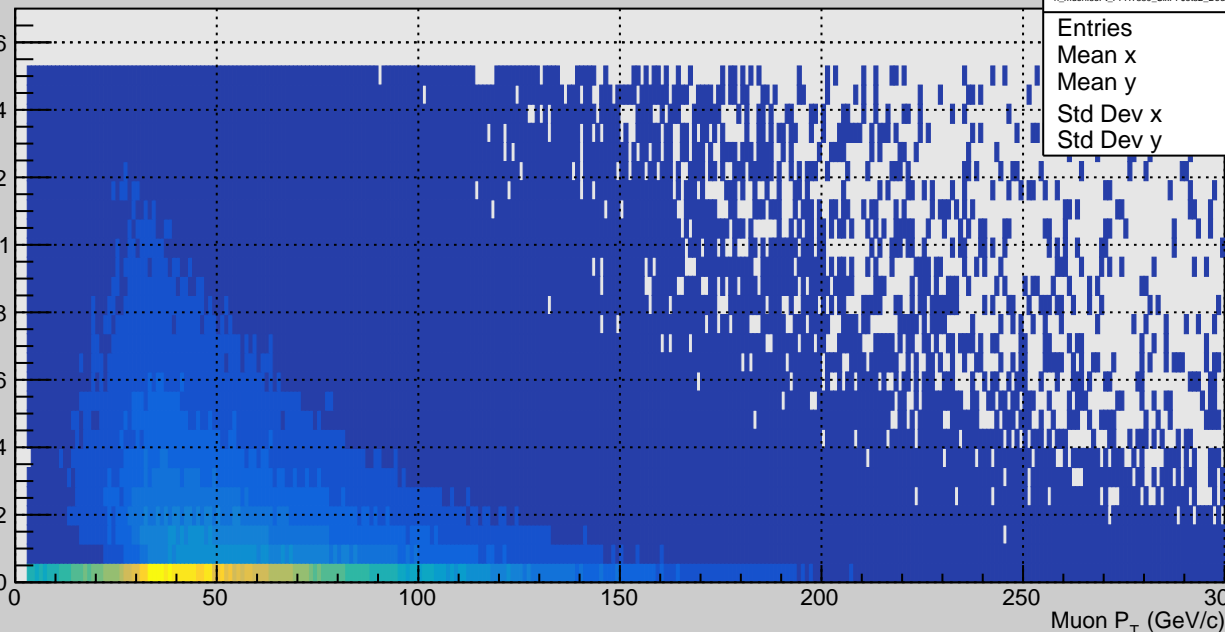






Muon pRelIso04\_all

0.16  
0.14  
0.12  
0.1  
0.08  
0.06  
0.04  
0.02  
0



h\_muonIsoPt\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

|           |         |
|-----------|---------|
| Entries   | 323677  |
| Mean x    | 67.12   |
| Mean y    | 0.03141 |
| Std Dev x | 45.57   |
| Std Dev y | 0.03697 |

800

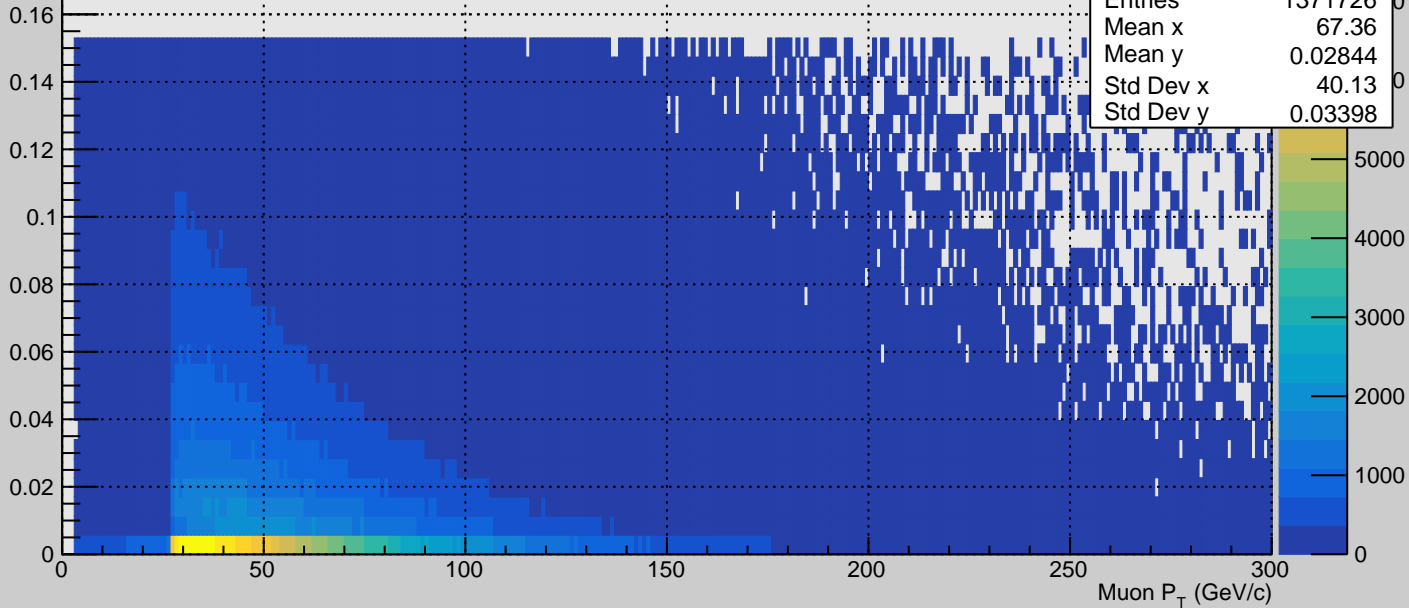
600

400

200

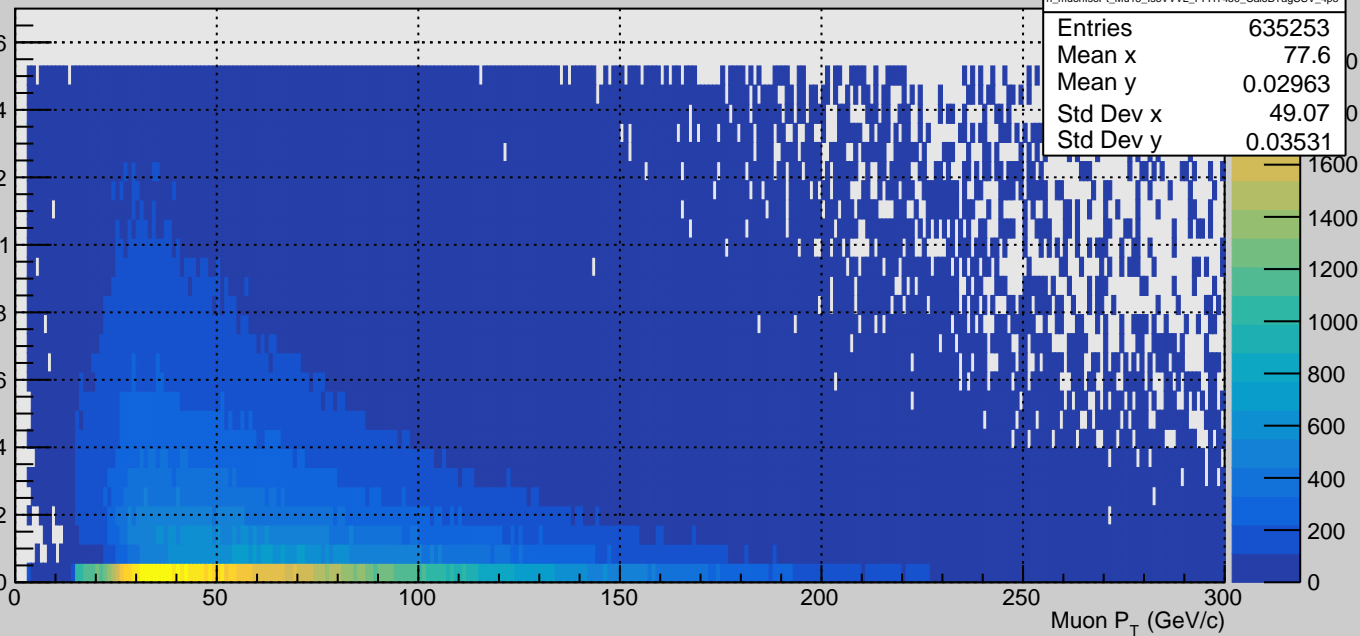
0

Muon pRelIso04\_all



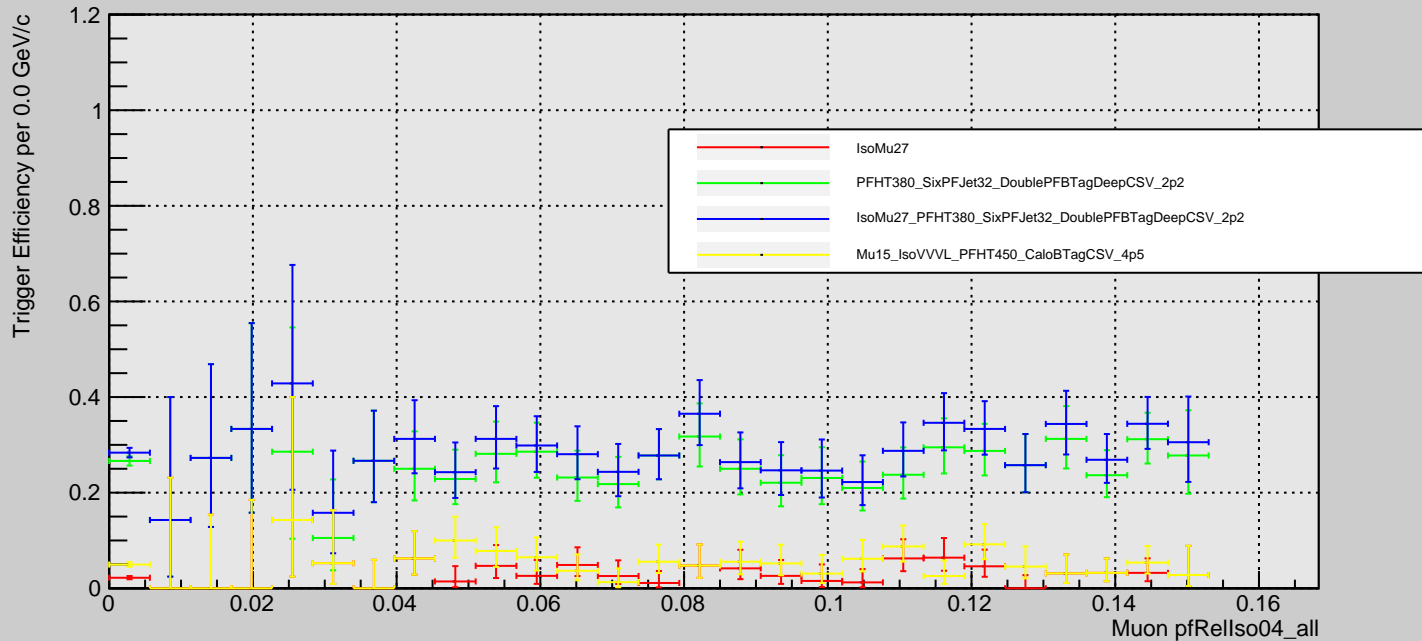
Muon pfRelIso04\_all

0.16  
0.14  
0.12  
0.1  
0.08  
0.06  
0.04  
0.02  
0

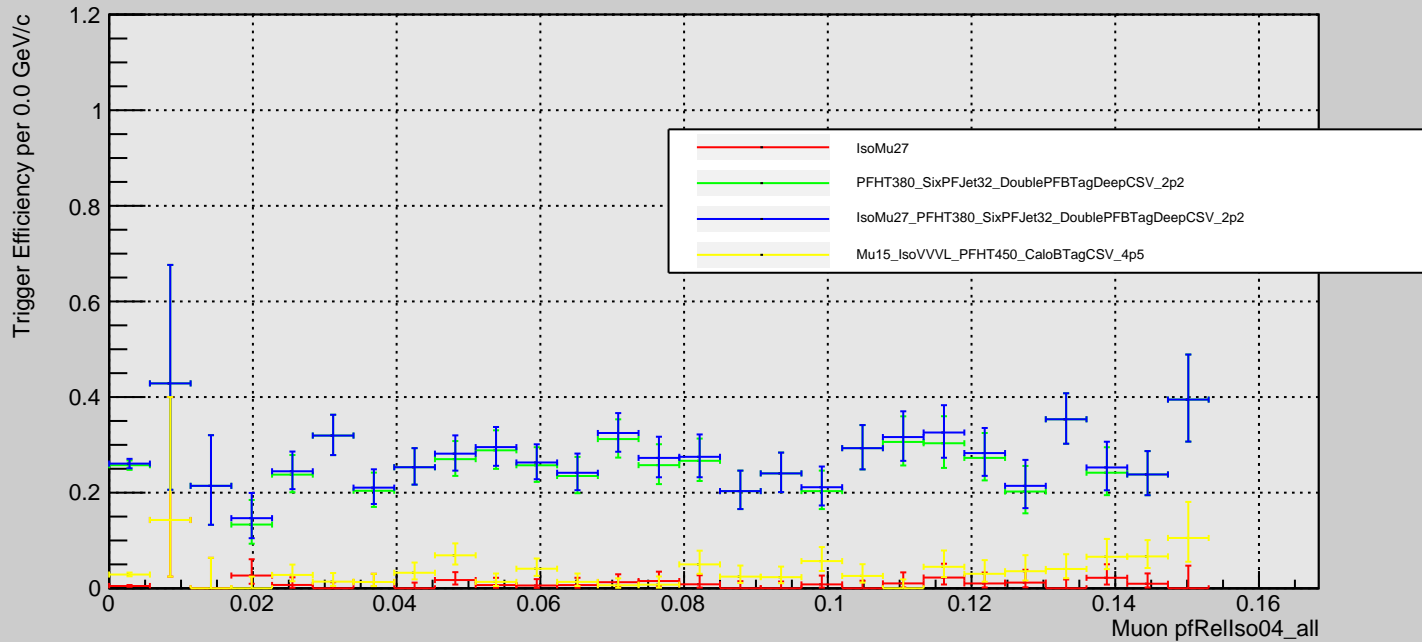




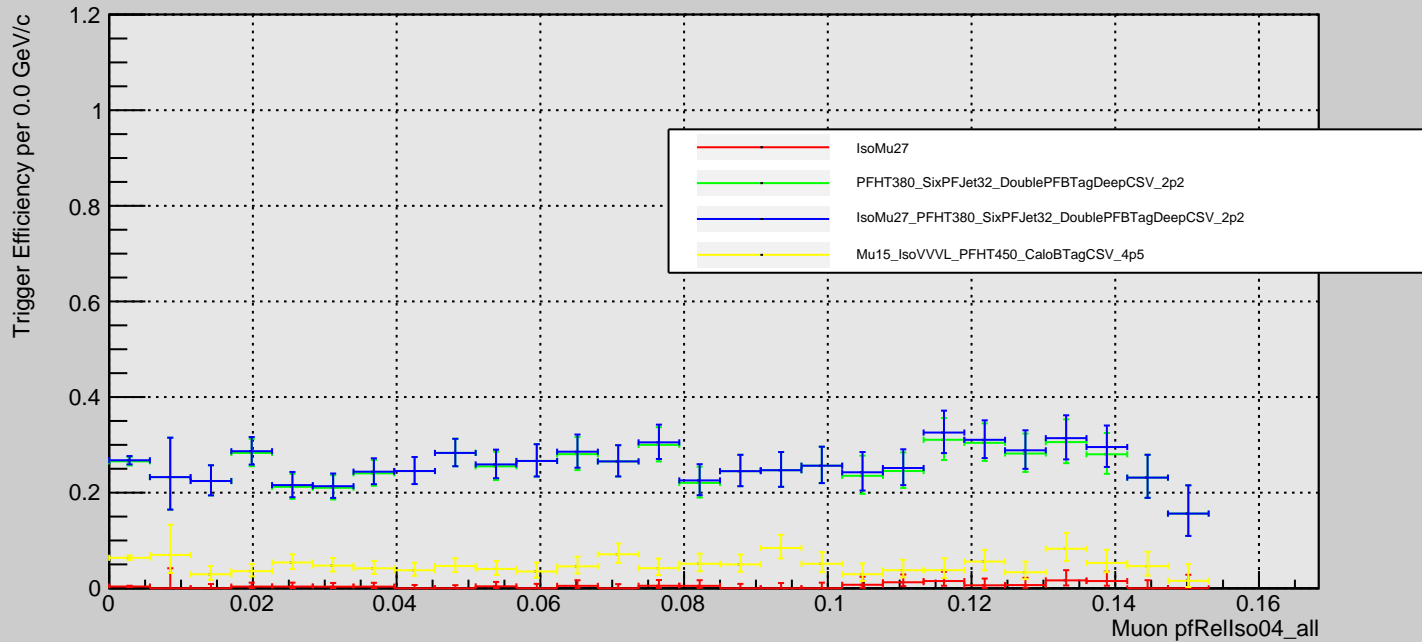
**Muon Pt = 5**



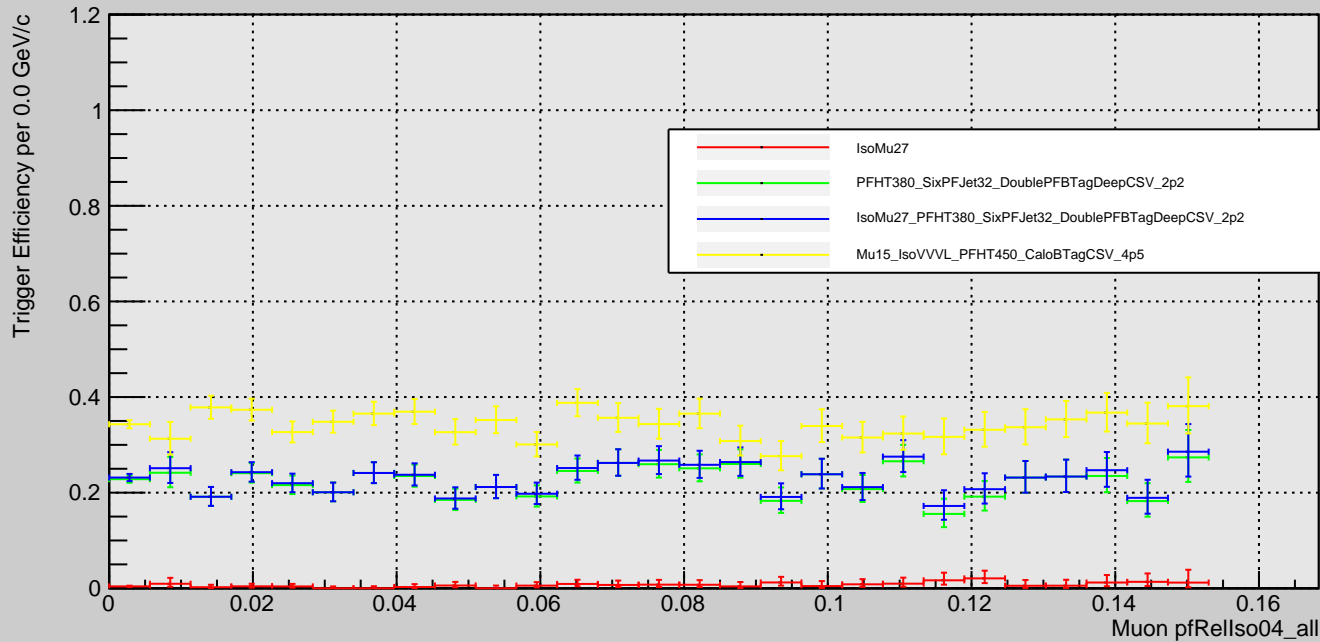
**Muon Pt = 10**



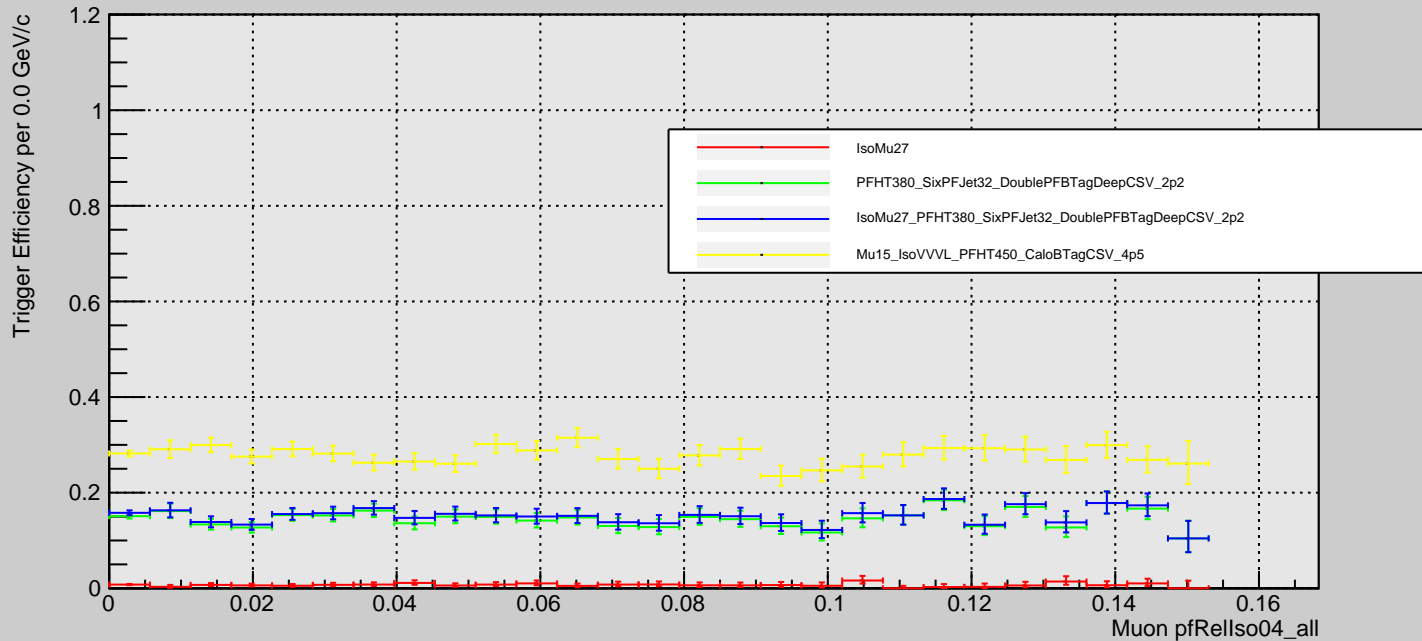
**Muon Pt = 15**



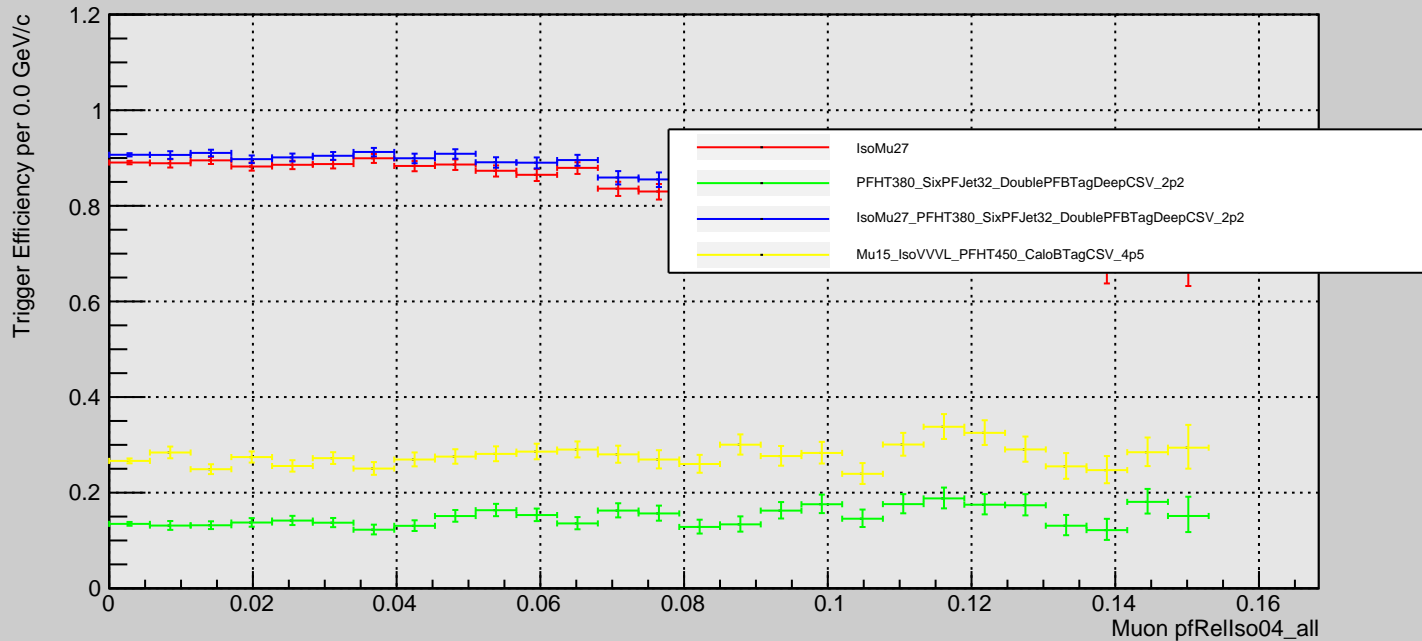
**Muon Pt = 20**



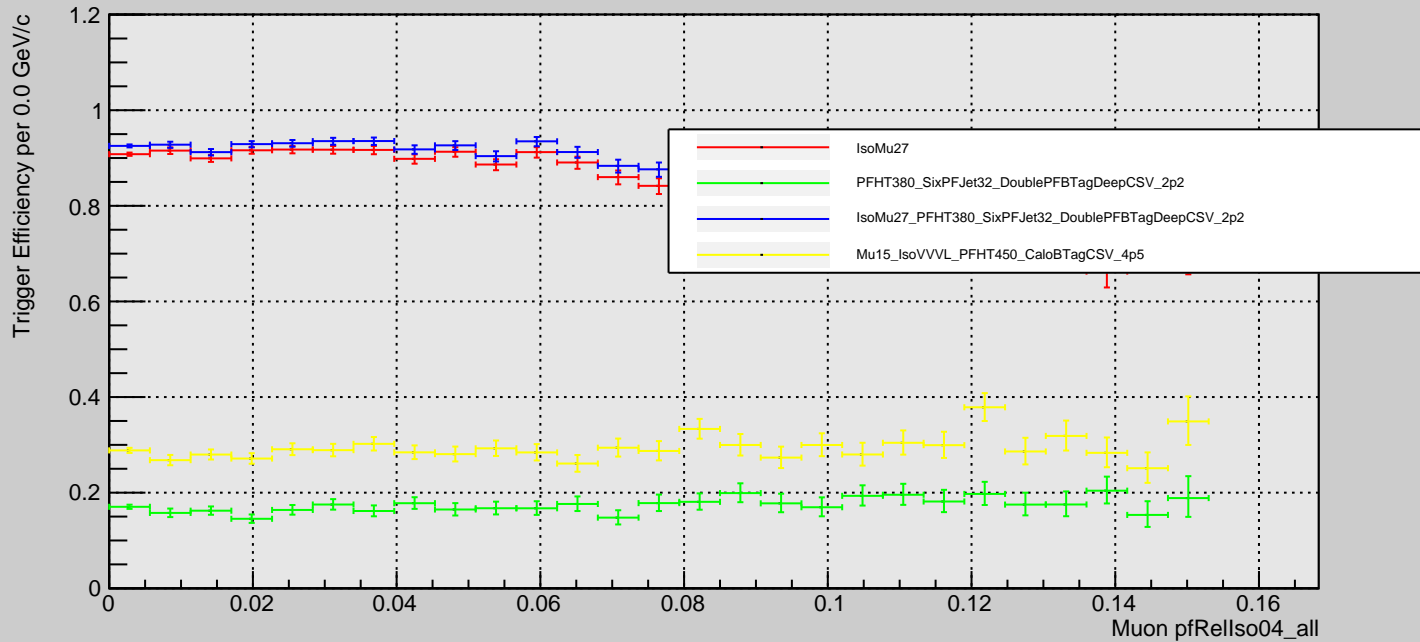
**Muon Pt = 25**



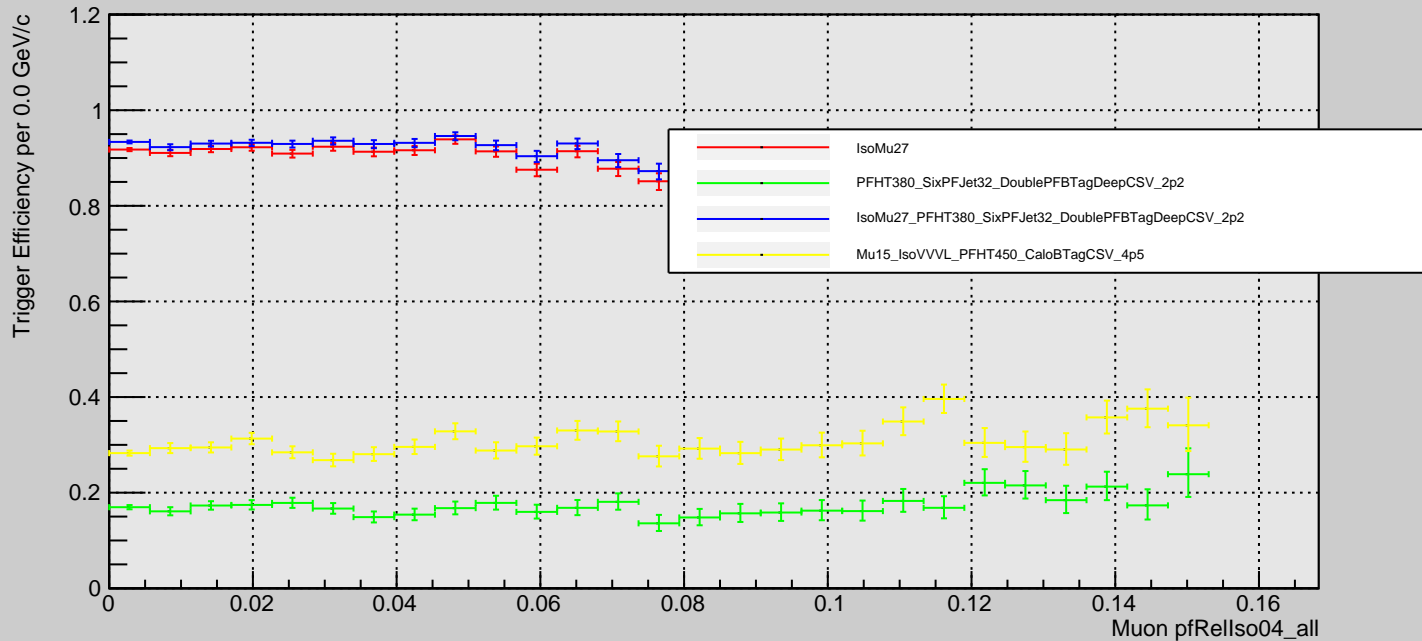
**Muon Pt = 30**



**Muon Pt = 35**

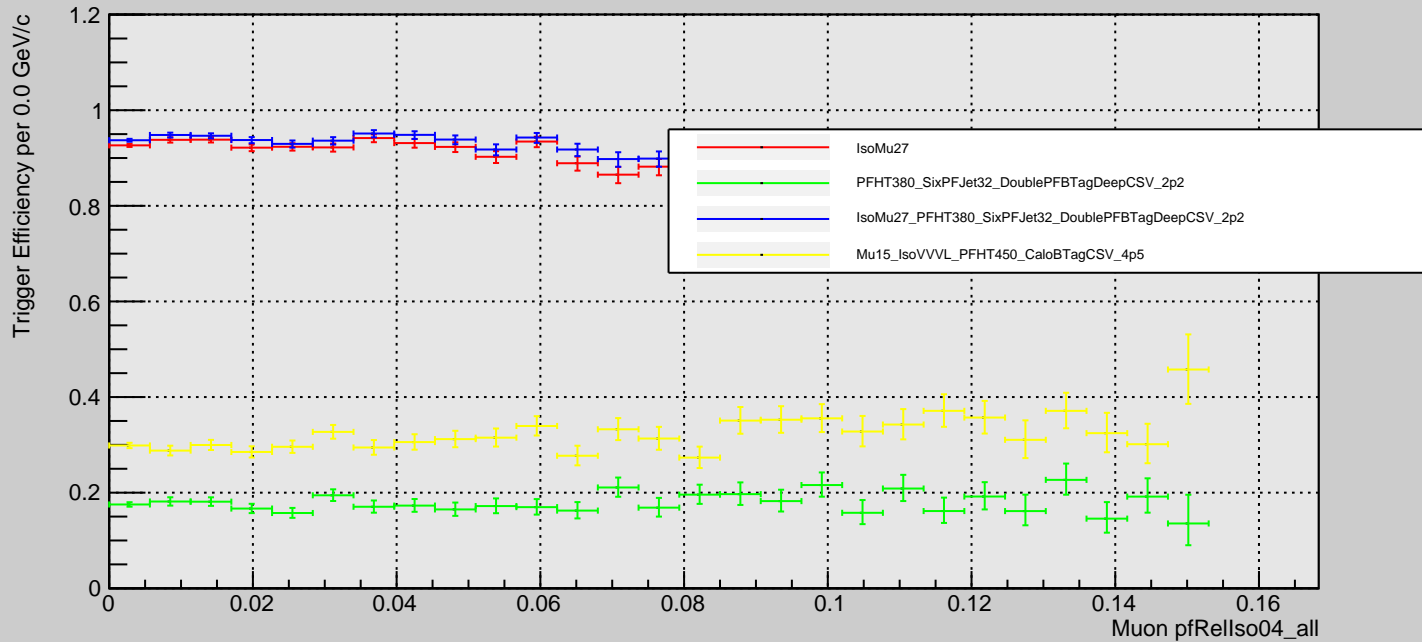


**Muon Pt = 40**

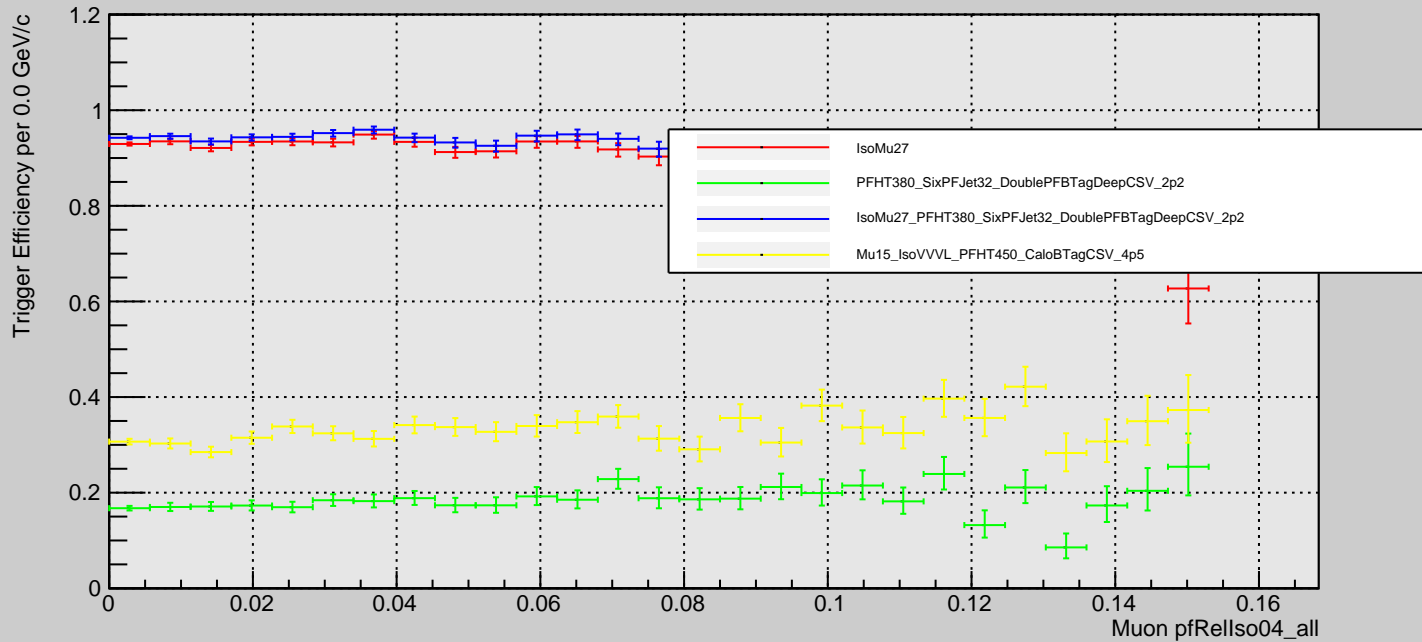




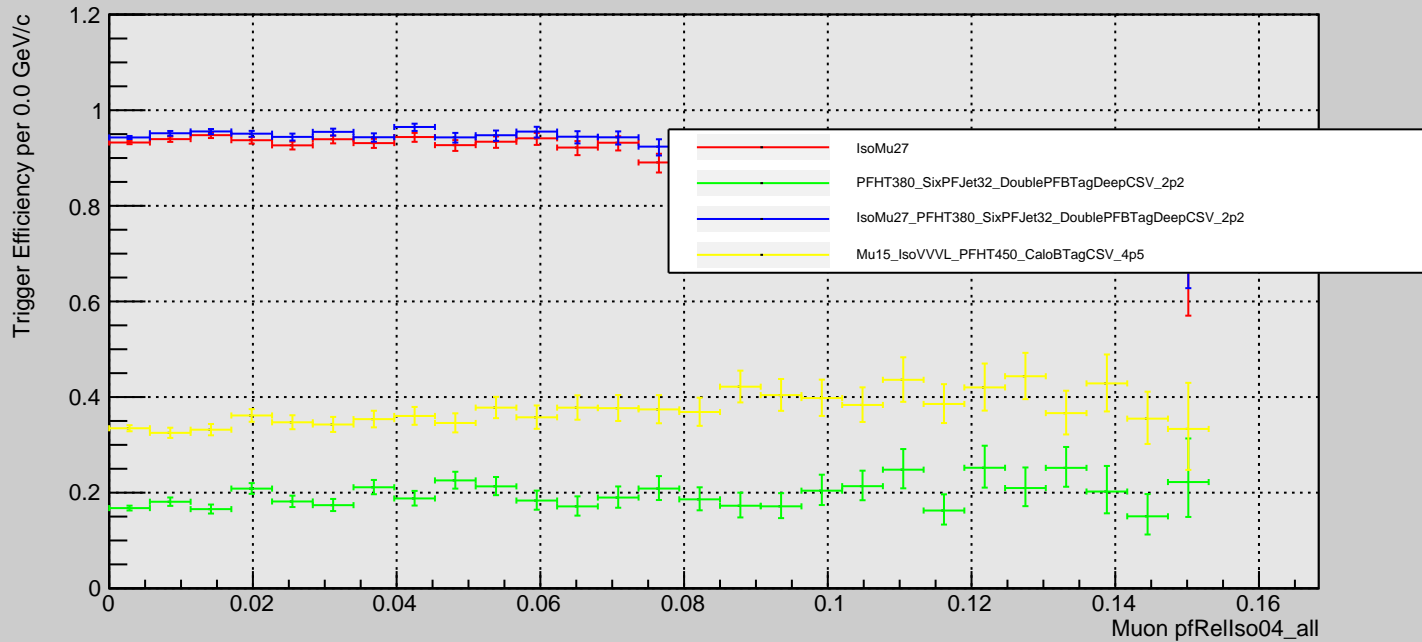
**Muon Pt = 45**



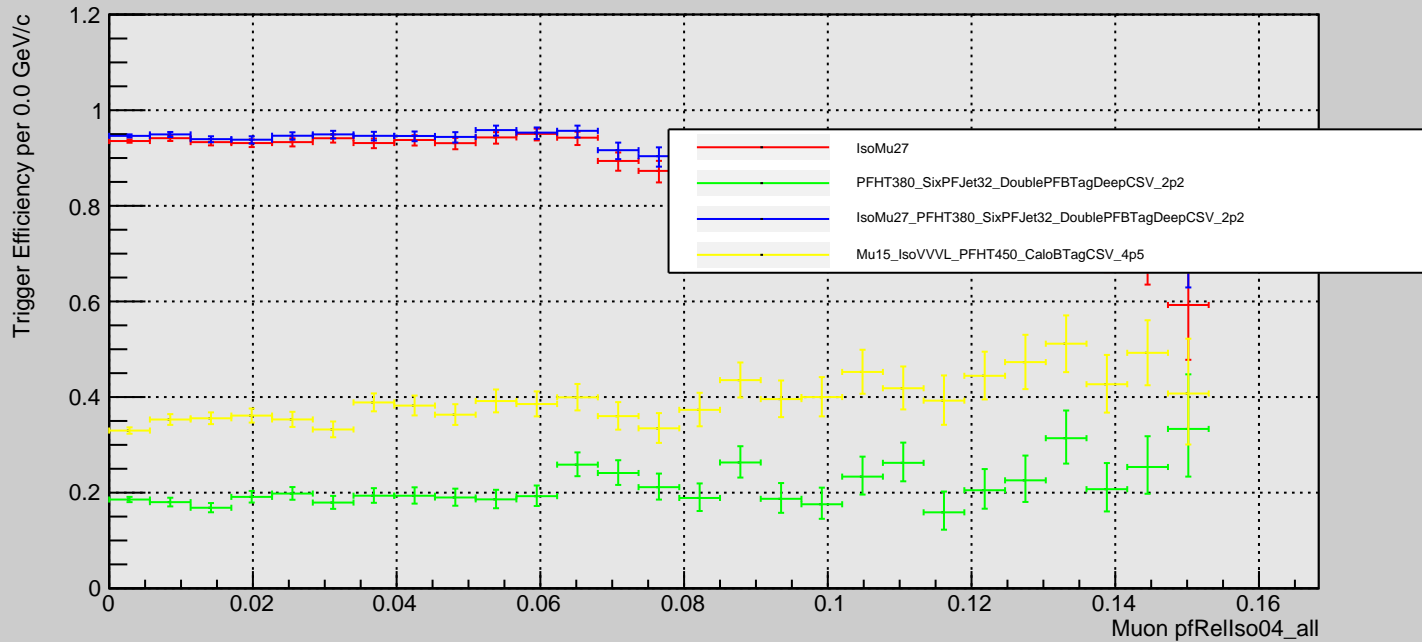
**Muon Pt = 50**



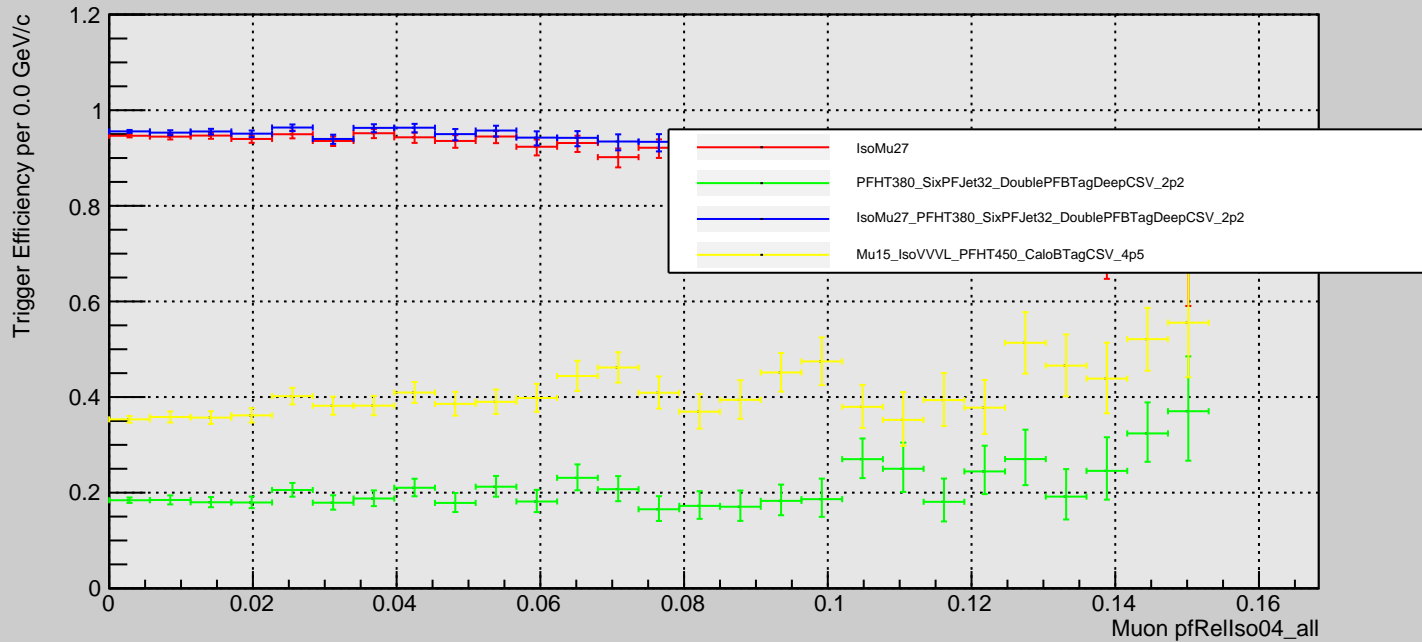
**Muon Pt = 55**



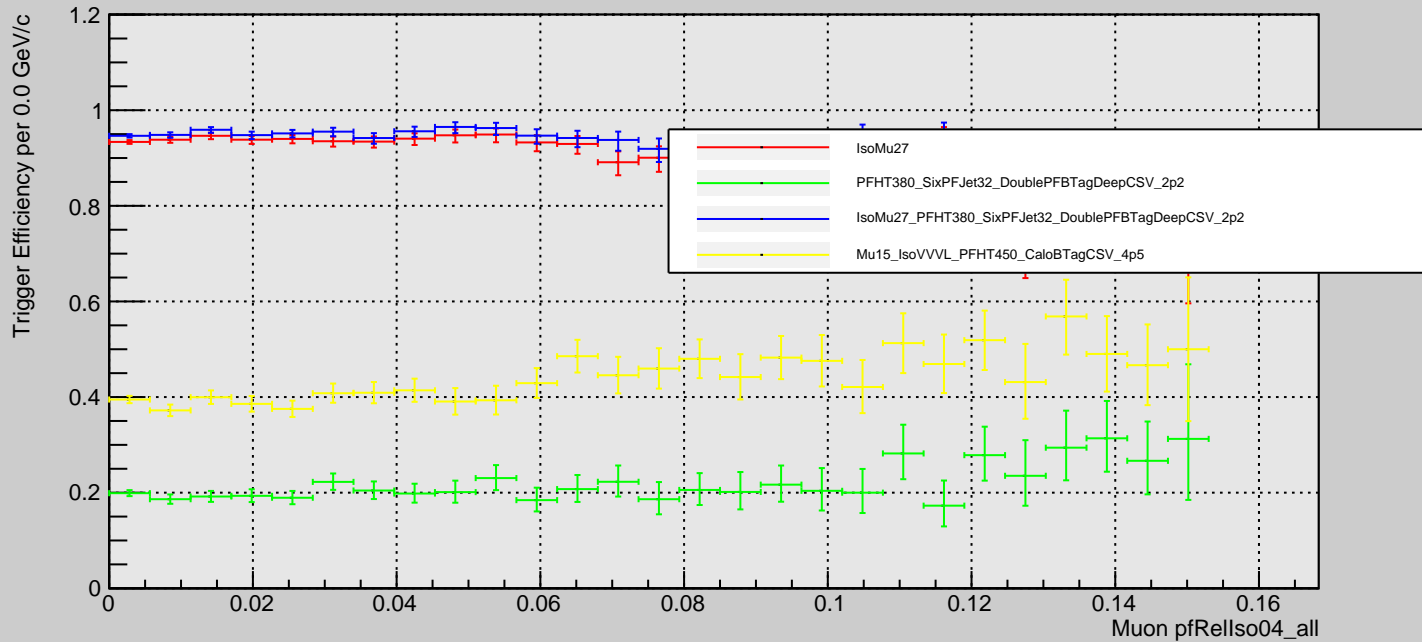
**Muon Pt = 60**



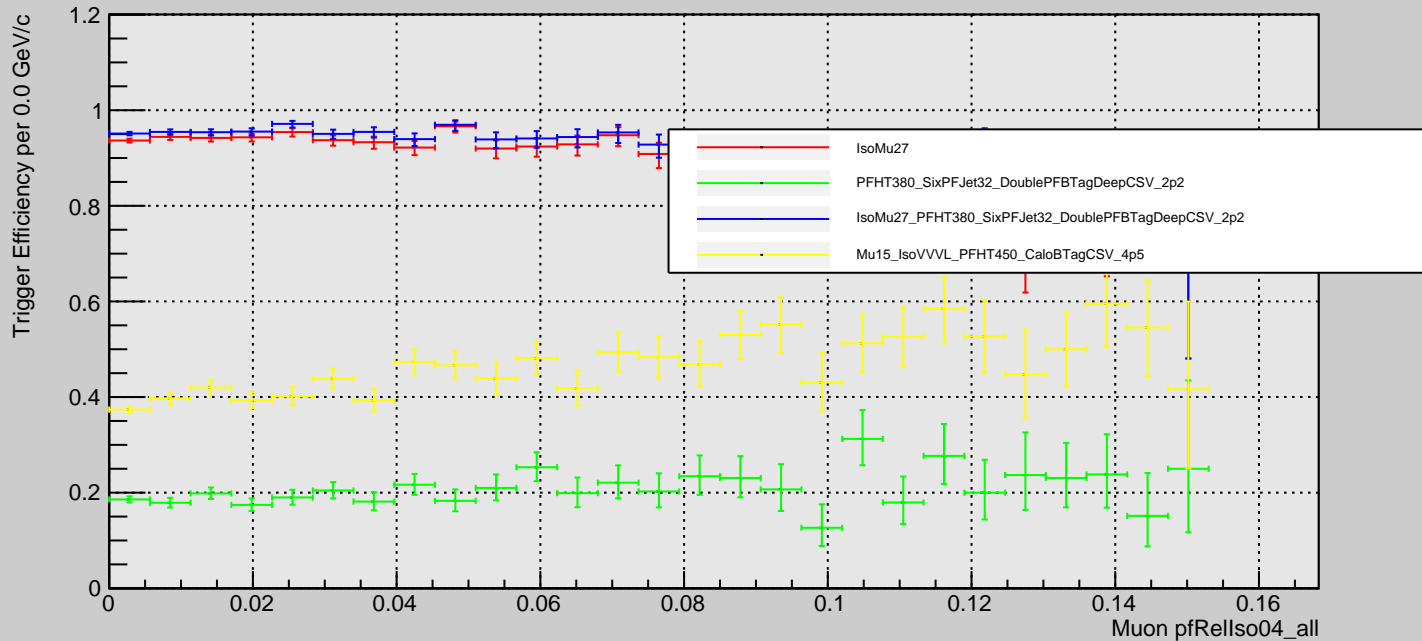
**Muon Pt = 65**



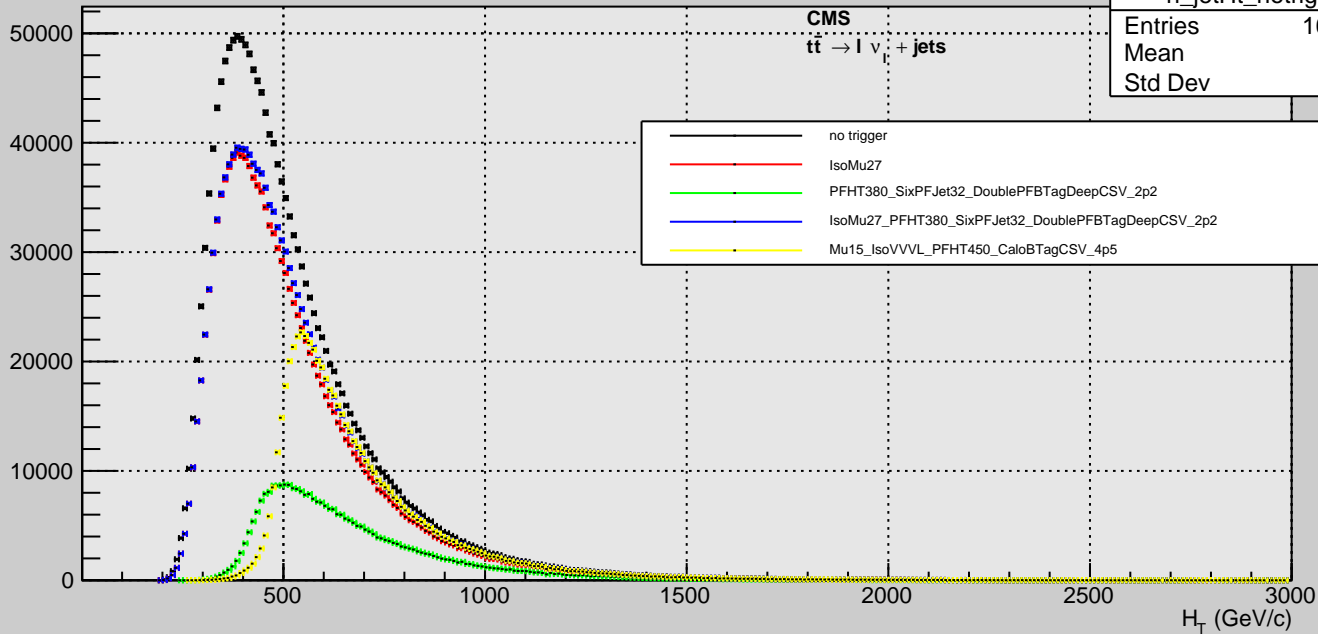
**Muon Pt = 70**



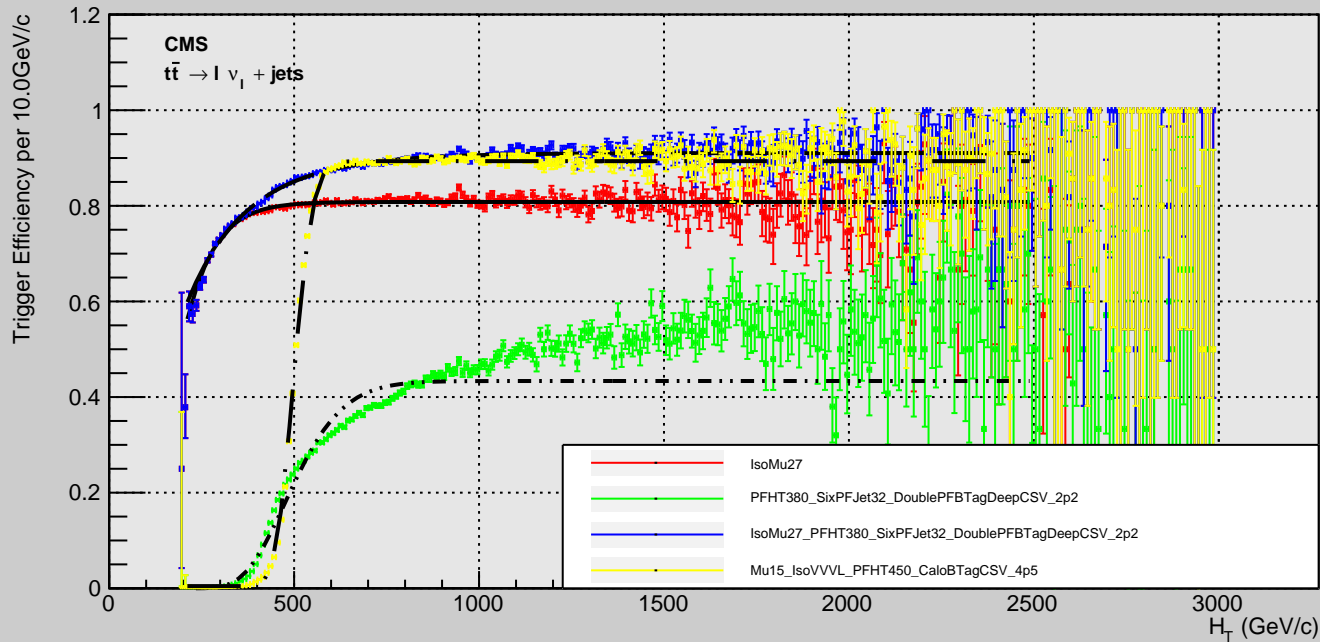
**Muon Pt = 75**



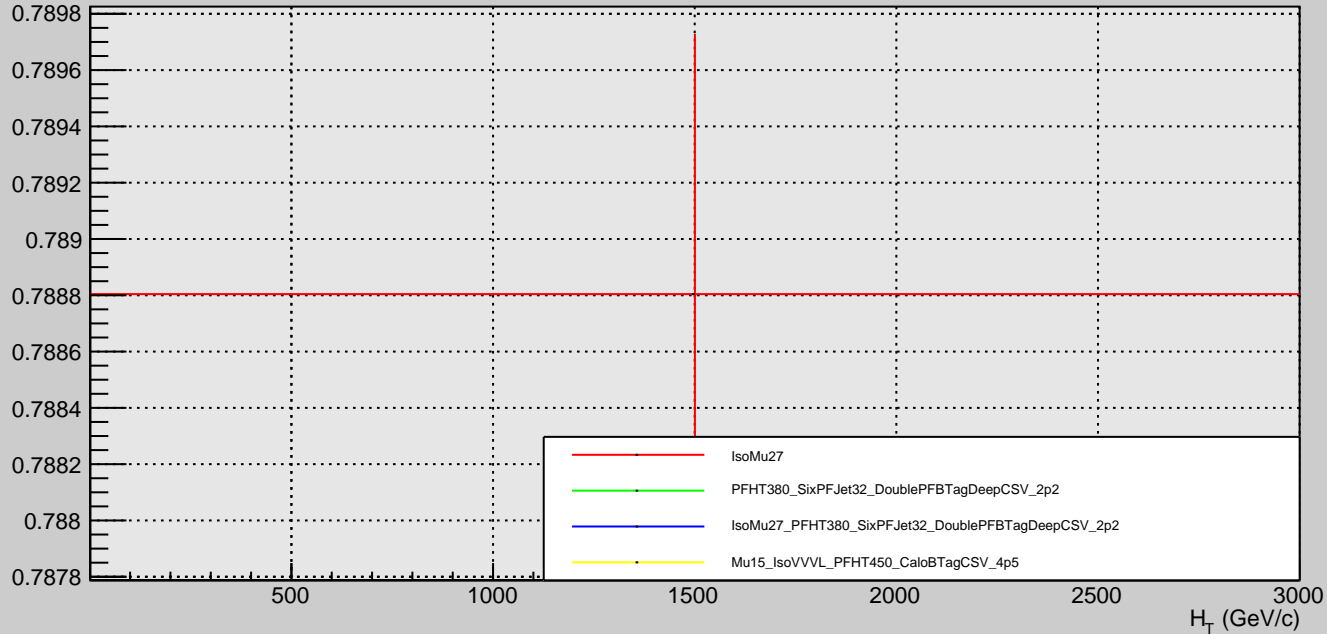
Number of Events per 10 GeV/c

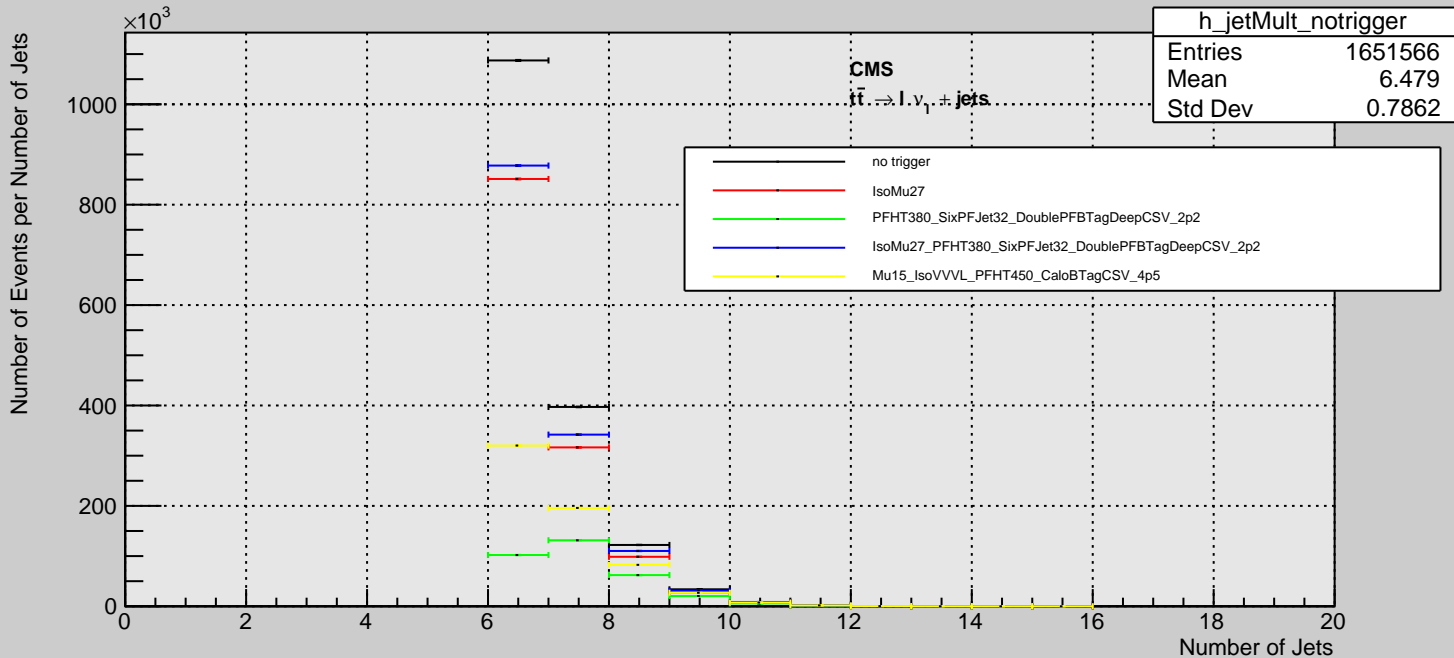


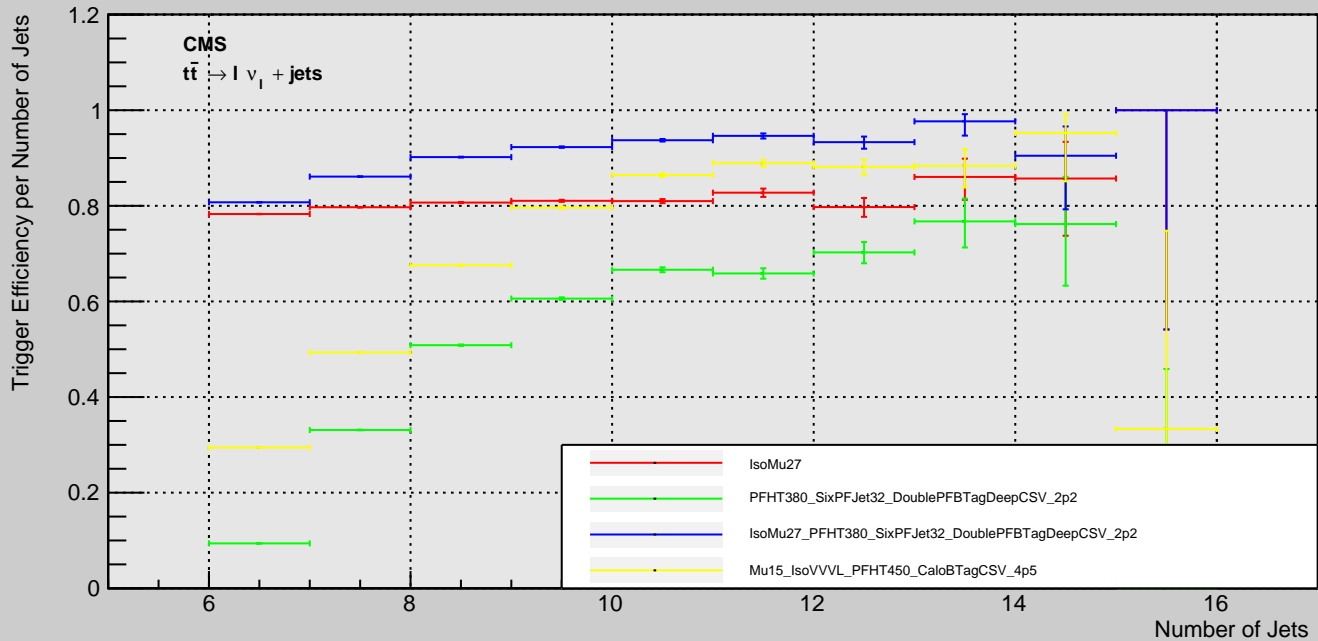


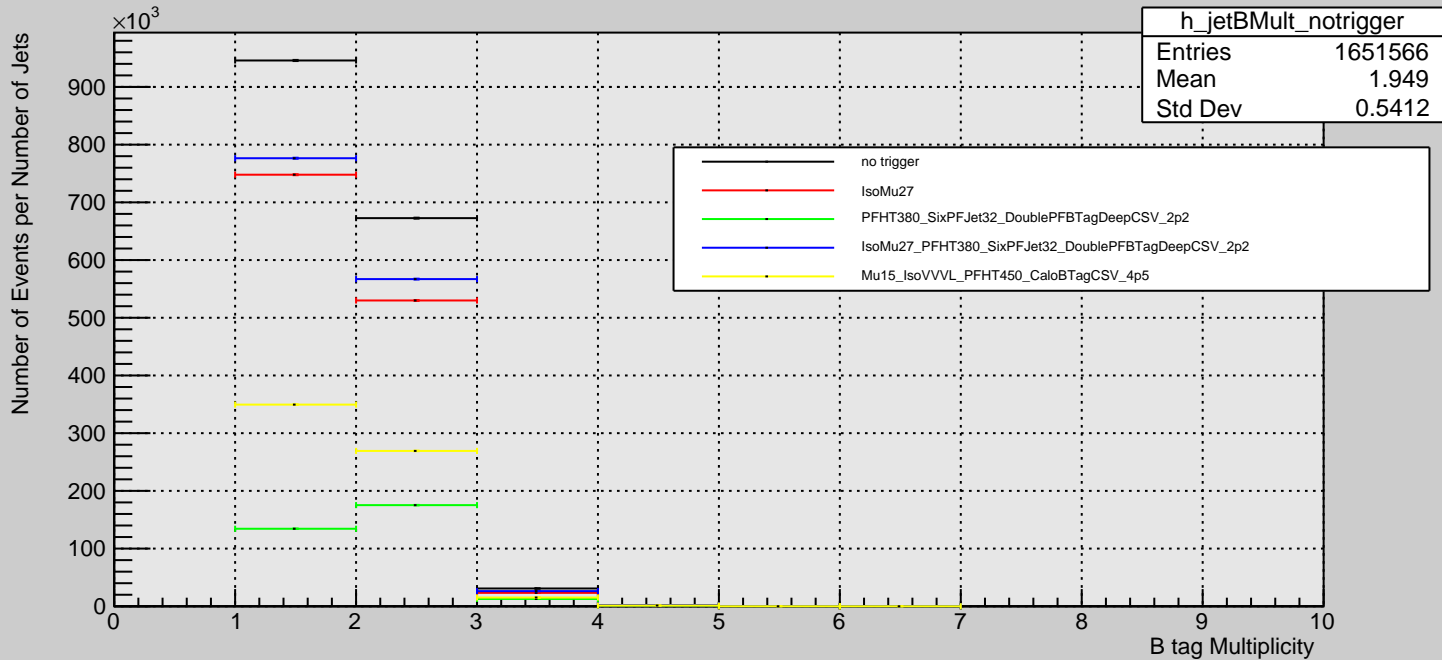


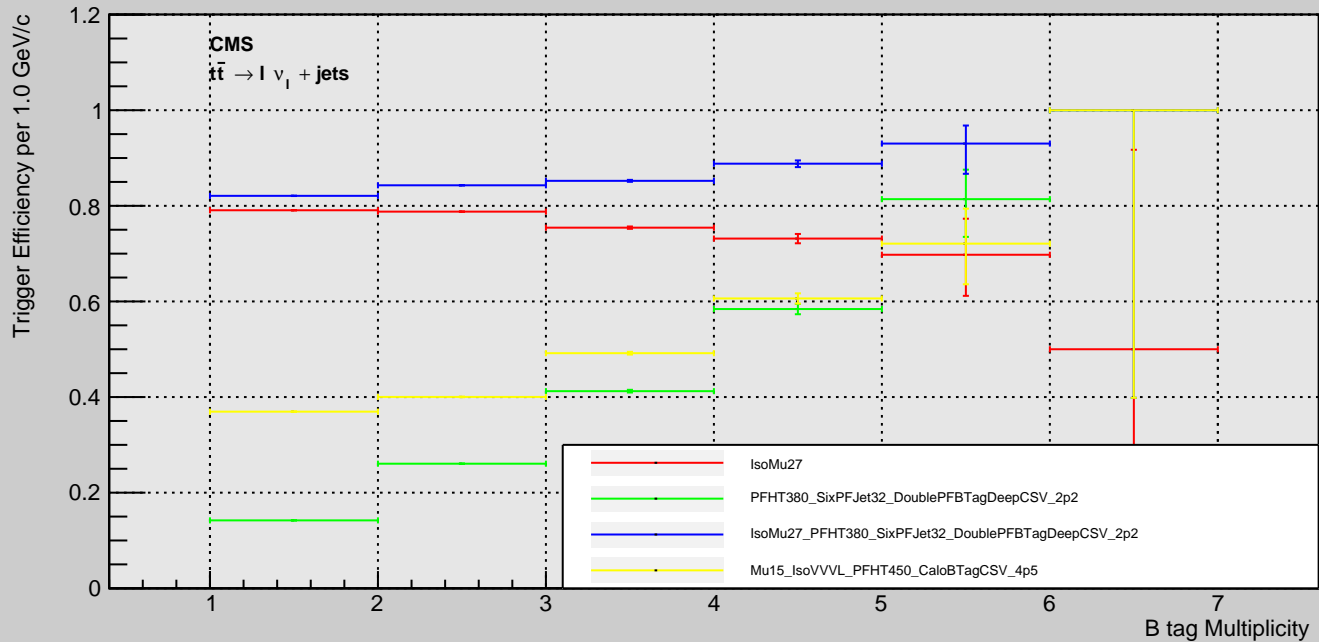
Trigger Efficiency per 2999.0 GeV/c

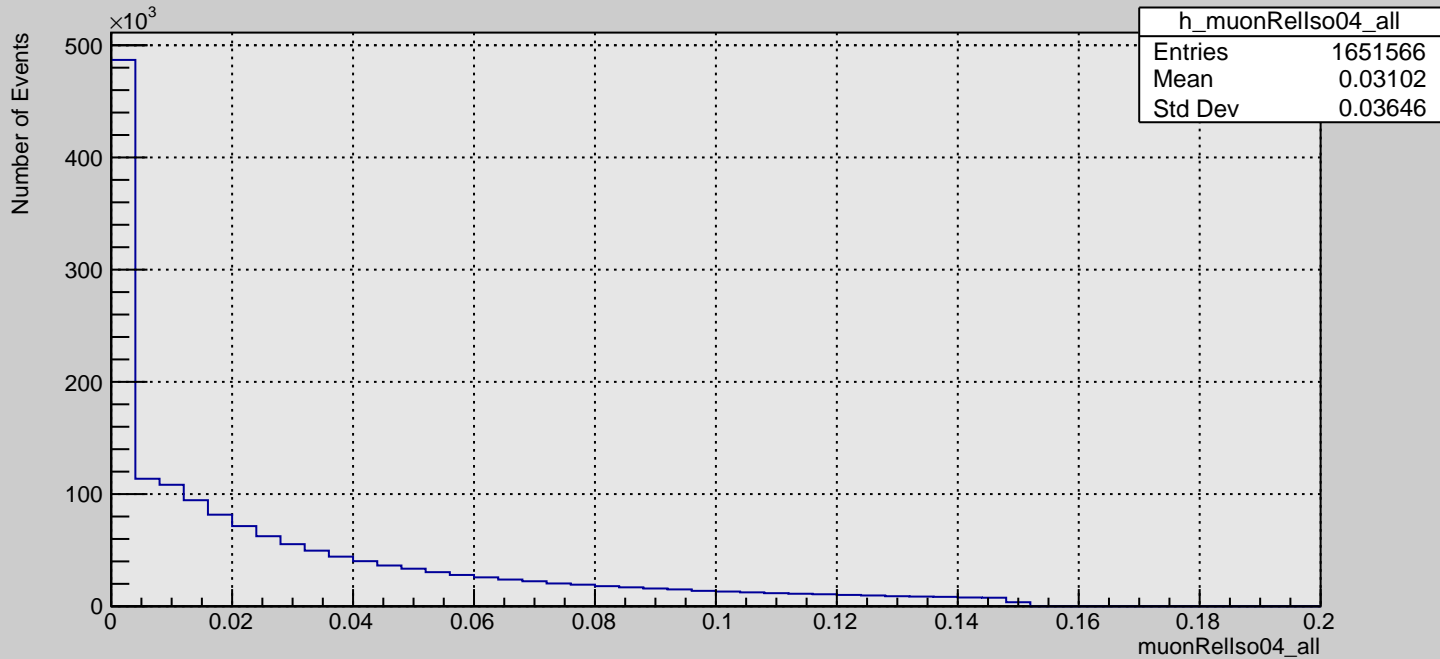






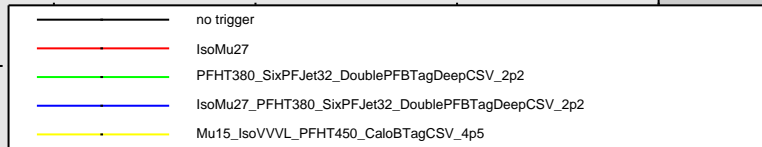




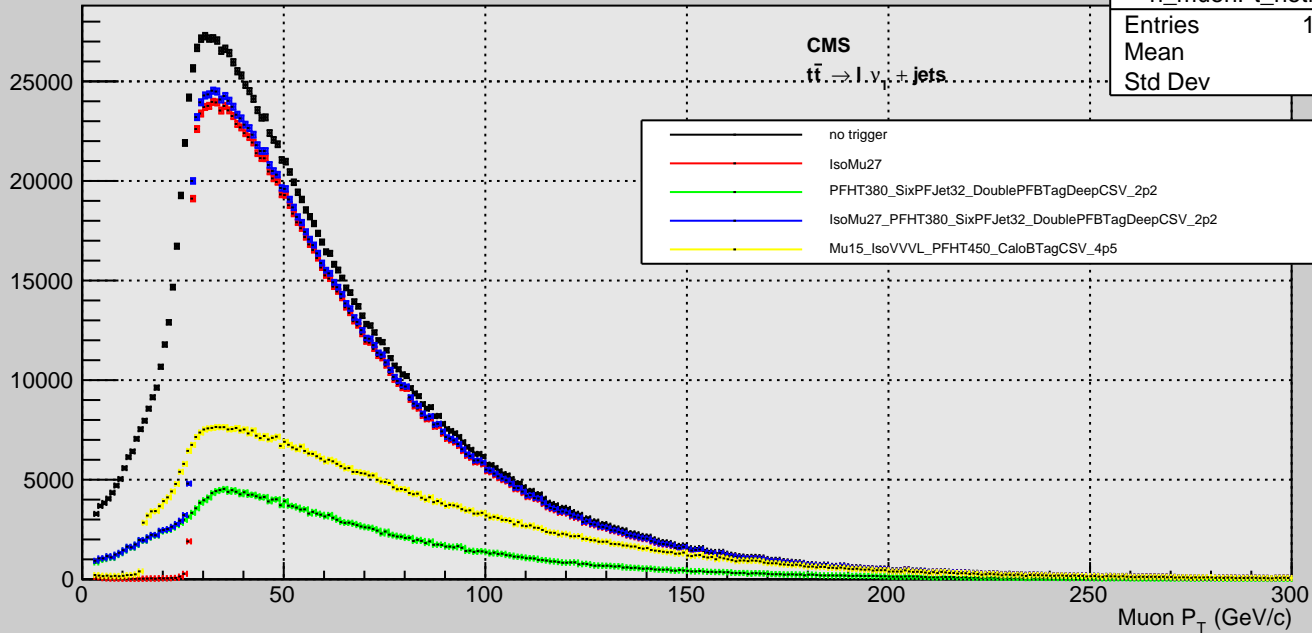


| h_muonPt_notrigger |         |
|--------------------|---------|
| Entries            | 1651566 |
| Mean               | 61.59   |
| Std Dev            | 40.53   |

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

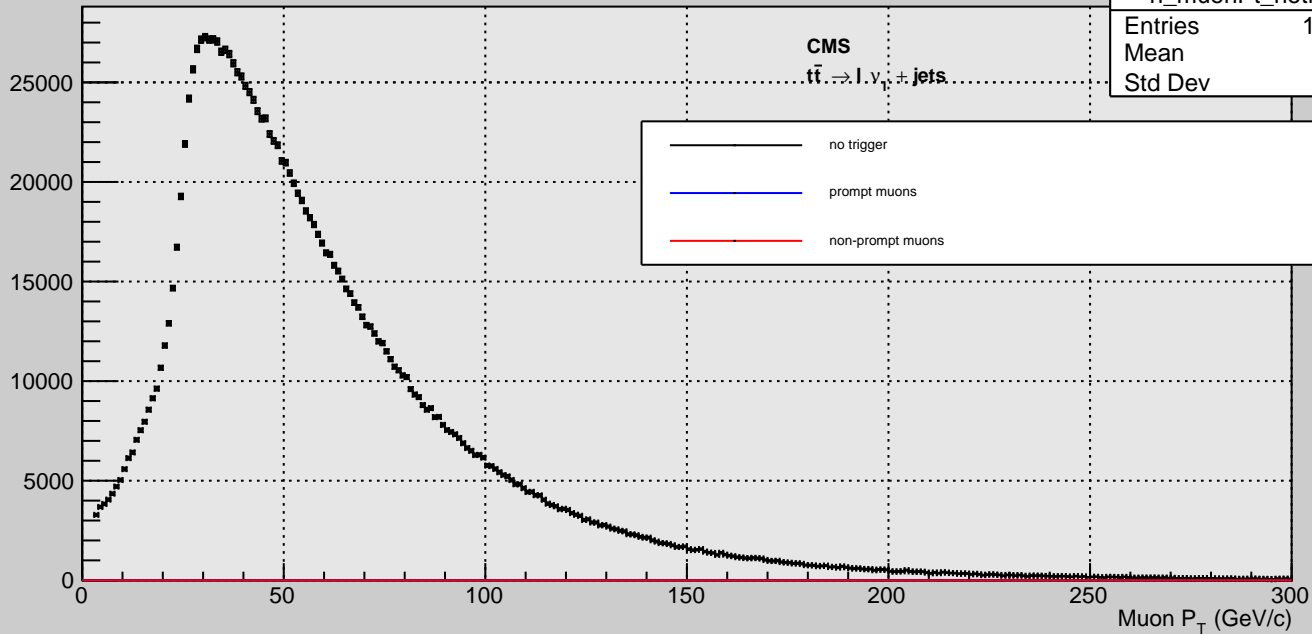


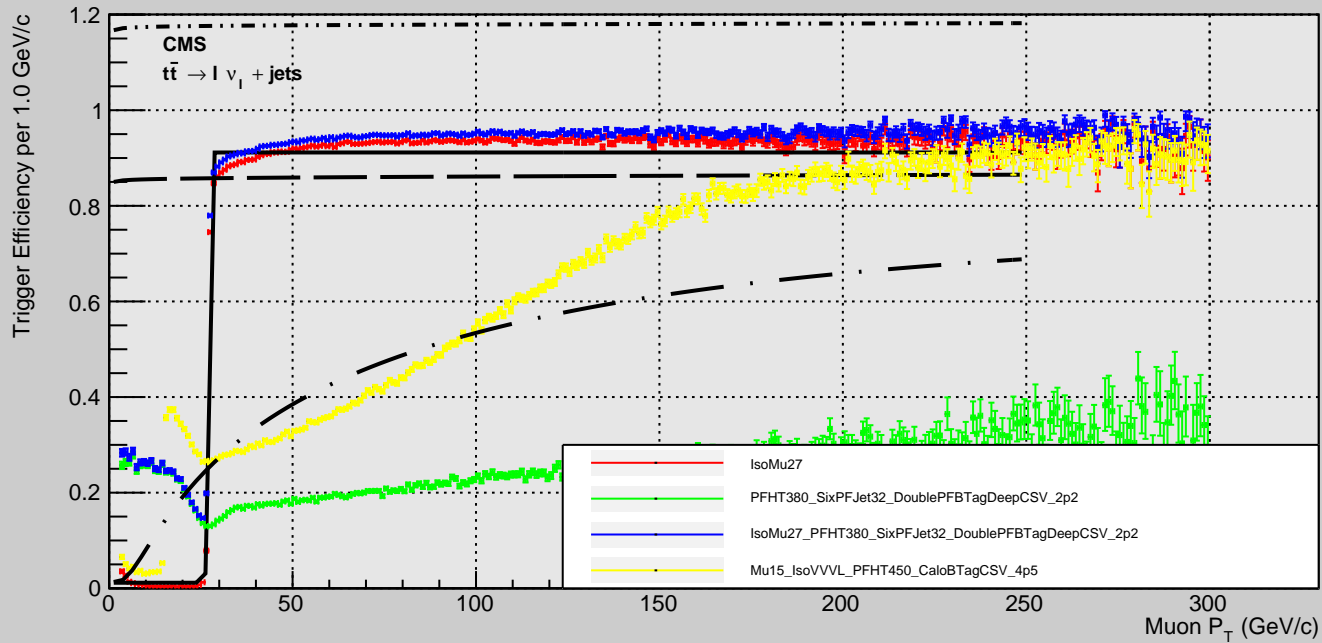
Number of Events per 1 GeV/c

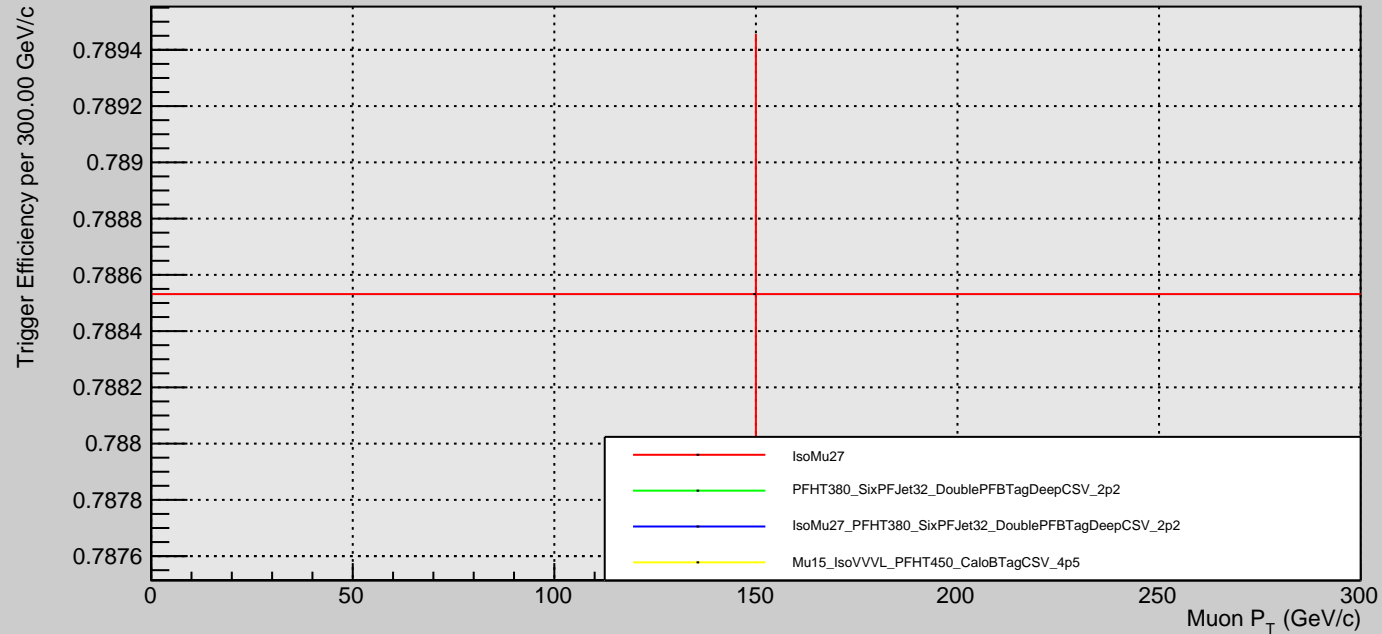




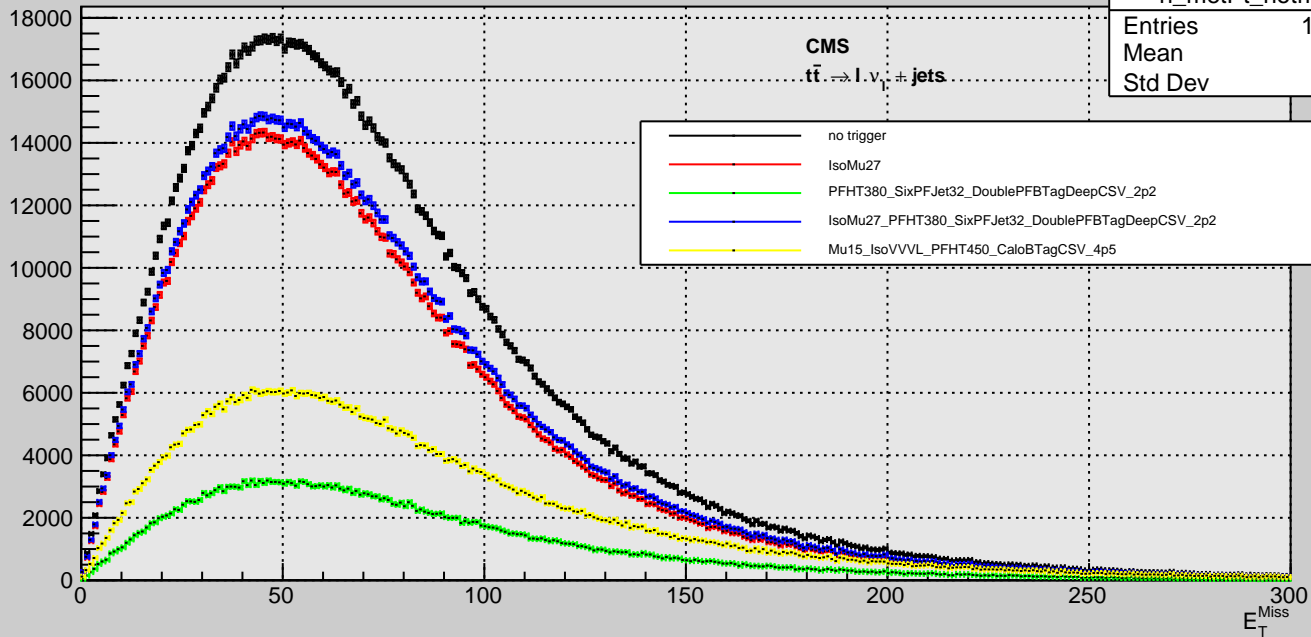
Number of Events per 1 GeV/c





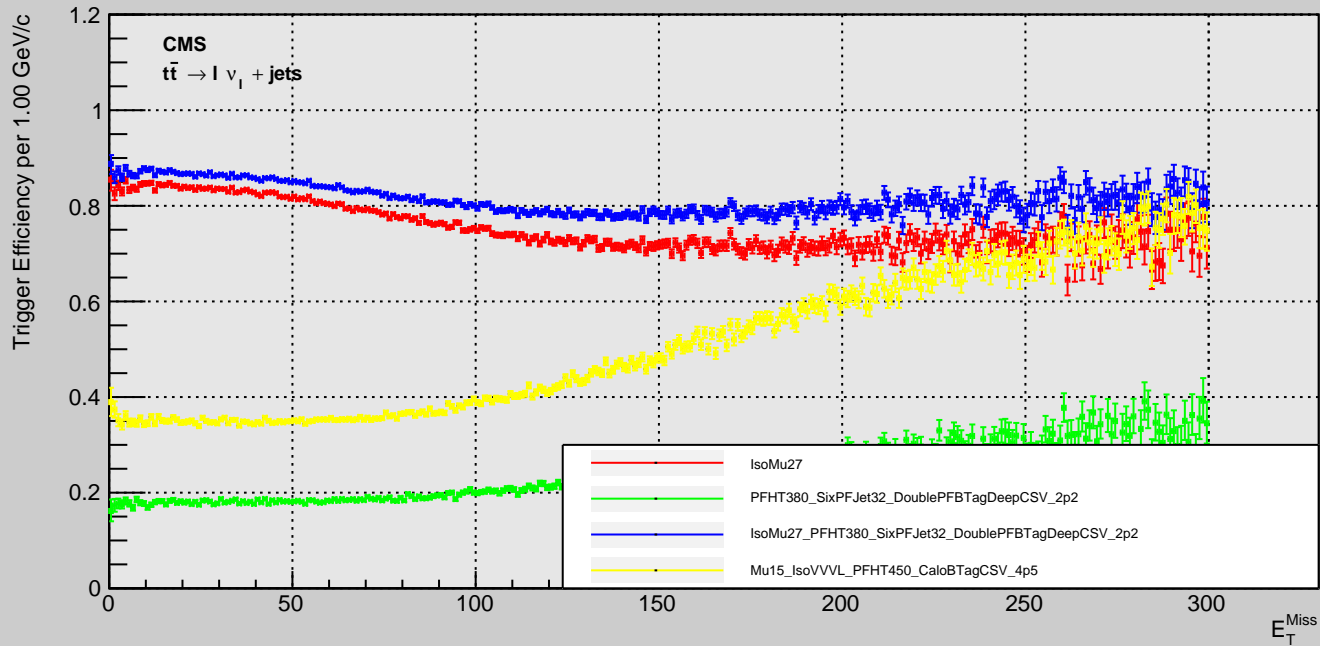


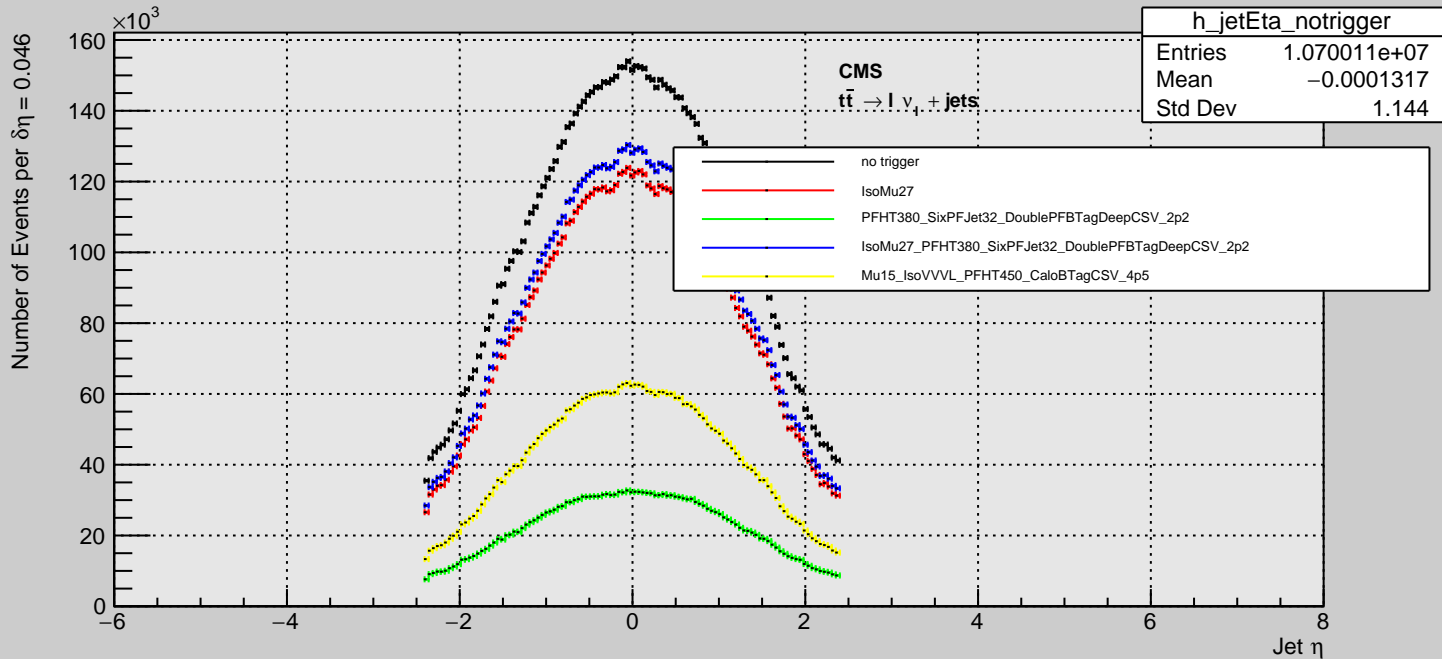
Number of Events per 1 GeV/c



h\_metPt\_notrigger

|         |         |
|---------|---------|
| Entries | 1651566 |
| Mean    | 74.35   |
| Std Dev | 47.57   |





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

