

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 tightId, $|\eta| < 2.4$ and $\text{miniPFRellso_all} < 0.15$ (for at least 1)

Number of Events per 10 GeV/c

CMS

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

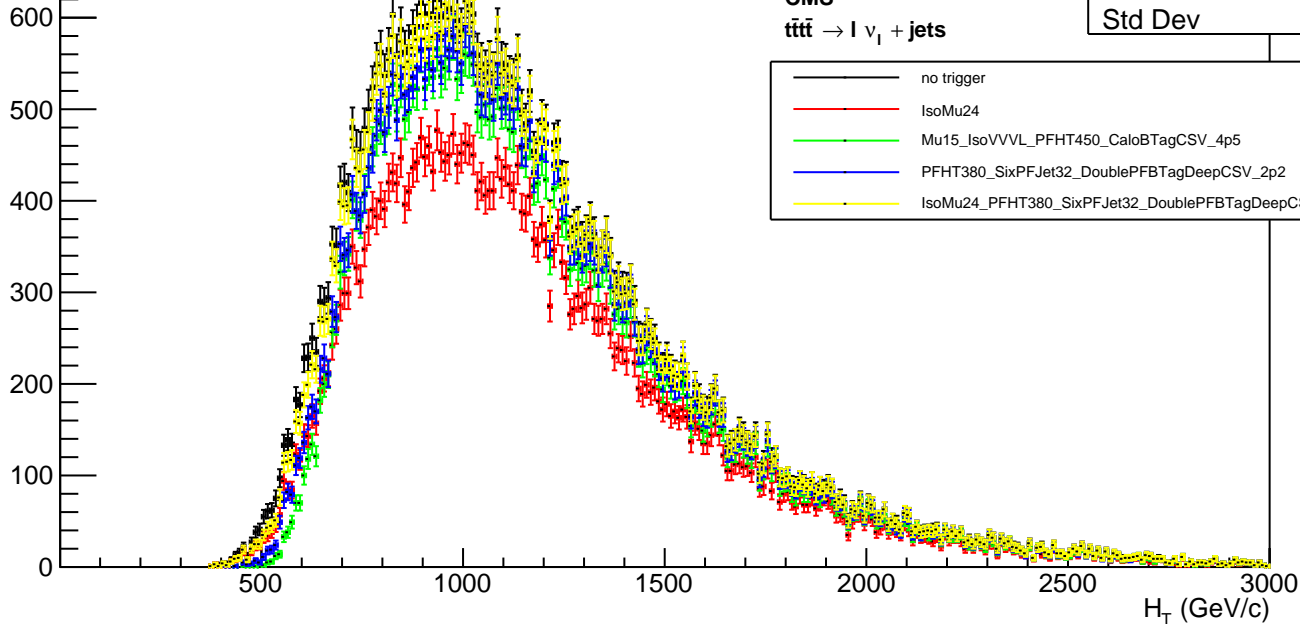
h_jetHt_notrigger

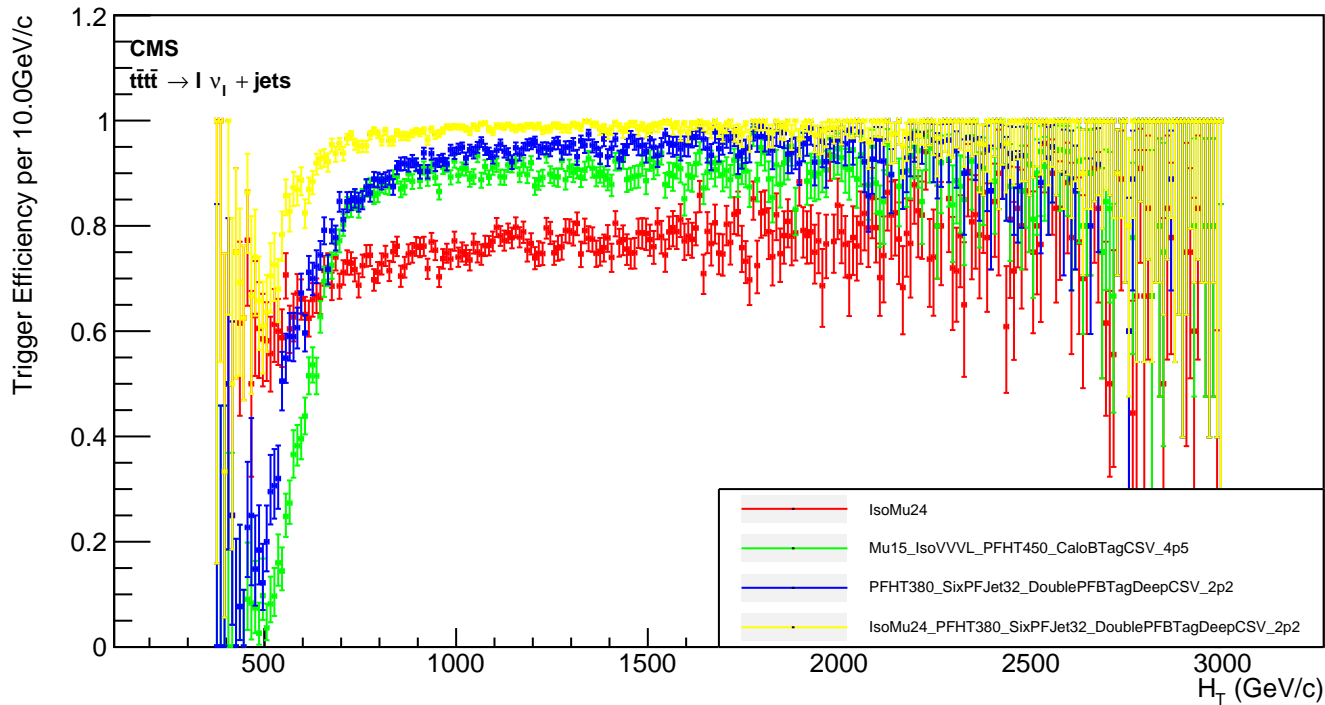
Entries 50650

Mean 1154

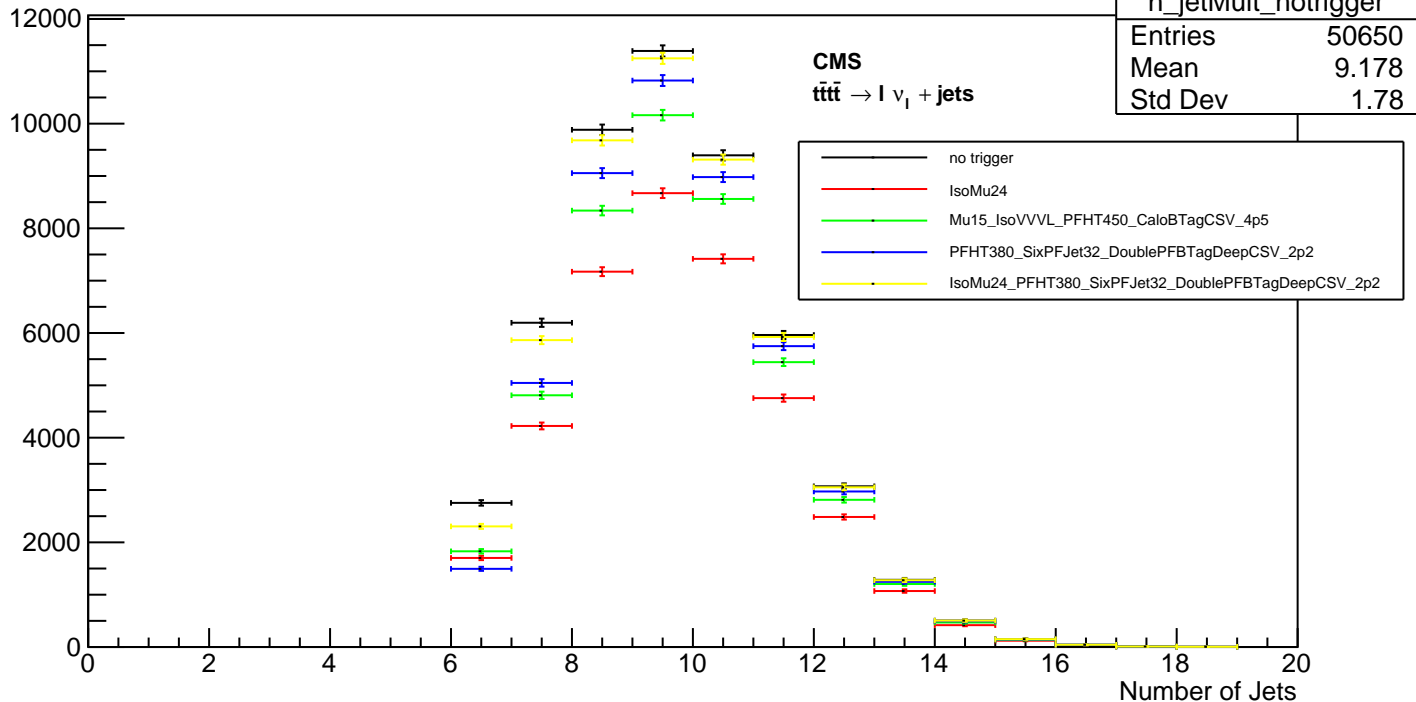
Std Dev 402.5

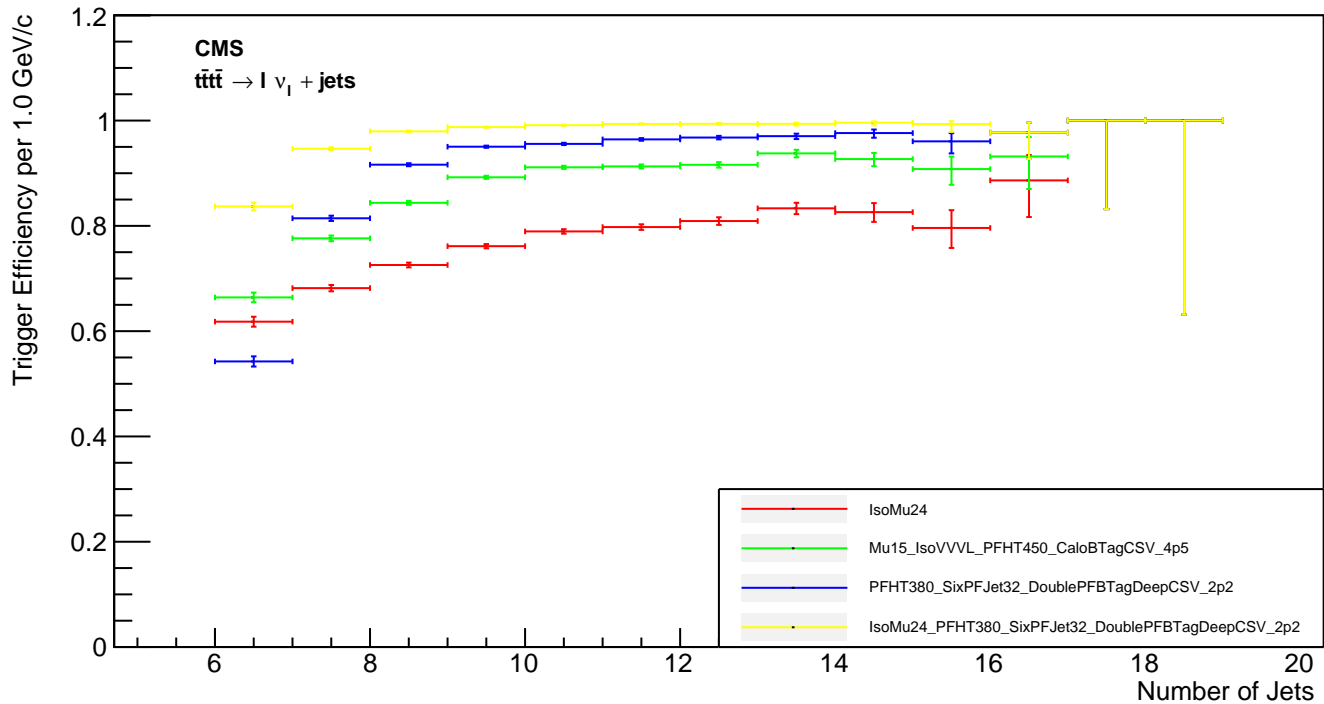
- no trigger
- IsoMu24
- Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
- PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
- IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2



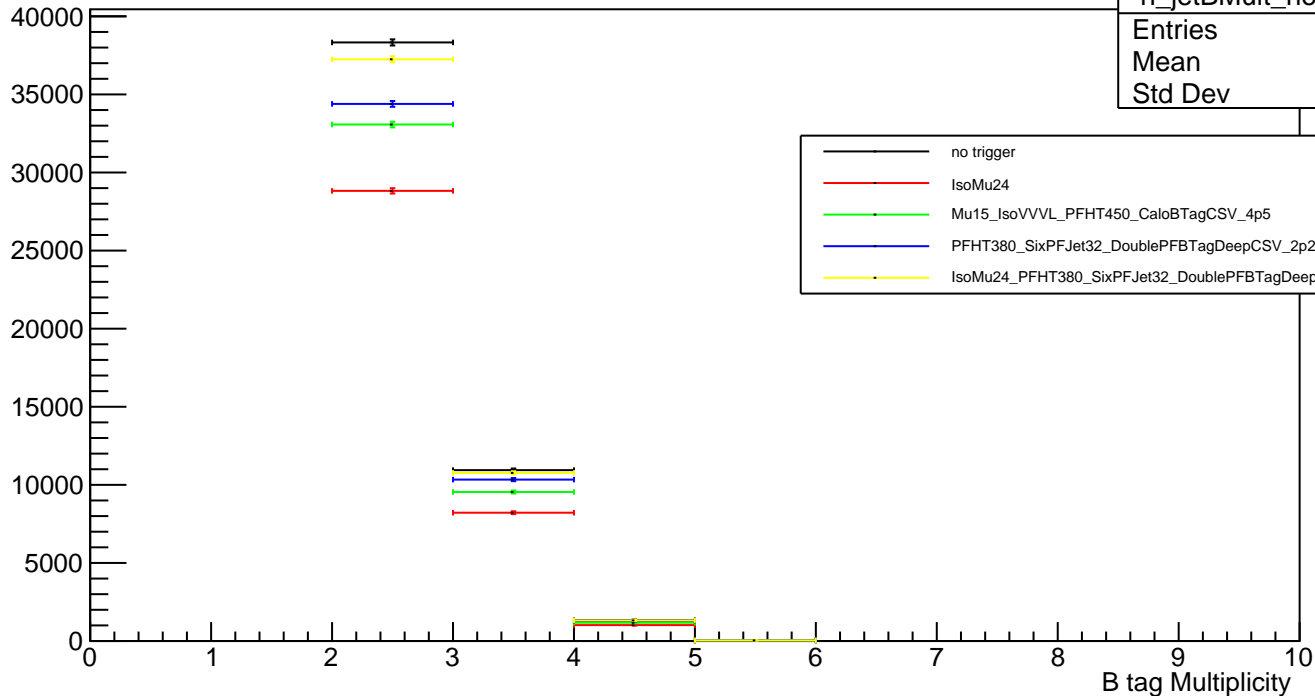


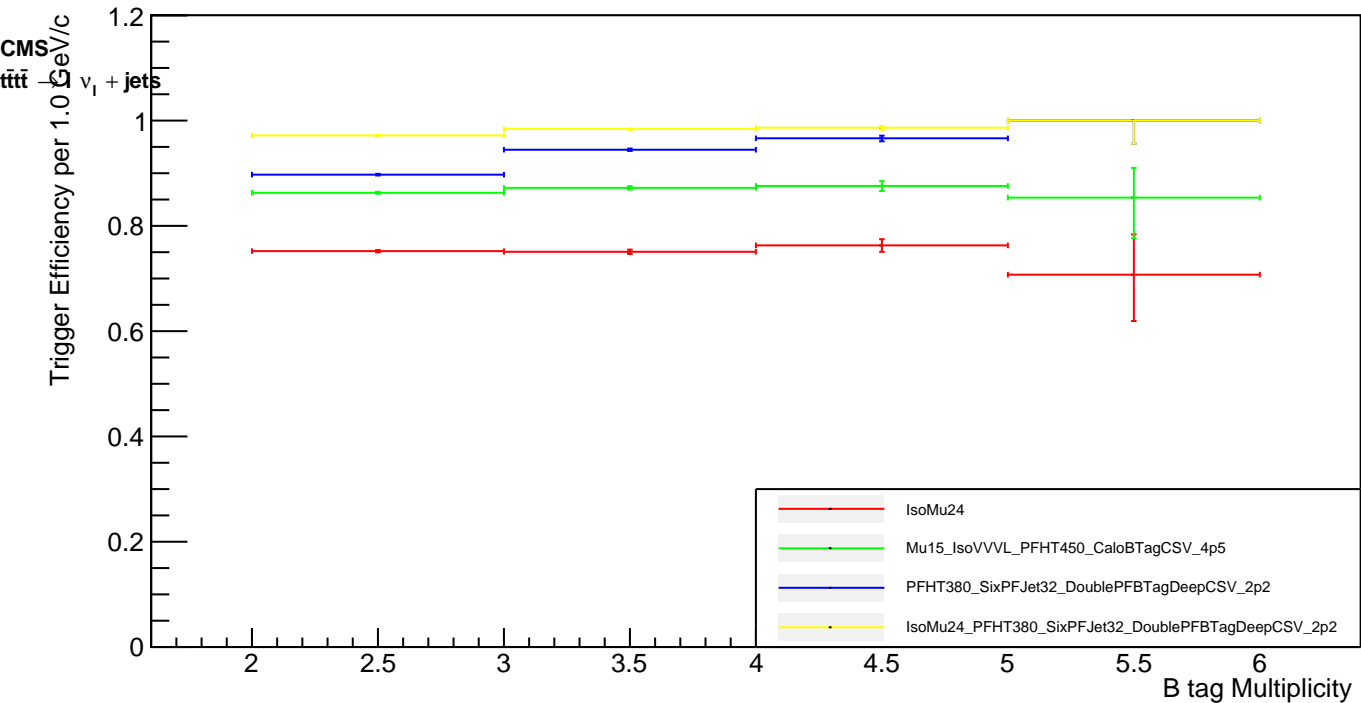
Number of Events per Number of Jets



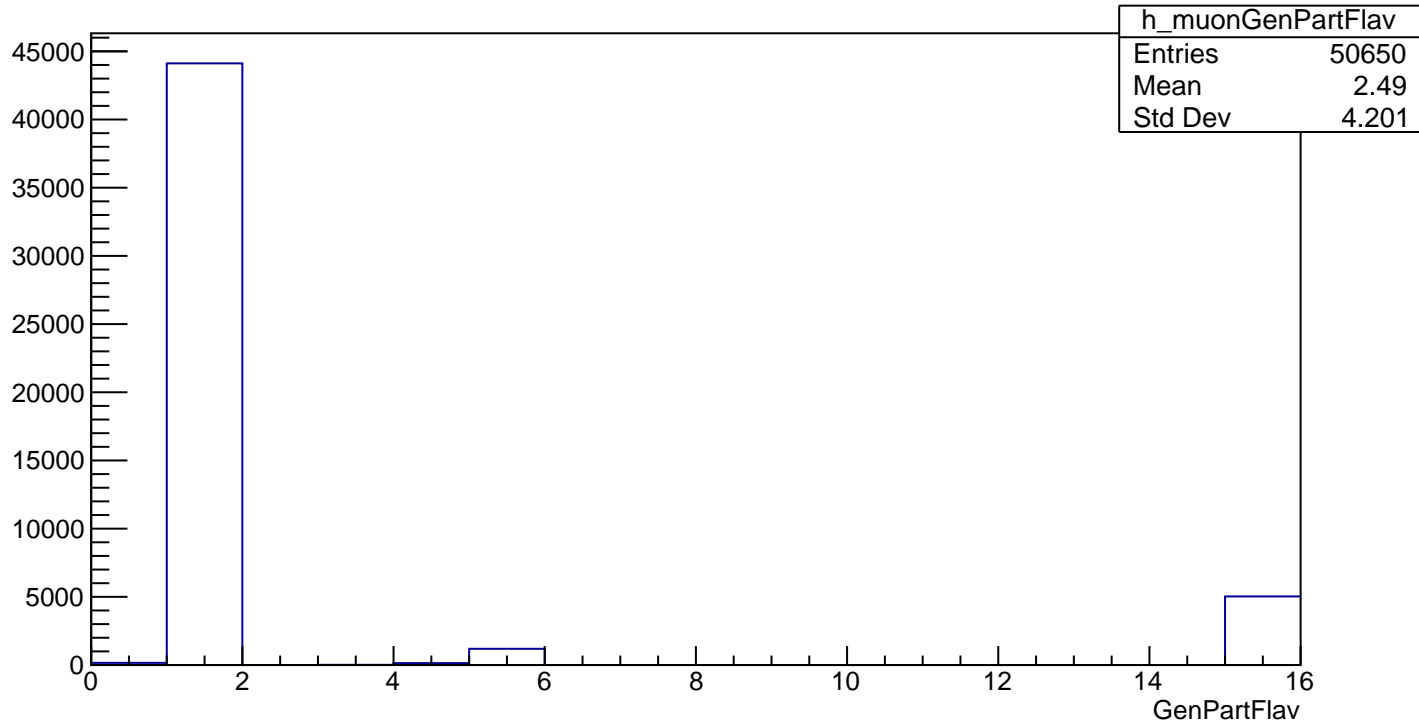


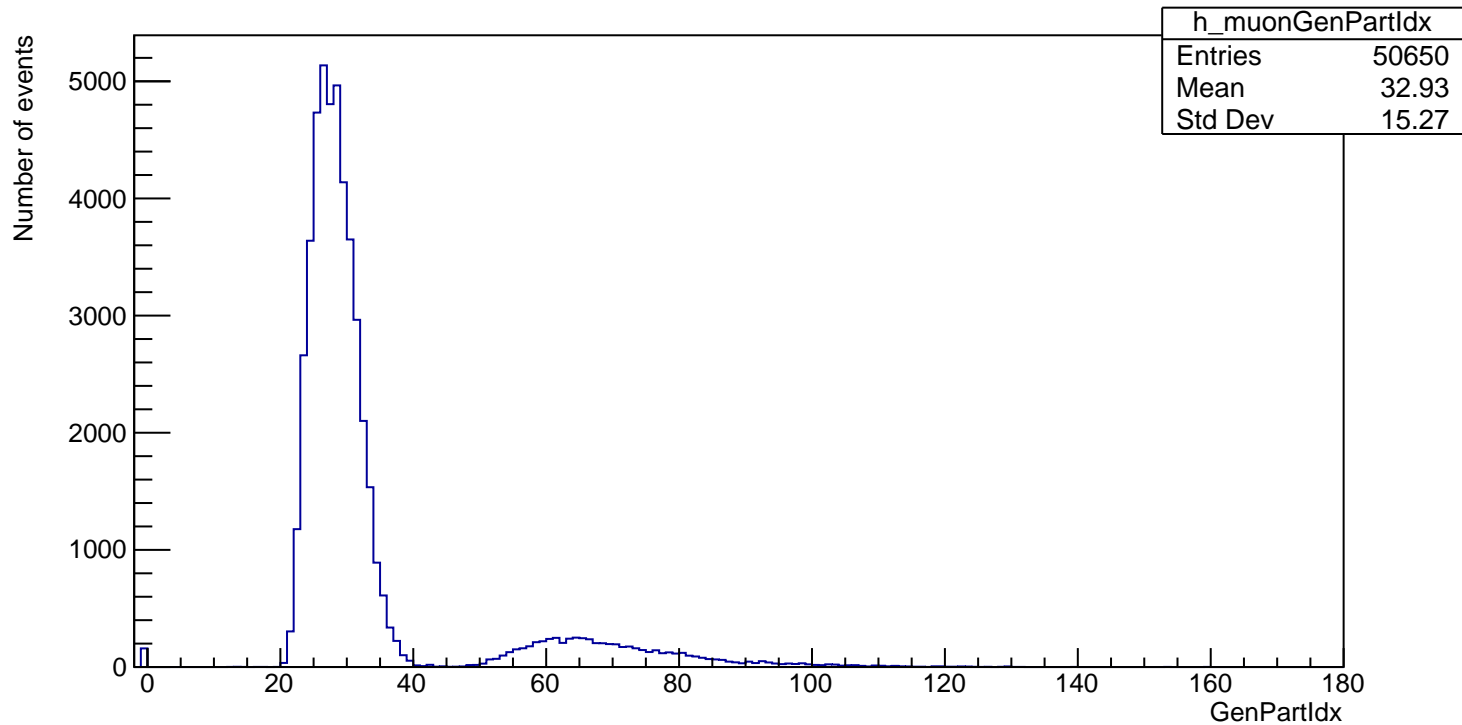
Number of Events per Number of Jets





Number of events





Number of Events

50000
40000
30000
20000
10000
0

0

10

20

30

40

50

muonRelIso04_all

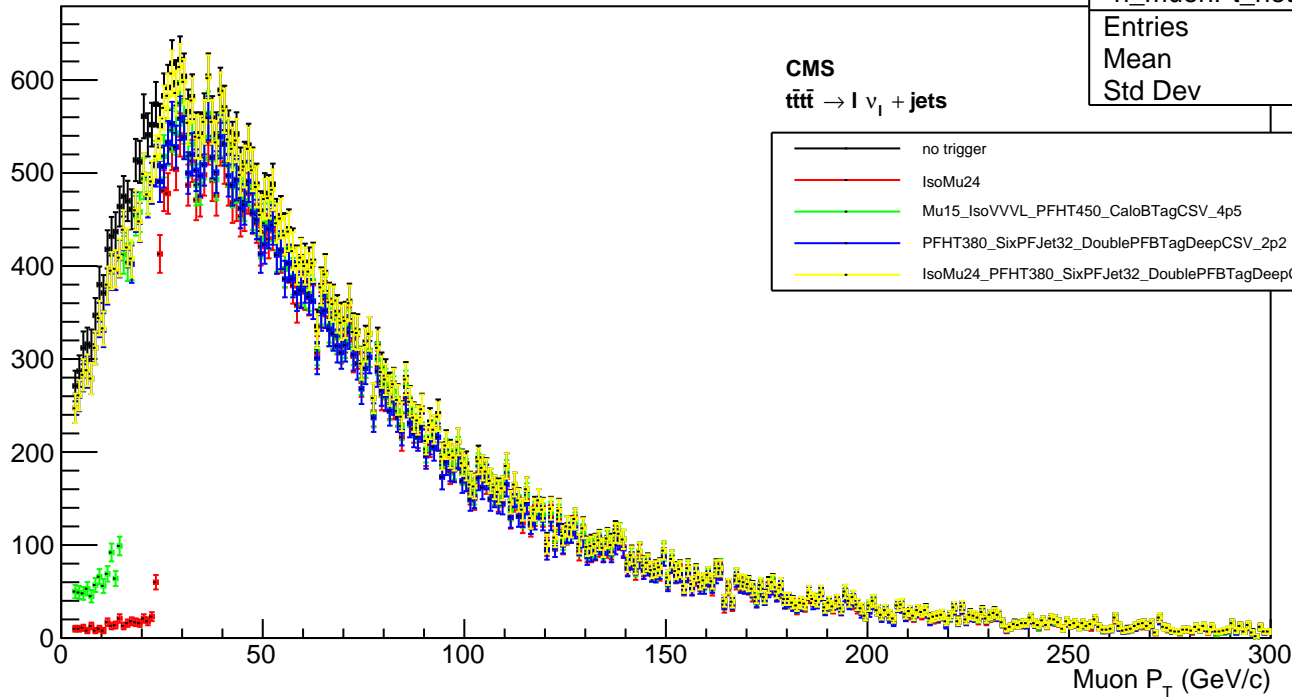
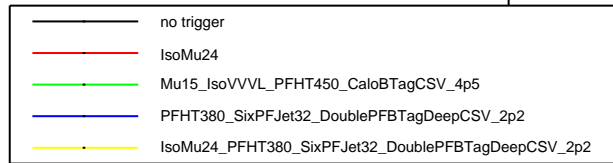
h_muonRelIso04_all

Entries	50650
Mean	0.03642
Std Dev	0.0397

Number of Events per 1 GeV/c

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

h_muonPt_notrigger	
Entries	50650
Mean	68.28
Std Dev	53.4



Number of Events per 1 GeV/c

CMS

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

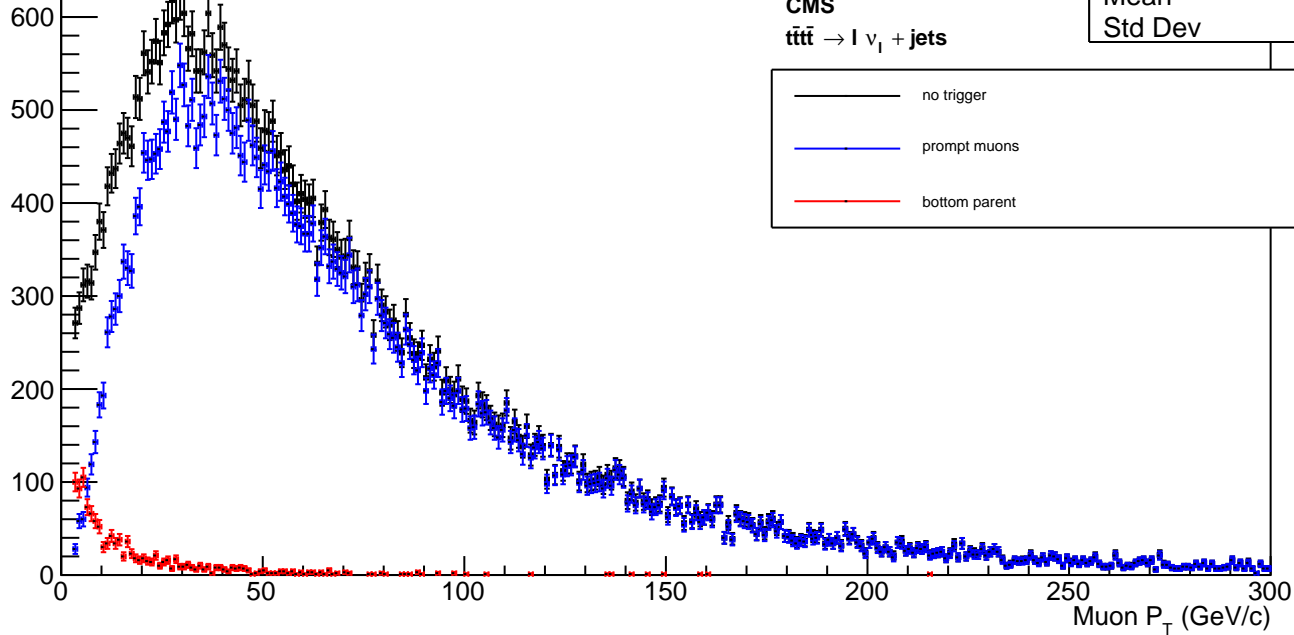
h_muonPt_notrigger

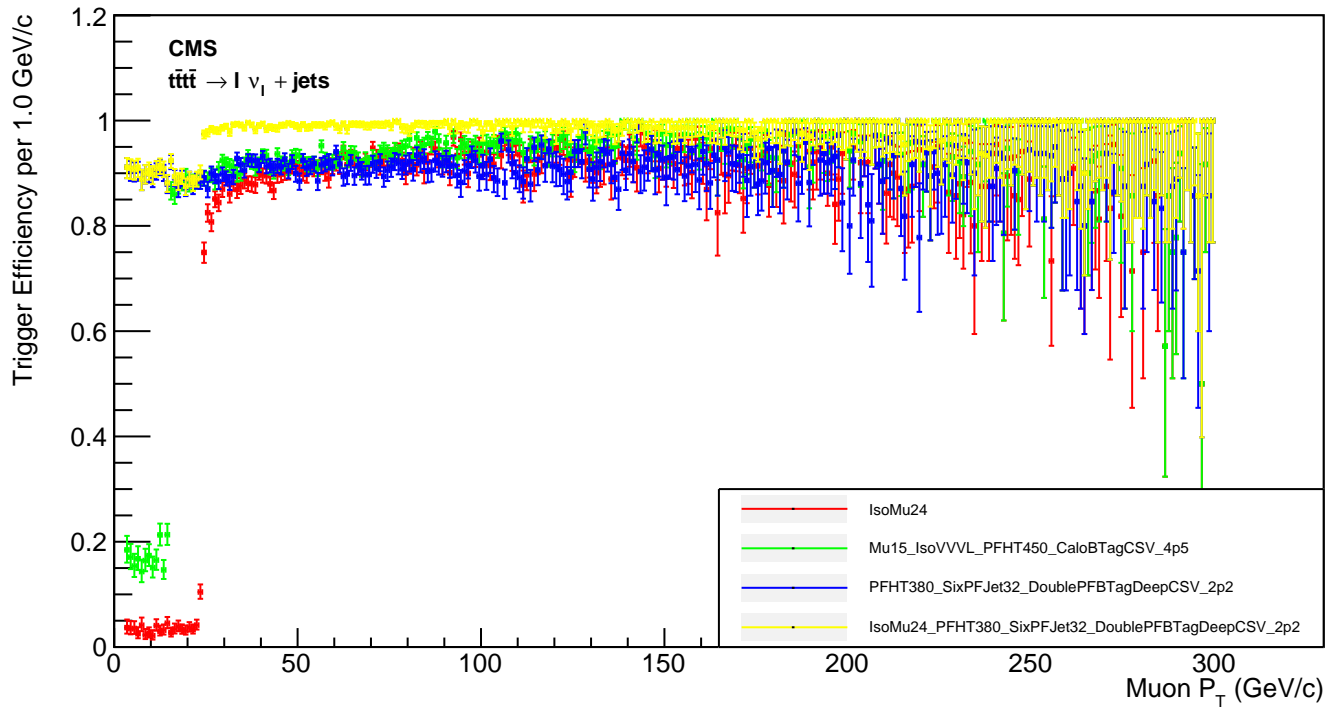
Entries 50650

Mean 68.28

Std Dev 53.4

— no trigger
— prompt muons
— bottom parent





Number of Events per 1 GeV/c

CMS

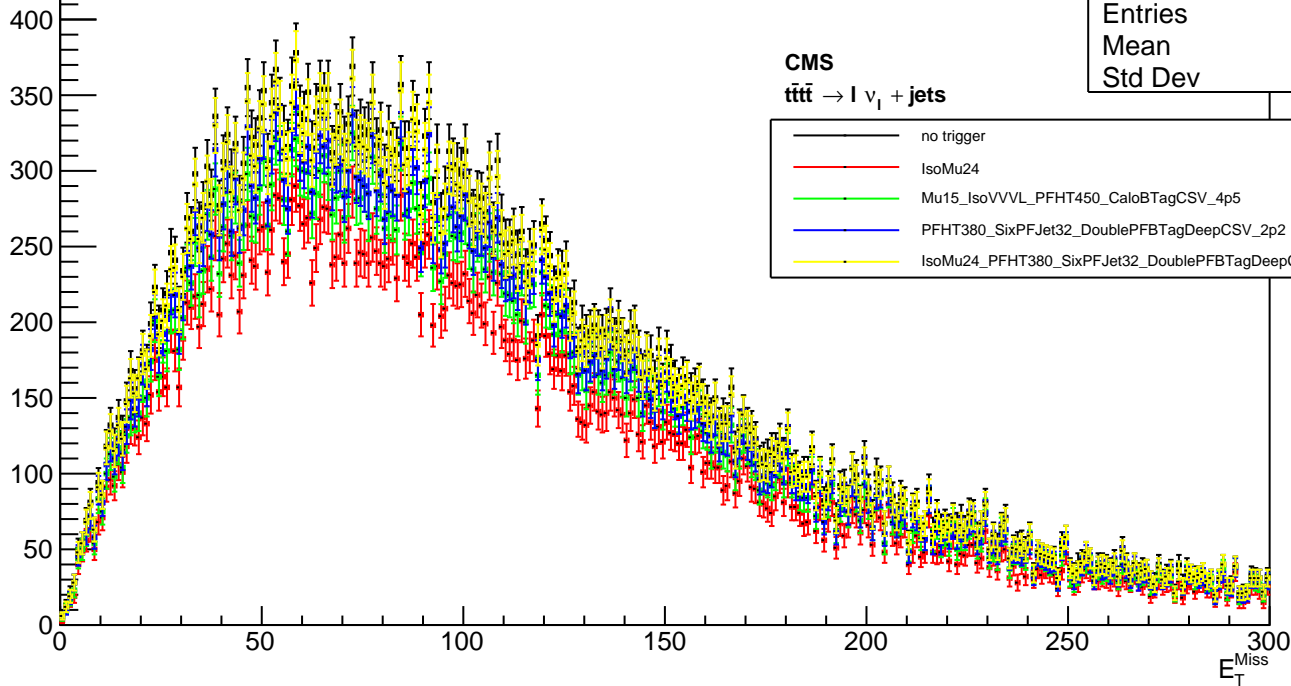
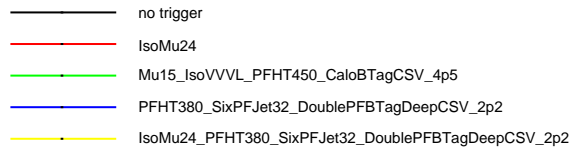
$t\bar{t}t\bar{t} \rightarrow l \nu_l + \text{jets}$

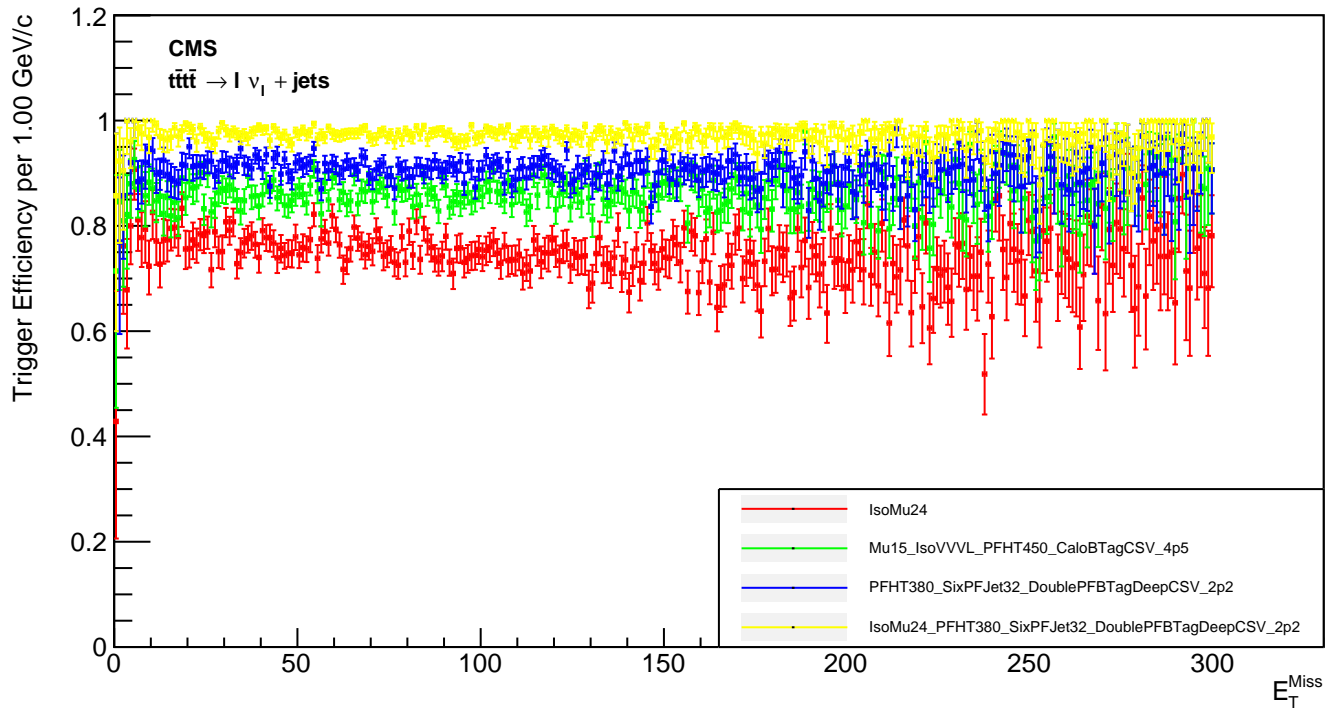
h_metPt_notrigger

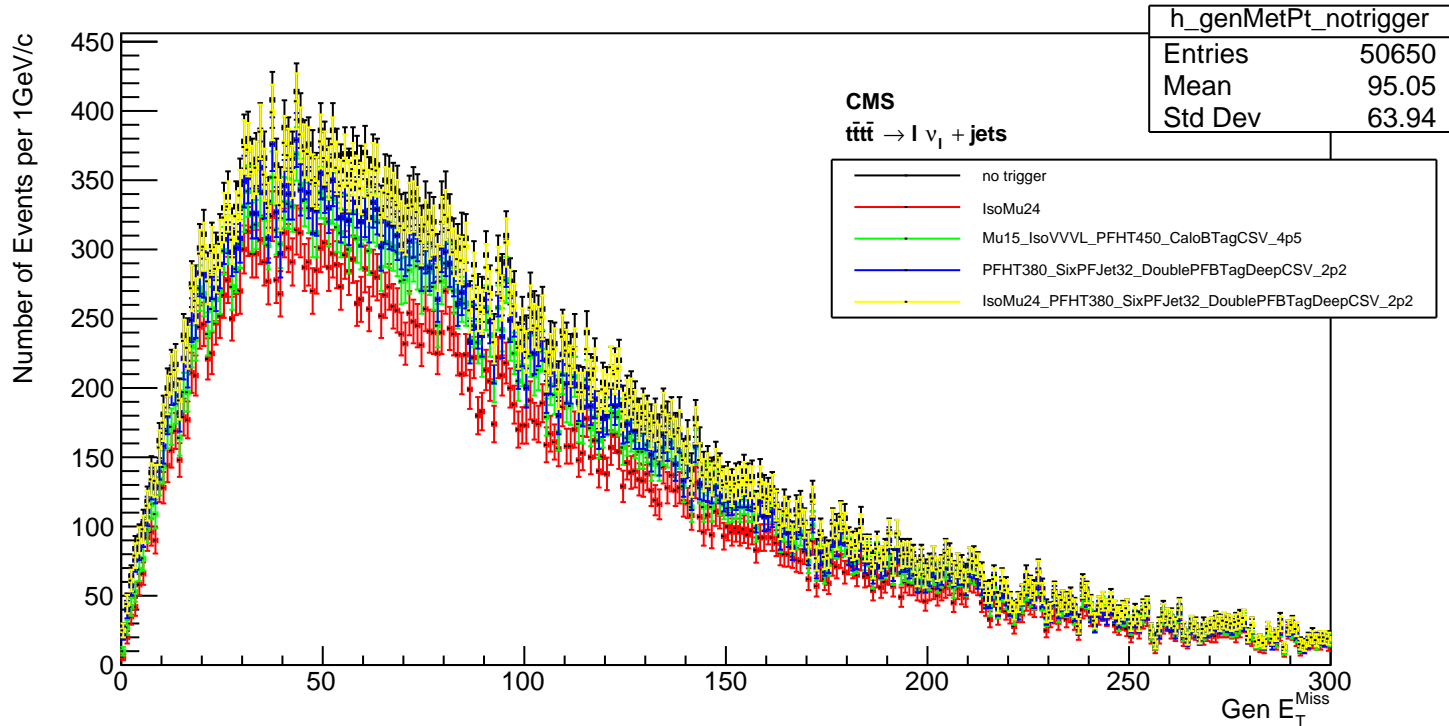
Entries 50650

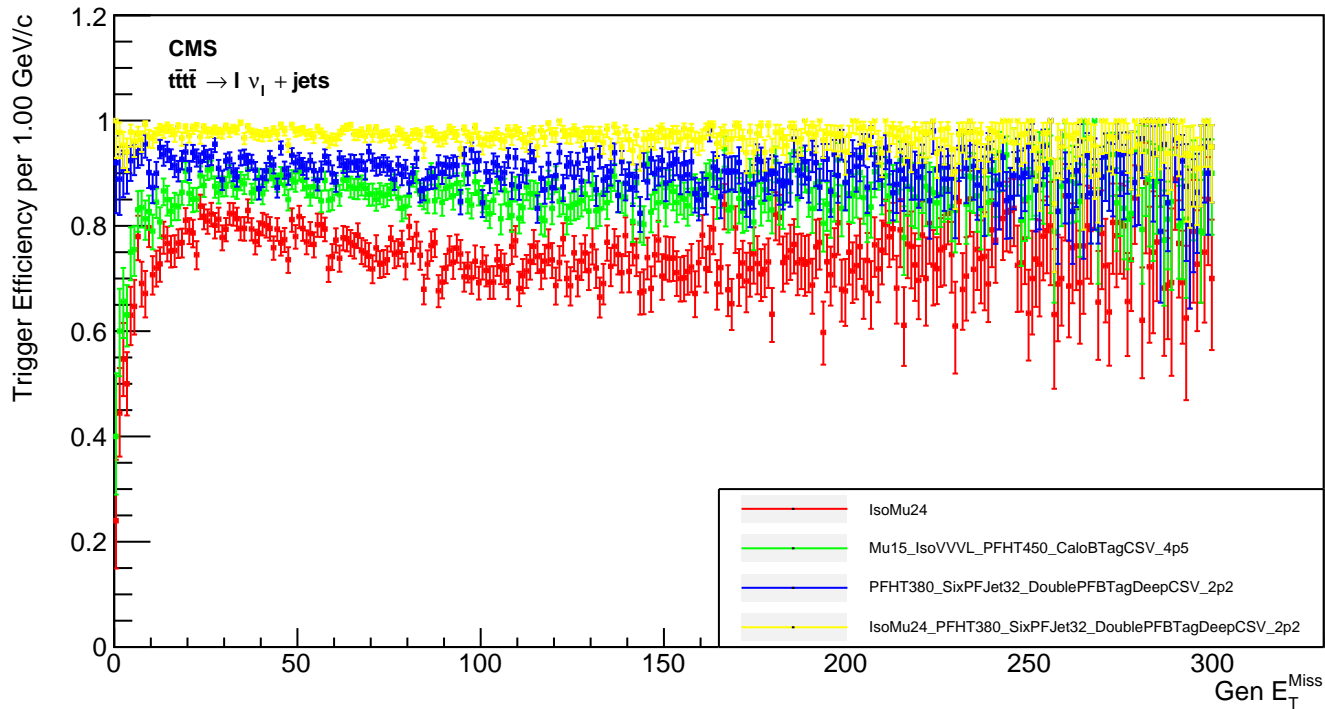
Mean 106.3

Std Dev 64.41

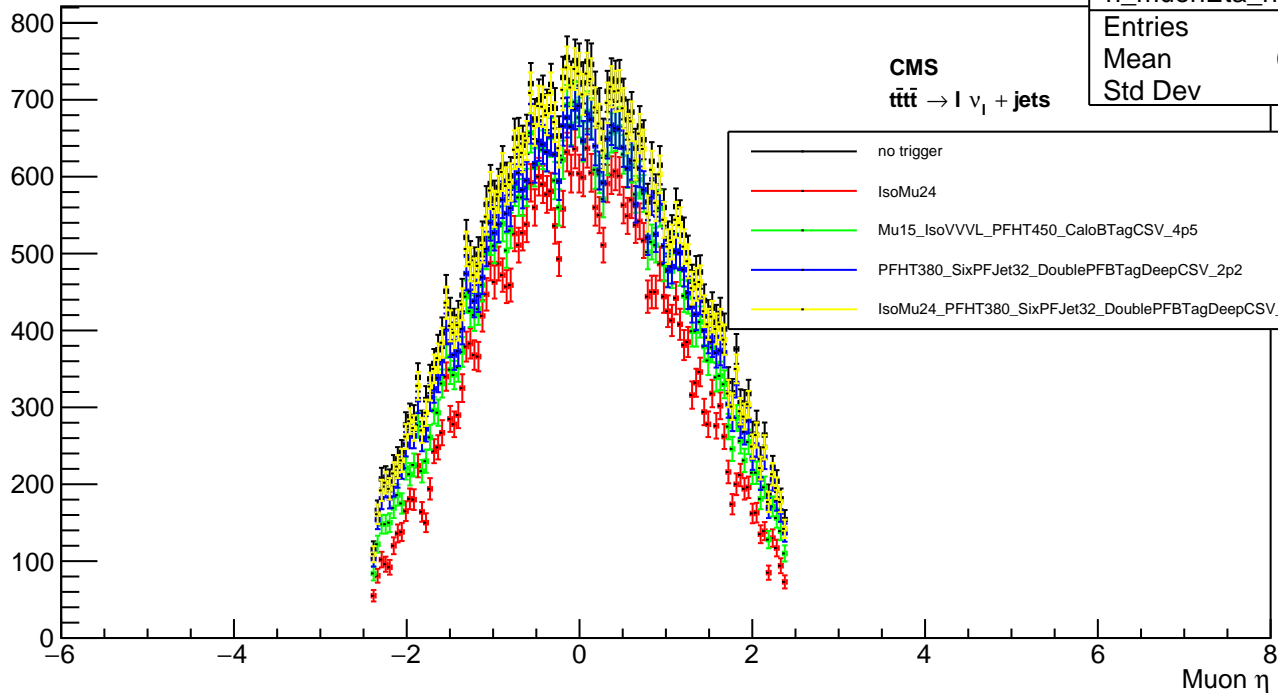








Number of Events per $\delta\eta = 0.046$



h_muonEta_notrigger	
Entries	50650
Mean	0.01167
Std Dev	1.138

Trigger Efficiency per 0.04666666666667 GeV/c

