

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

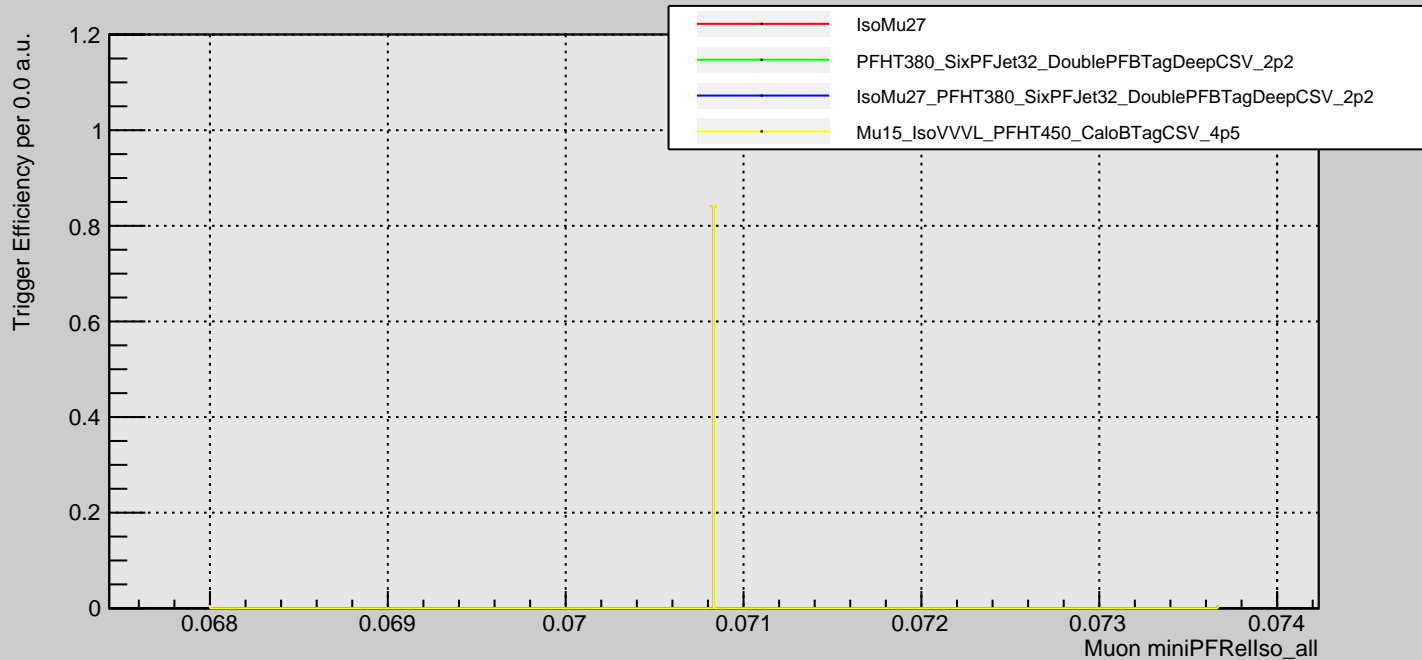
- **Jets:** number  $> 5$
- **Muons plus Electrons:** number  $> 0$

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

**Muon Pt = 5**



## Muon Pt = 10



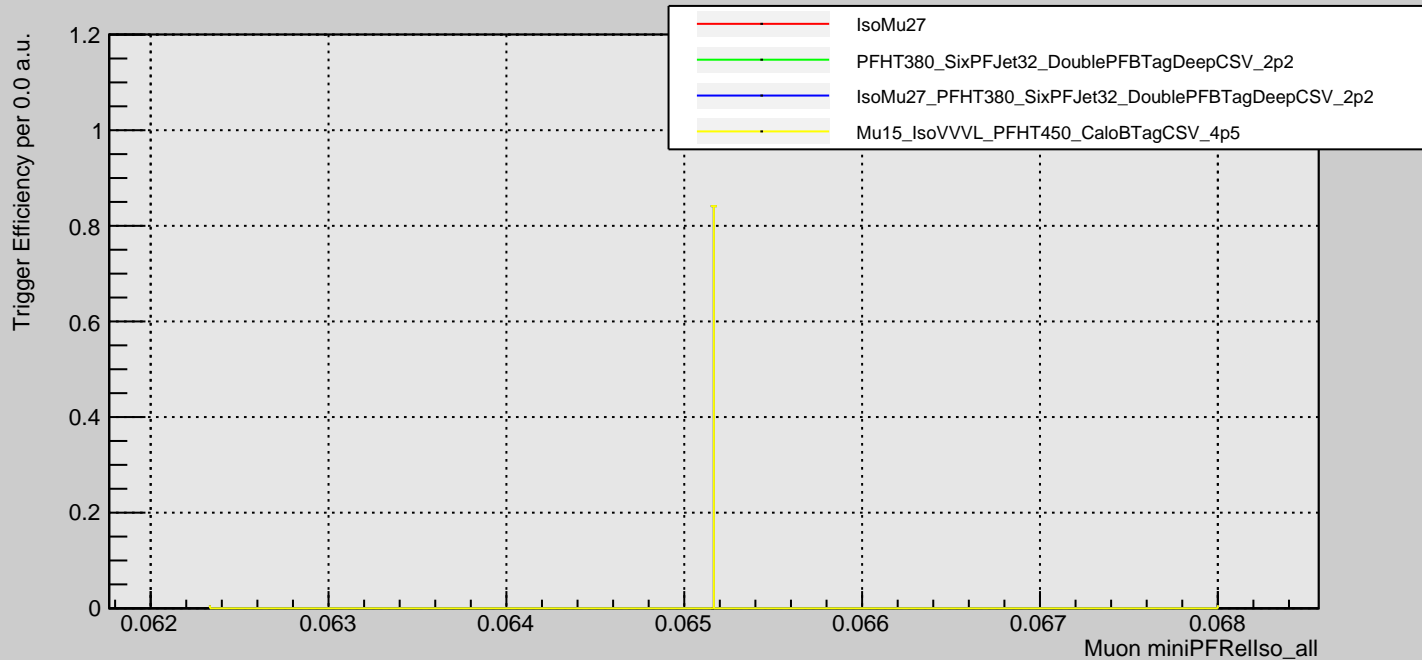
IsoMu27

PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

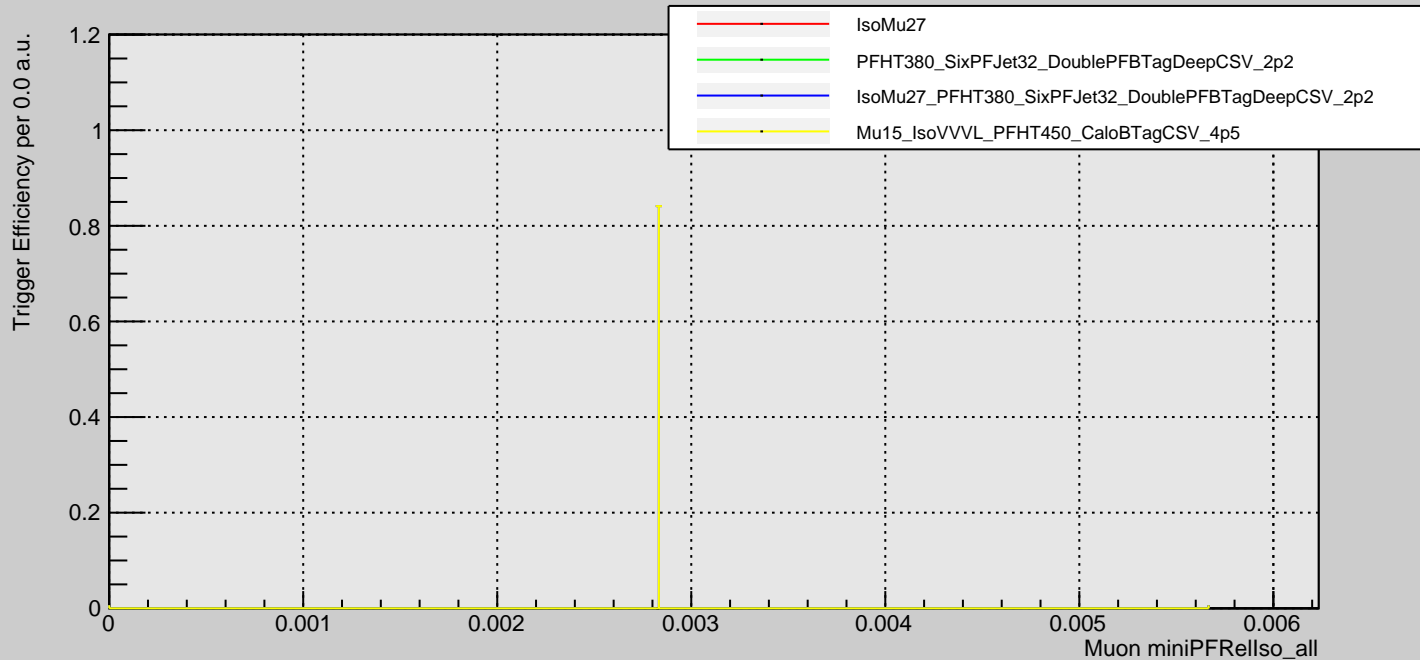
IsoMu27\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5

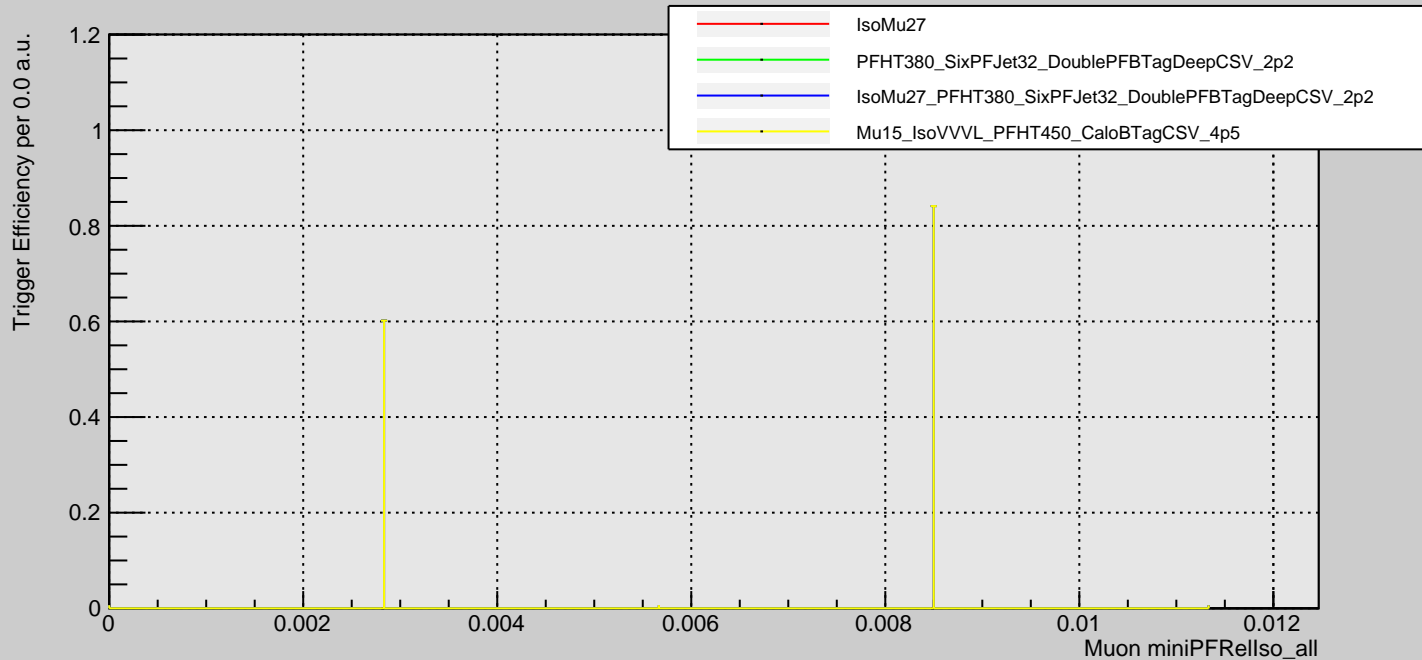
**Muon Pt = 15**



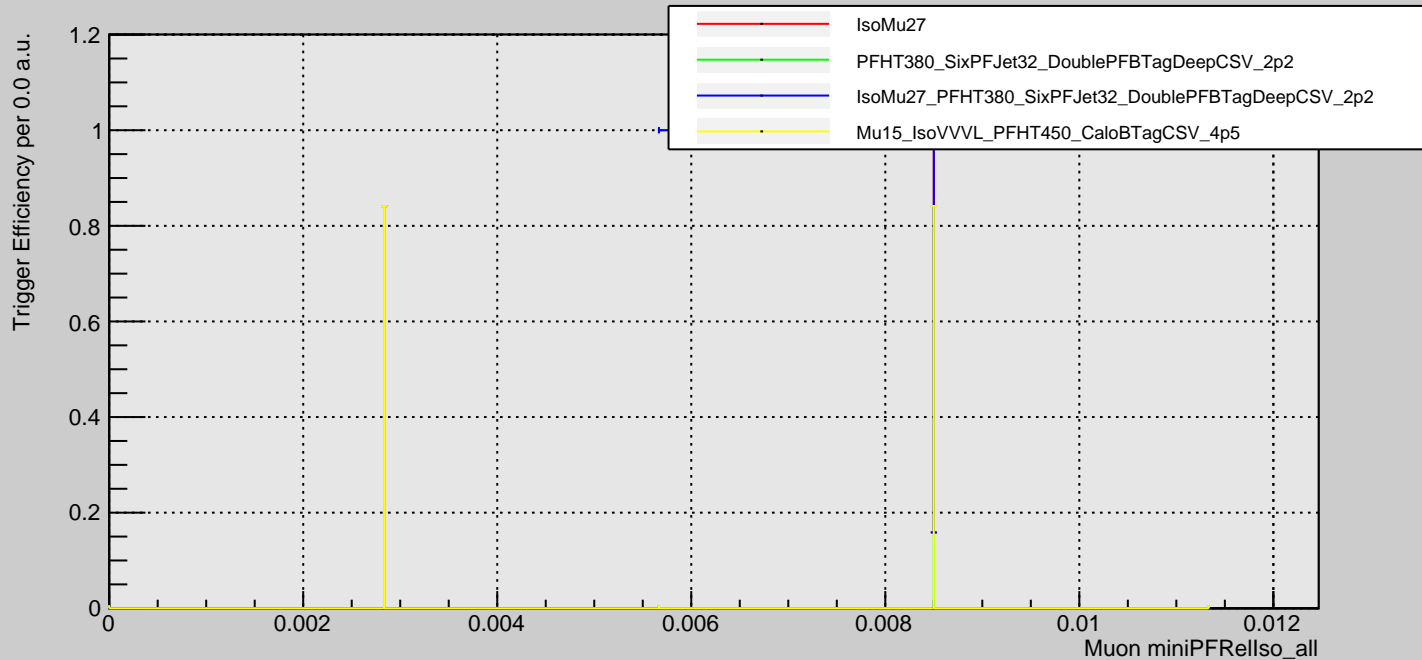
**Muon Pt = 20**



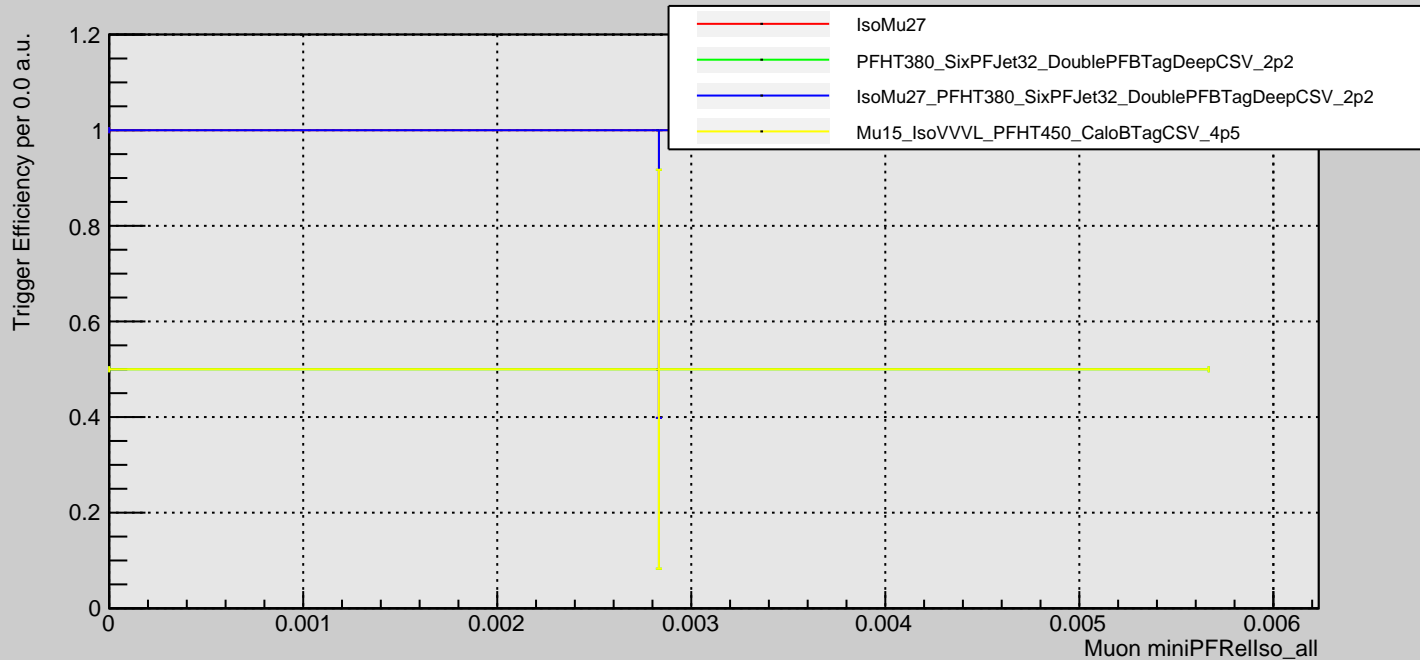
**Muon Pt = 25**



**Muon Pt = 30**

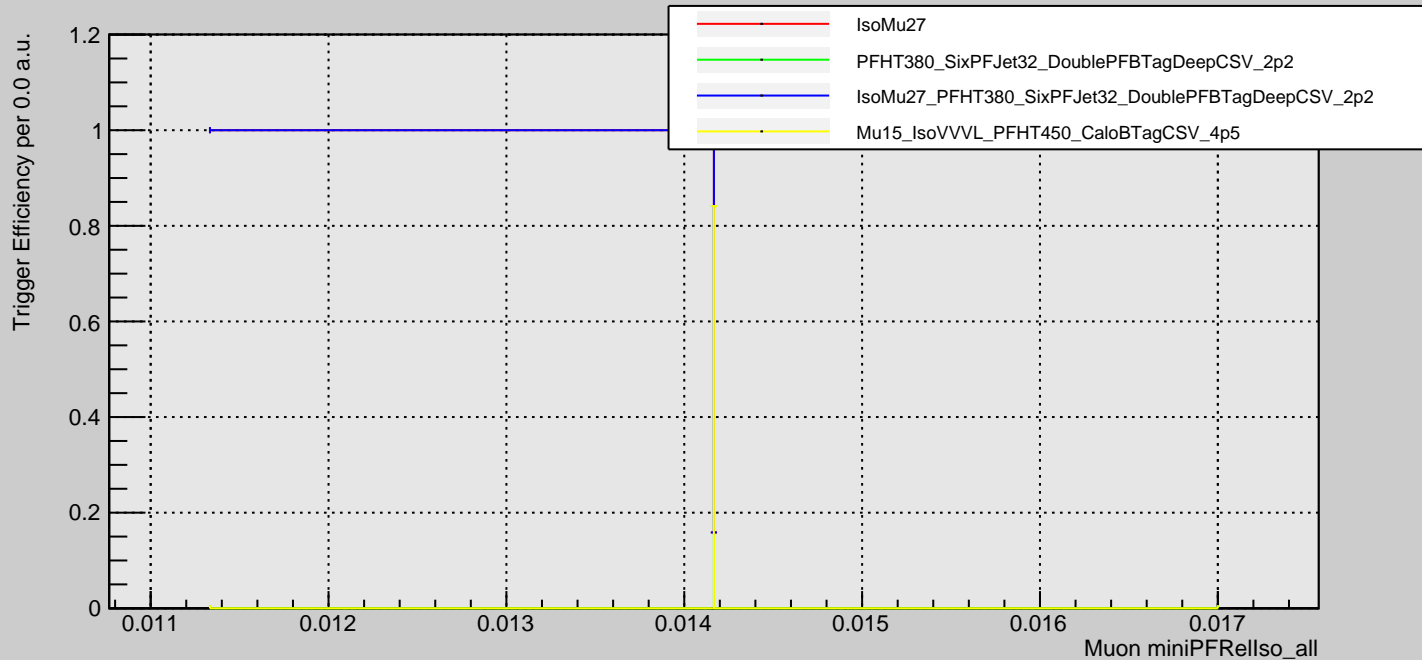


**Muon Pt = 35**





**Muon Pt = 40**



## Muon Pt = 45



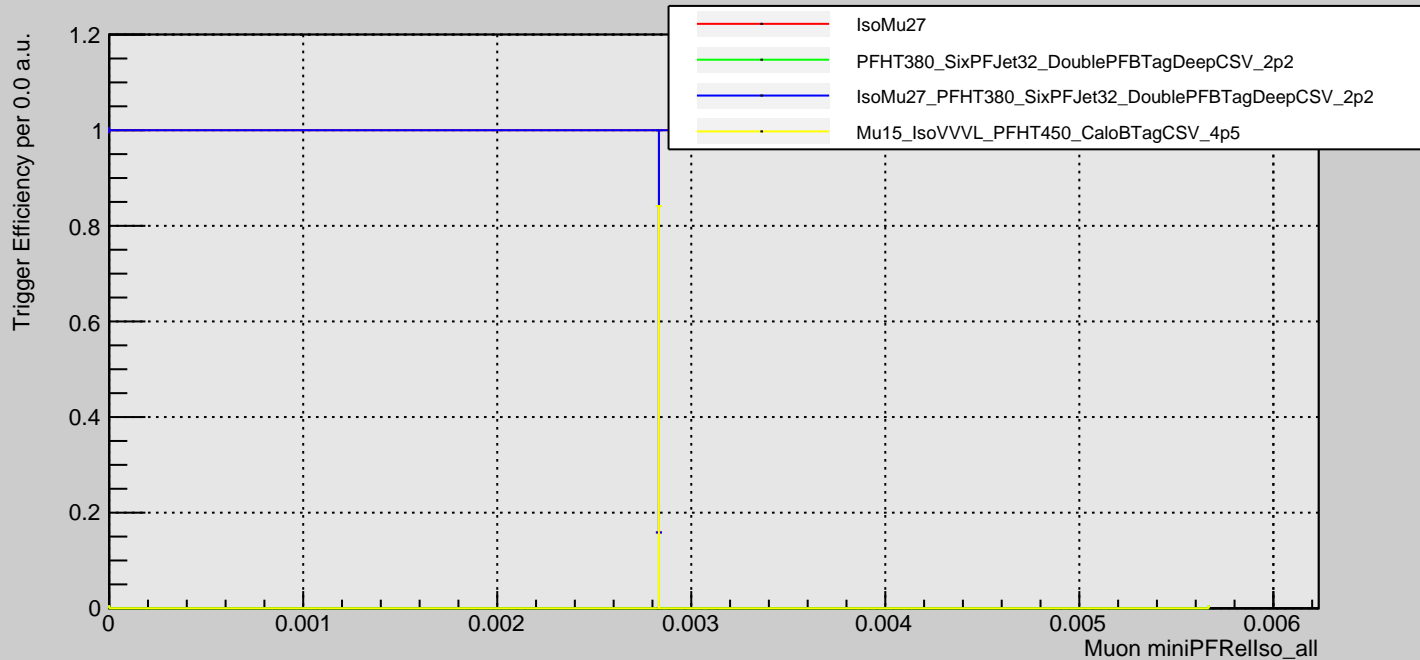
IsoMu27

PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

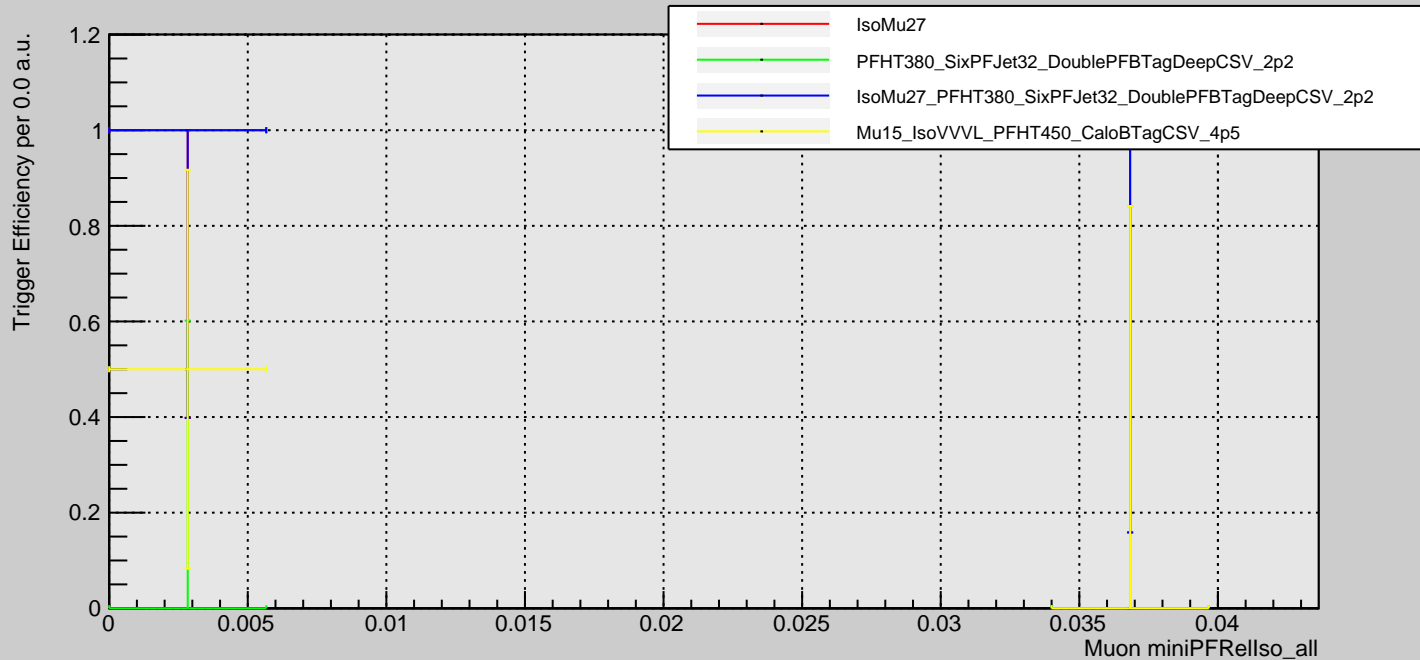
IsoMu27\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5

**Muon Pt = 50**



**Muon Pt = 55**



**Muon Pt = 60**



IsoMu27

PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

IsoMu27\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5

## Muon Pt = 65



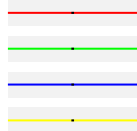
IsoMu27

PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

IsoMu27\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5

## Muon Pt = 70



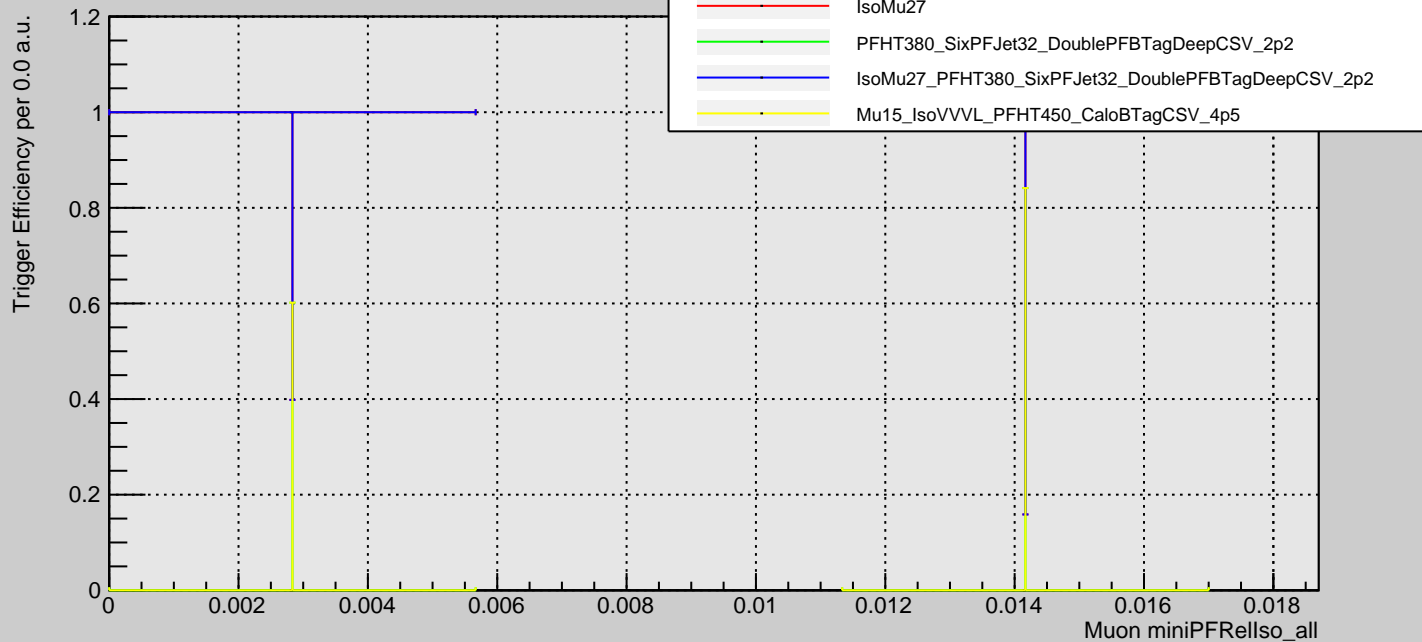
IsoMu27

PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

IsoMu27\_PFHT380\_SixPFJet32\_DoublePFBTagDeepCSV\_2p2

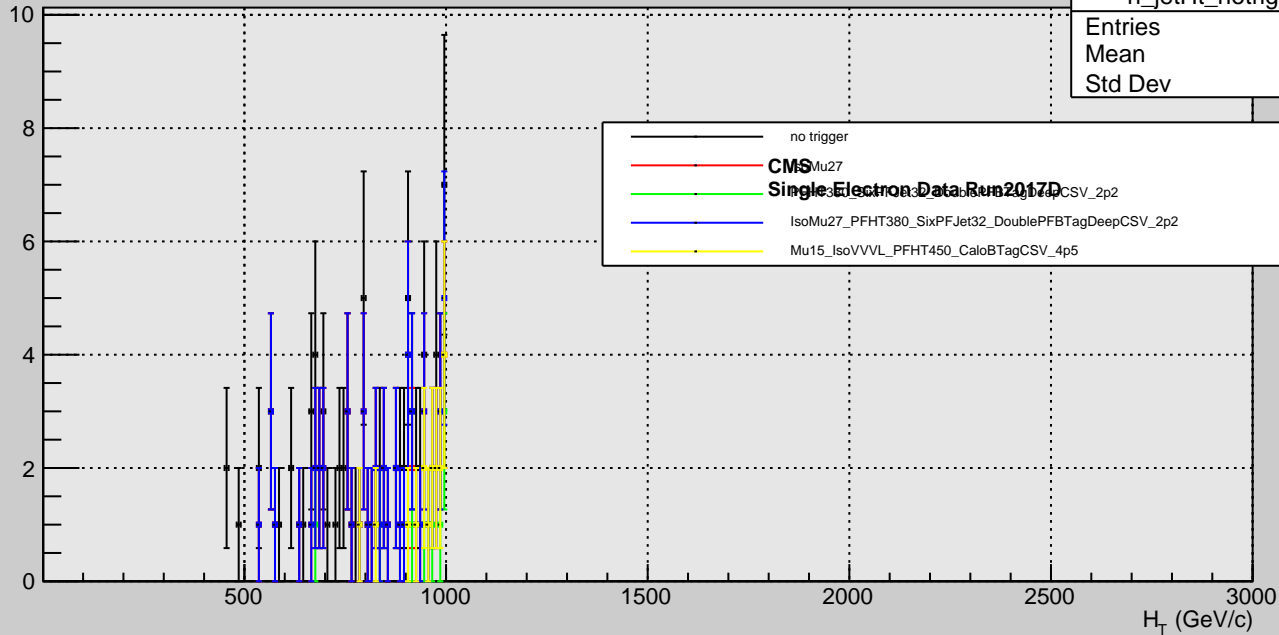
Mu15\_IsoVVVL\_PFHT450\_CaloBTagCSV\_4p5

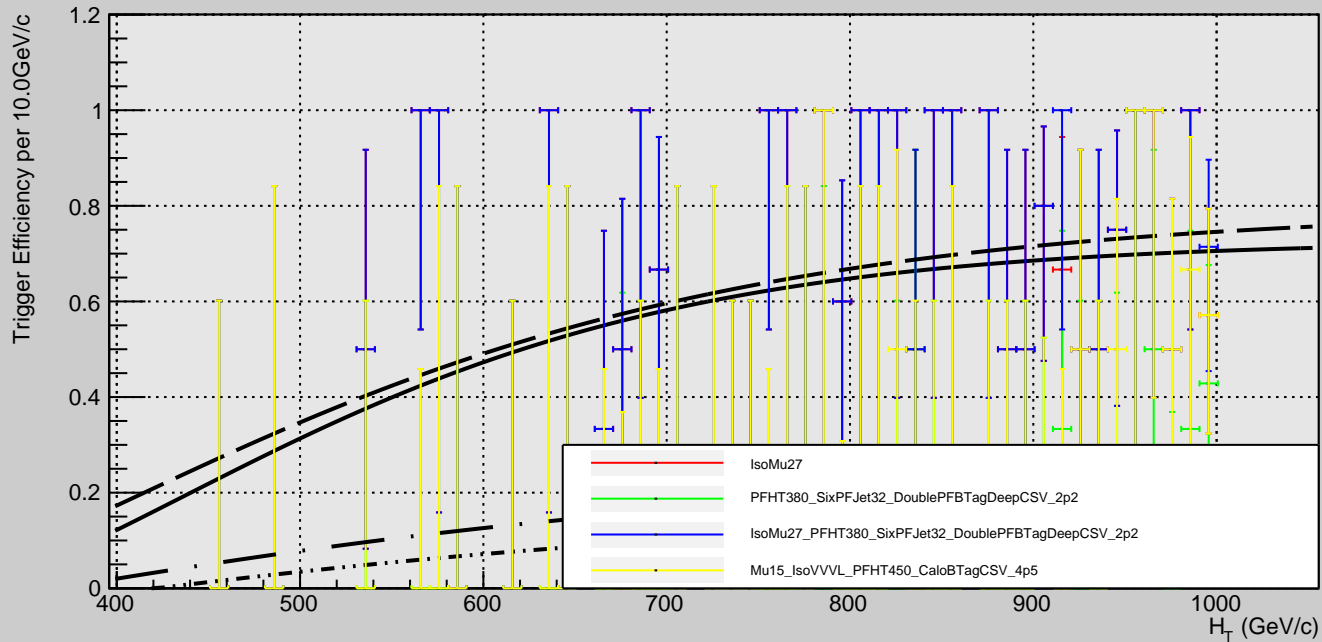
**Muon Pt = 75**

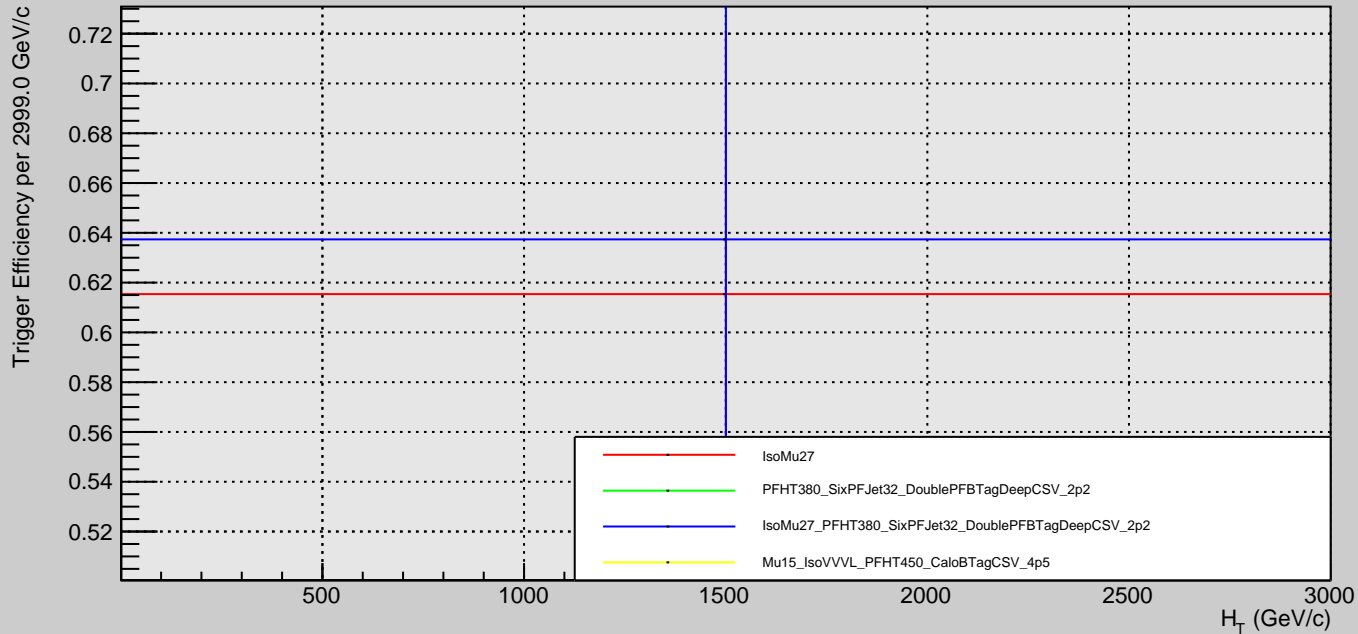




Number of Events per 10 GeV/c



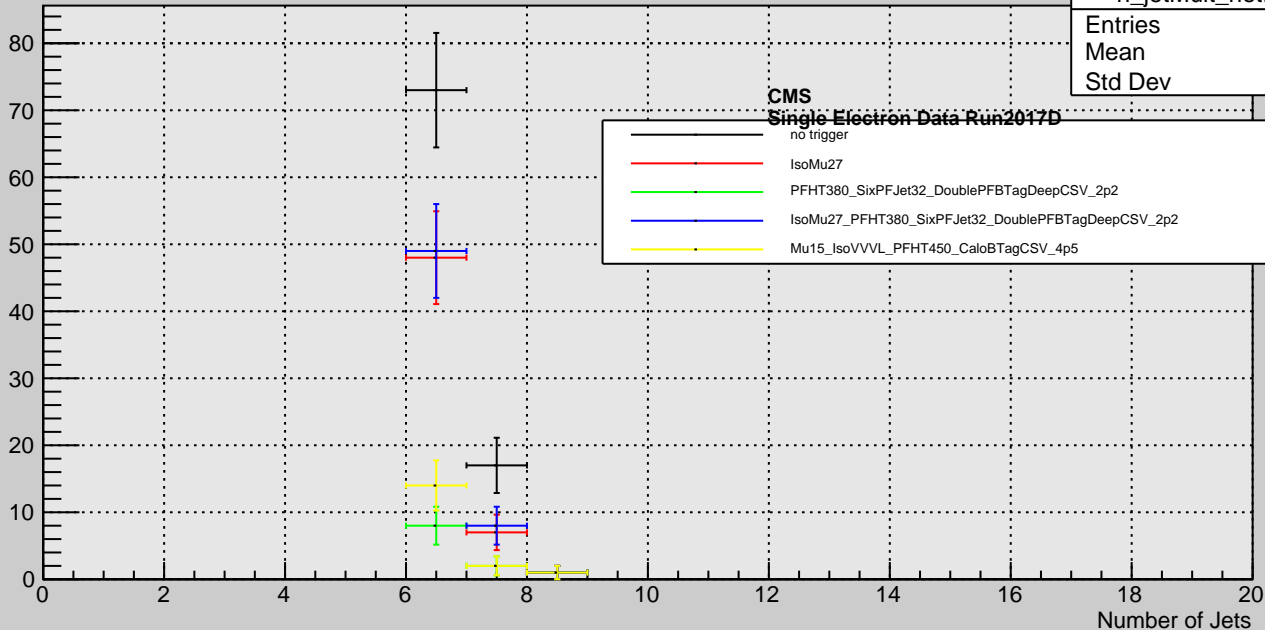
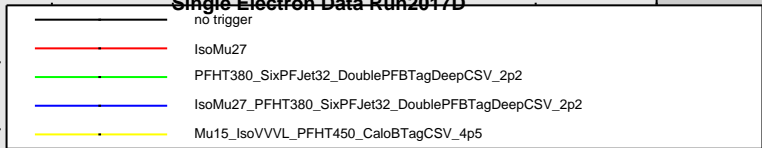


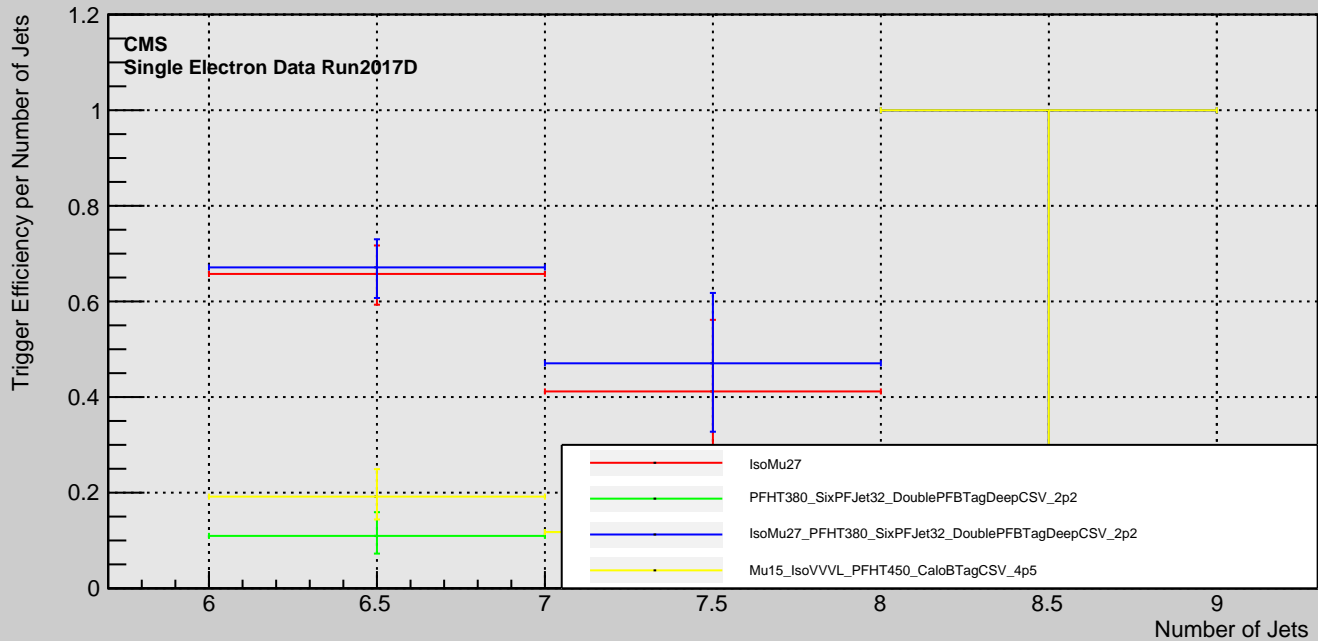


Number of Events per Number of Jets

h_jetMult_notrigger	
Entries	91
Mean	6.209
Std Dev	0.4326

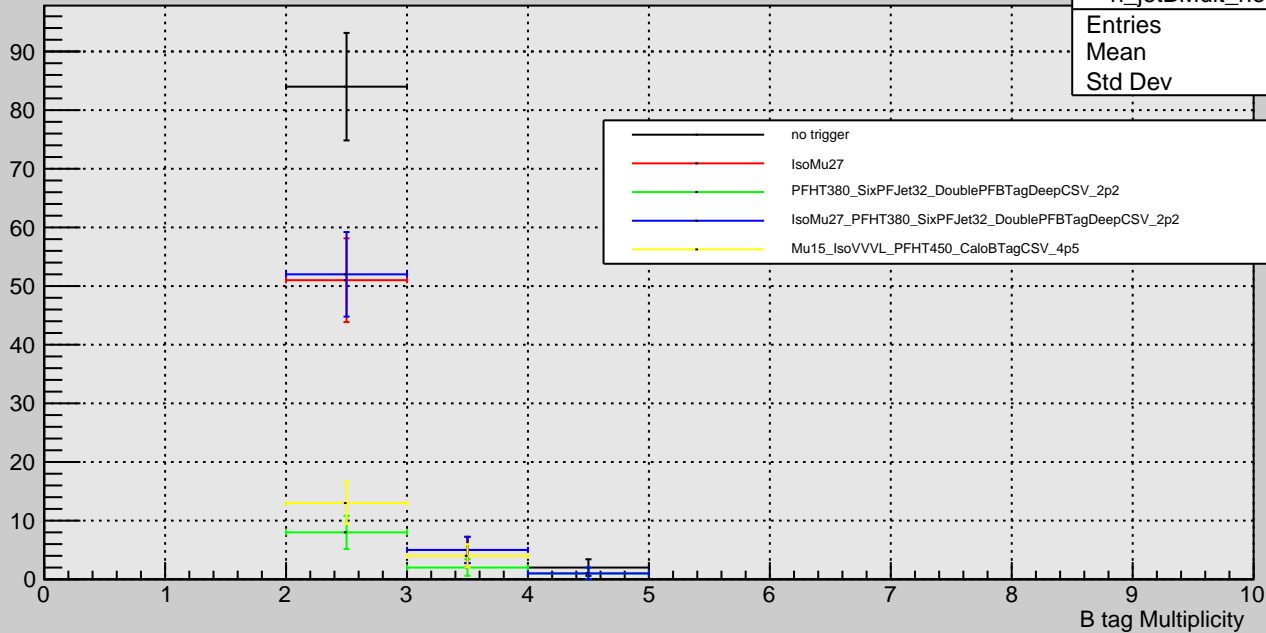
CMS  
Single Electron Data Run2017D



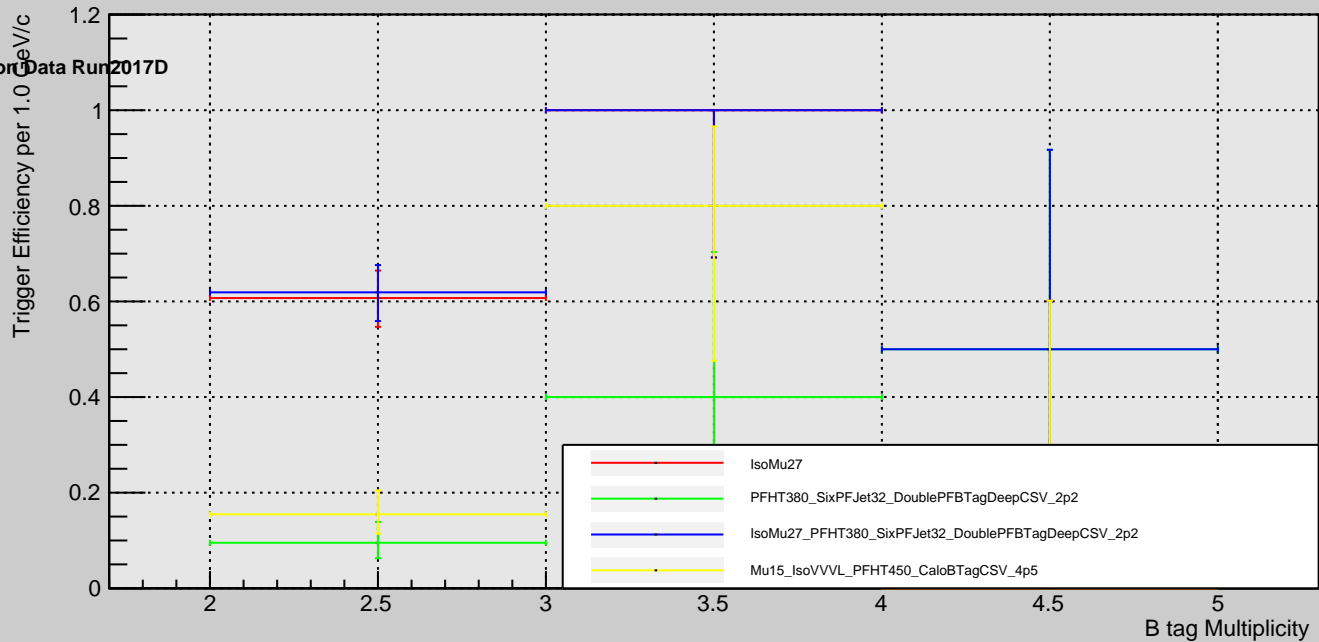


Number of Events per Number of Jets

h_jetBMult_notrigger	
Entries	91
Mean	2.599
Std Dev	0.3648



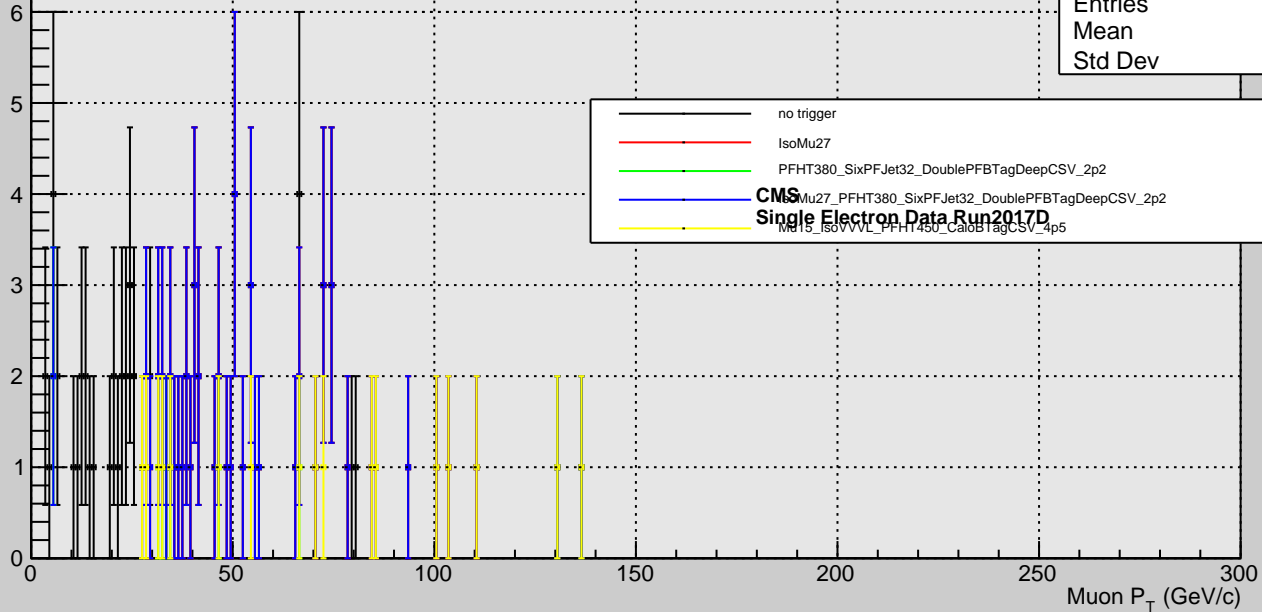
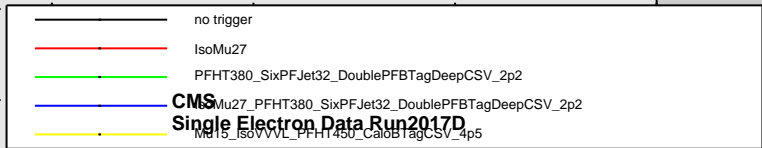
electron Data Run 2017D



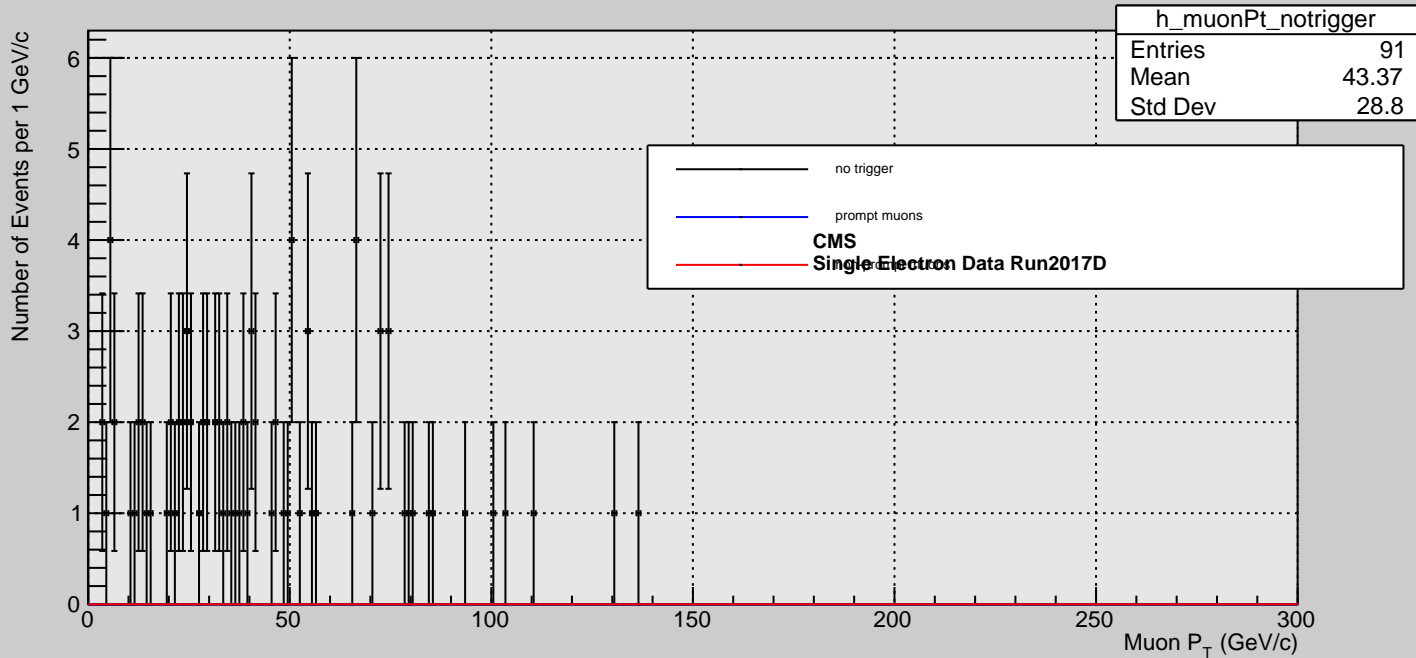
Number of Events per 1 GeV/c

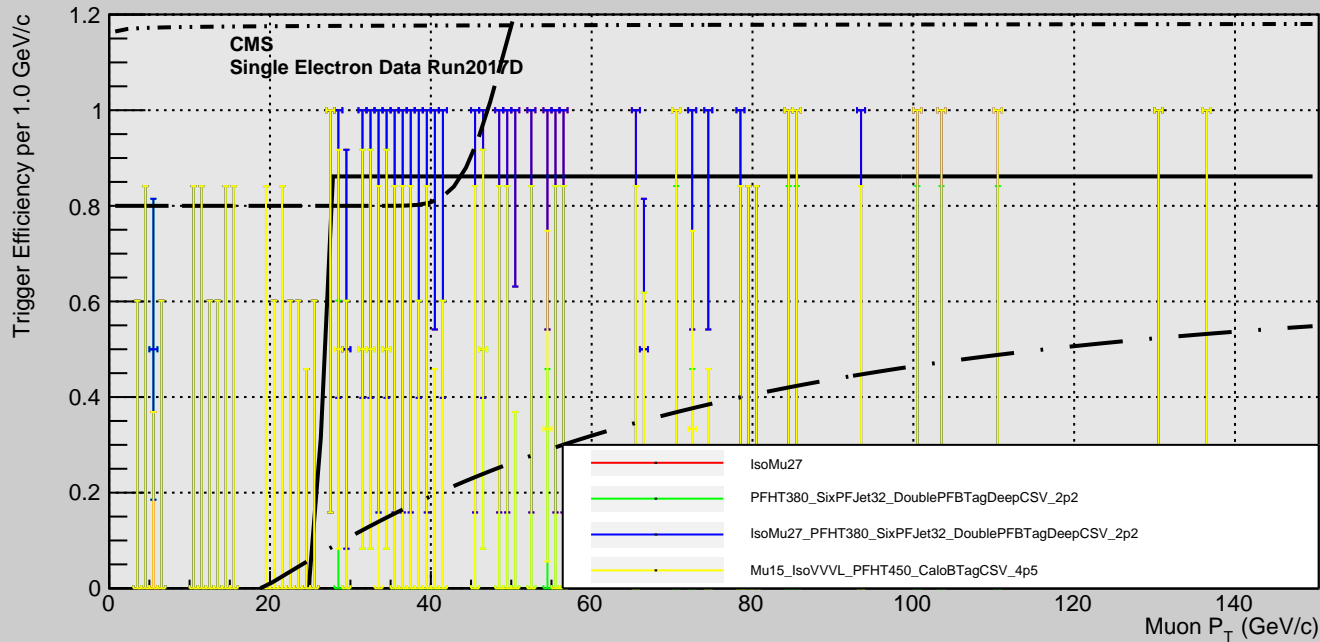
h\_muonPt\_notrigger

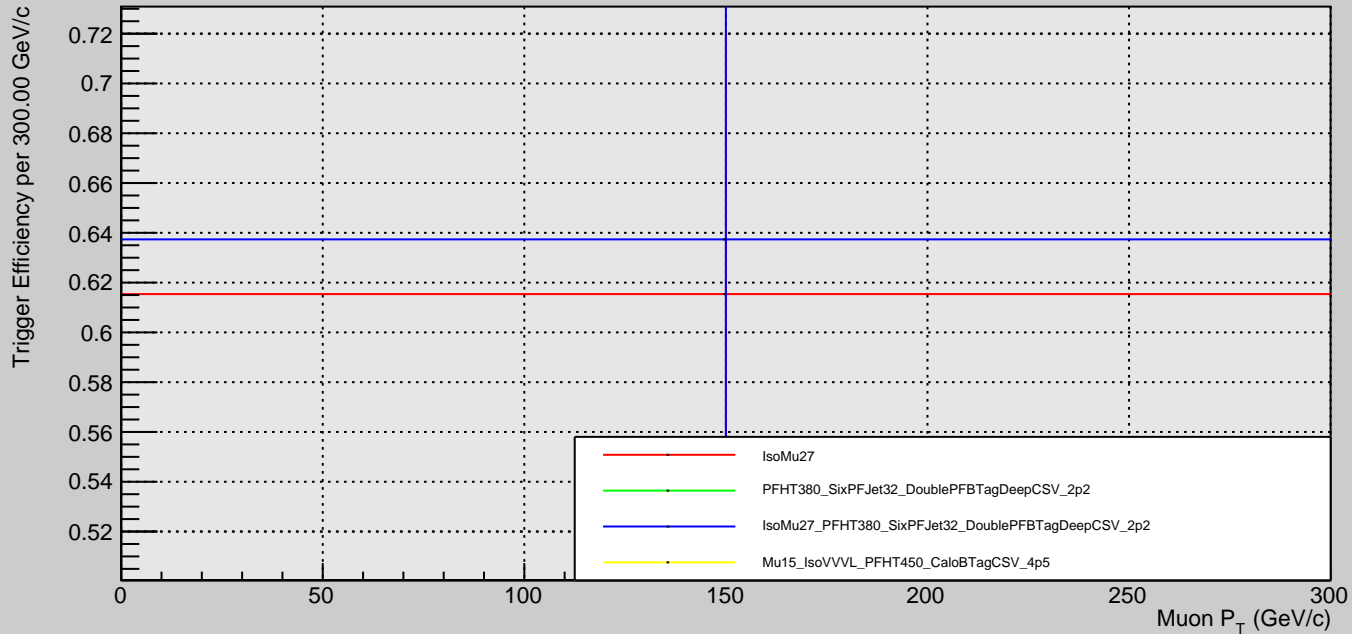
Entries	91
Mean	43.37
Std Dev	28.8



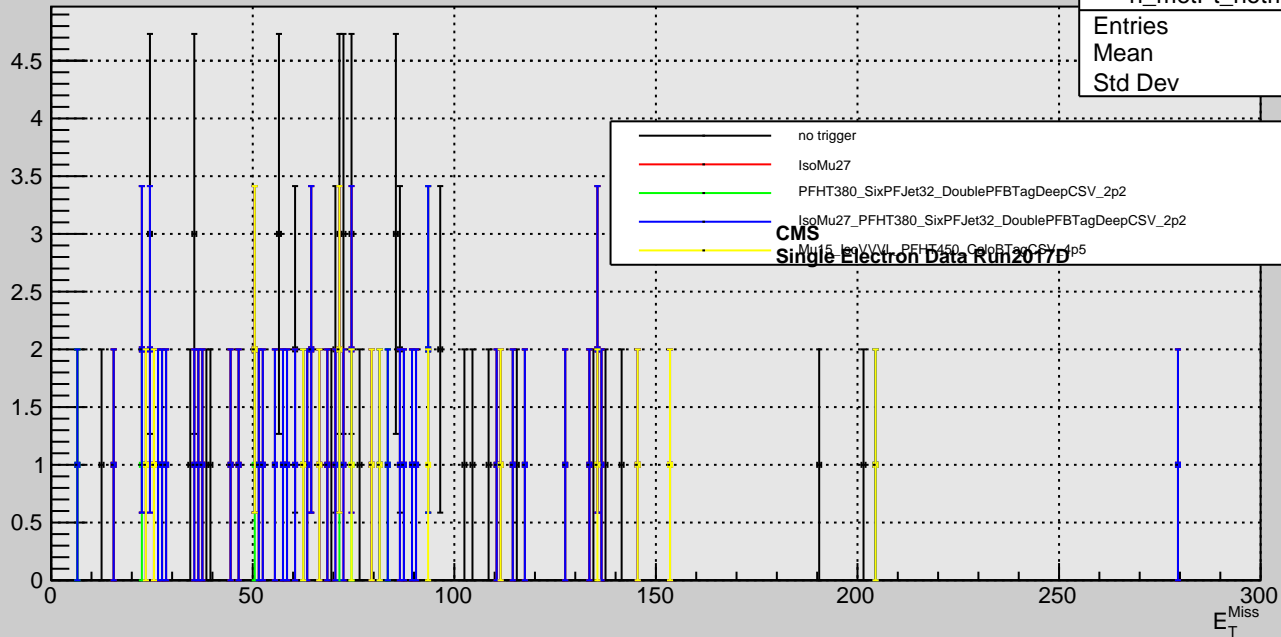






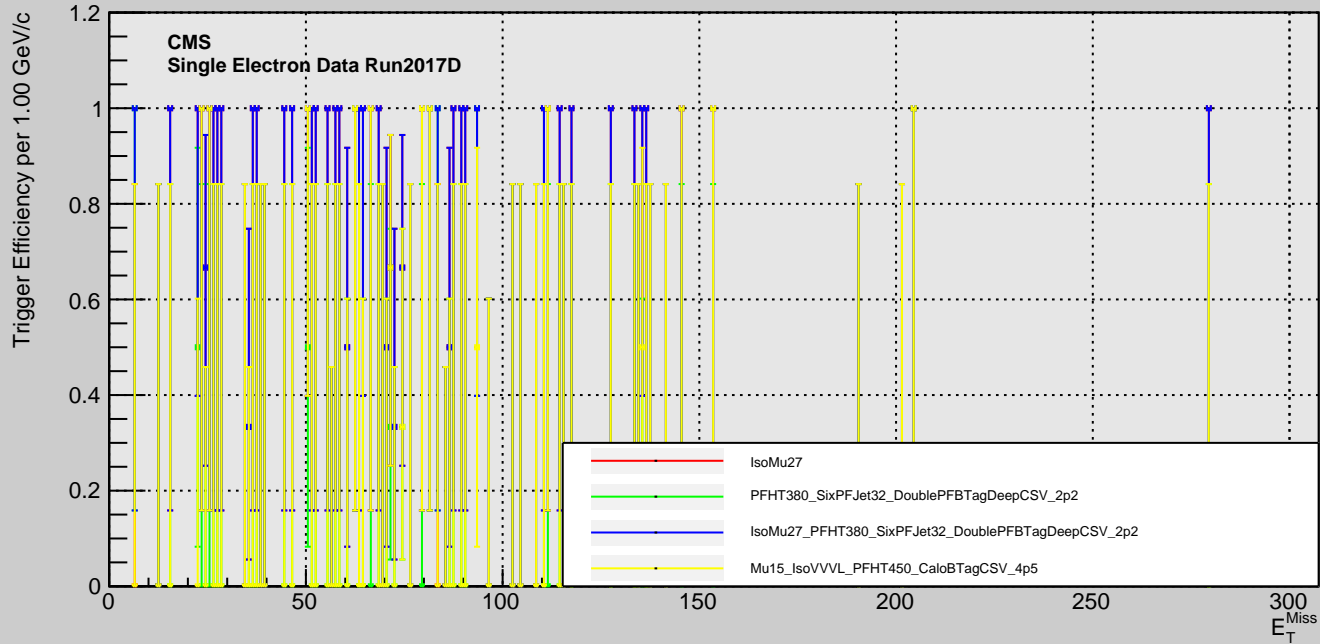


Number of Events per 1 GeV/c



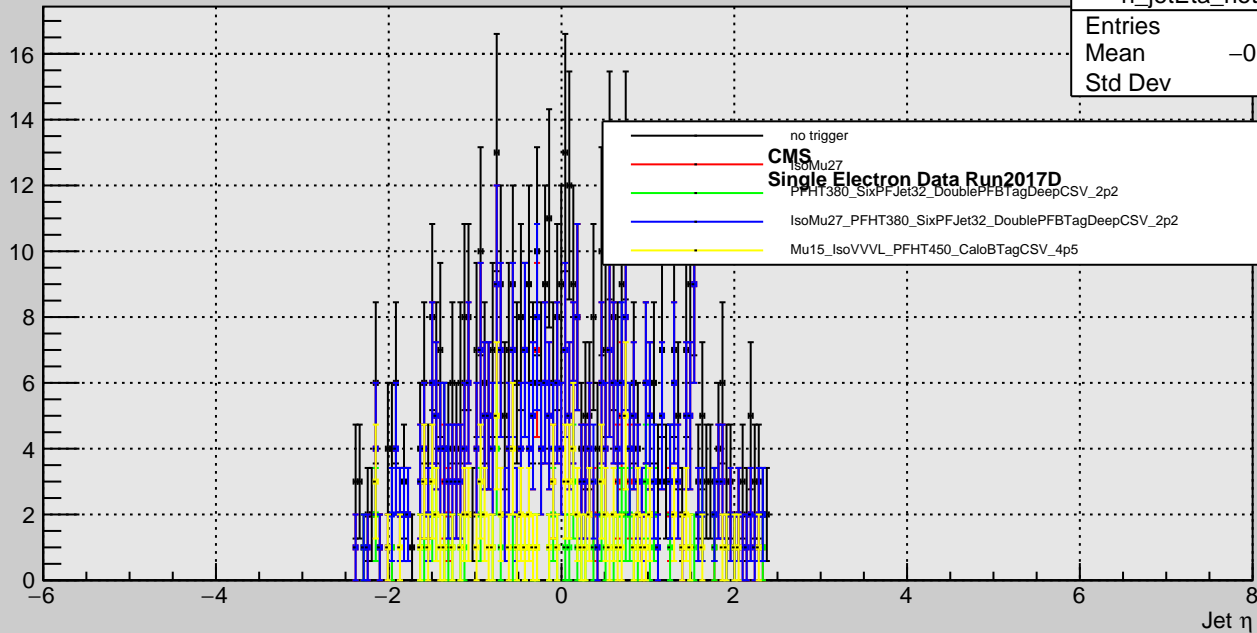
h\_metPt\_notrigger

Entries	91
Mean	78.41
Std Dev	46.51



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

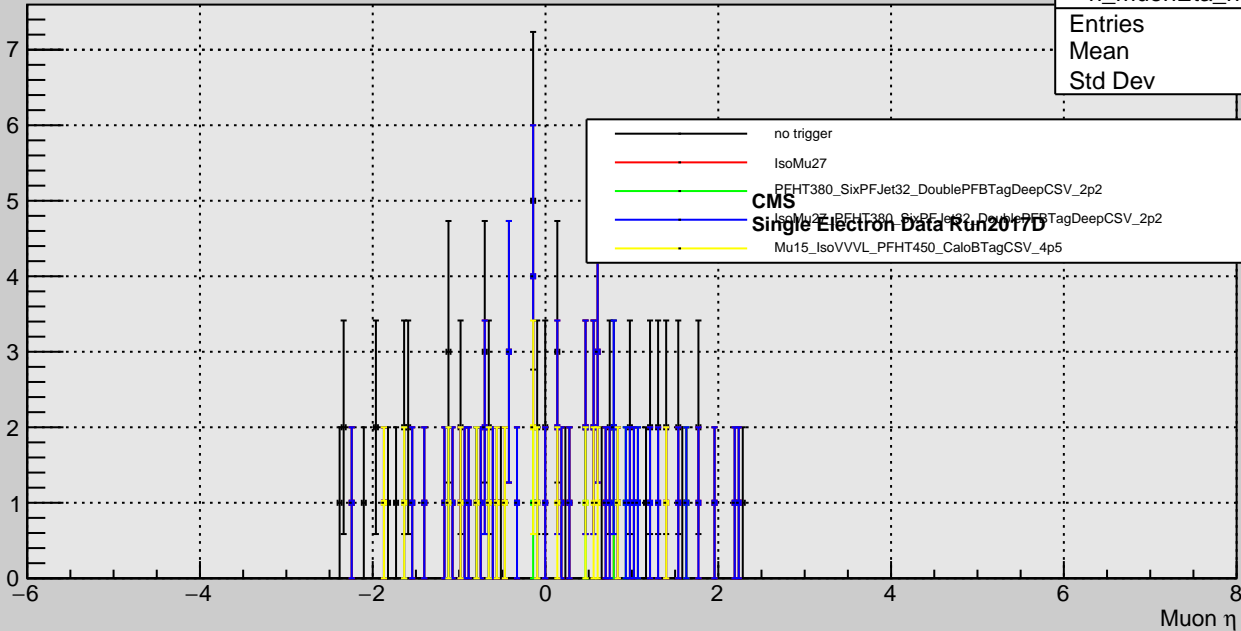
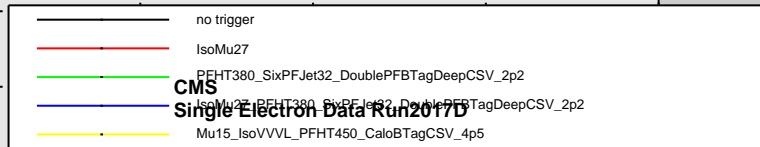
h_jetEta_notrigger	
Entries	565
Mean	-0.0005449
Std Dev	1.143

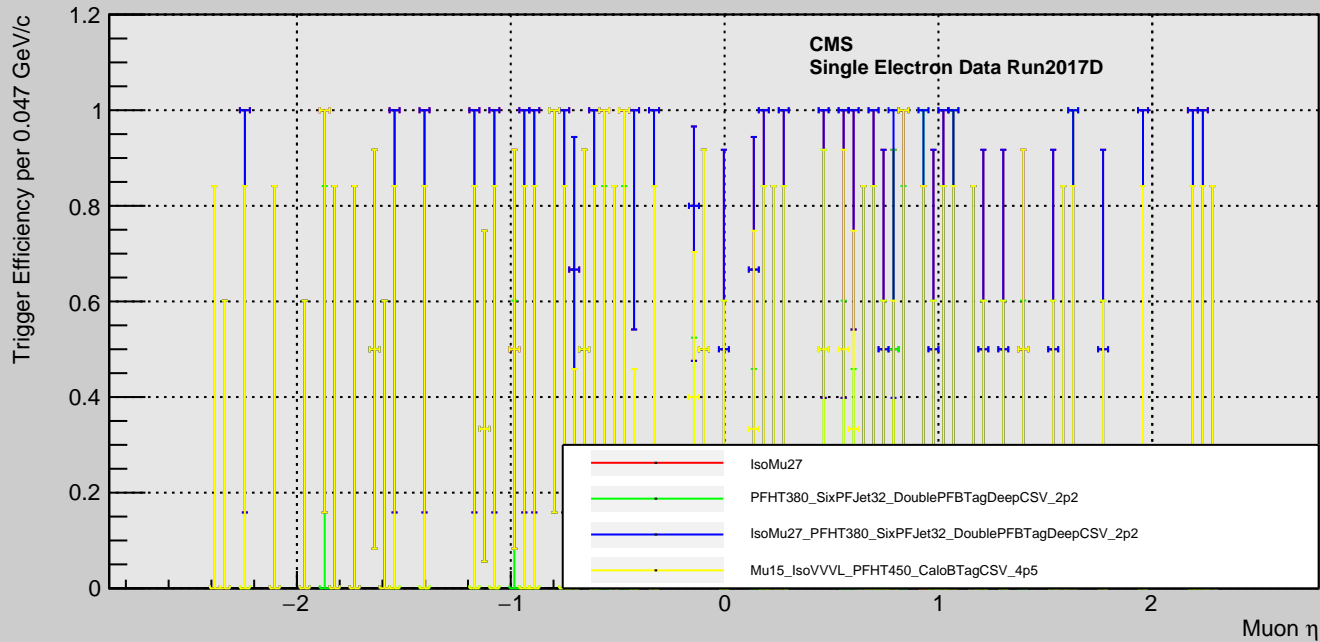


Number of Events per  $\delta\eta = 0.046$

h\_muonEta\_notrigger

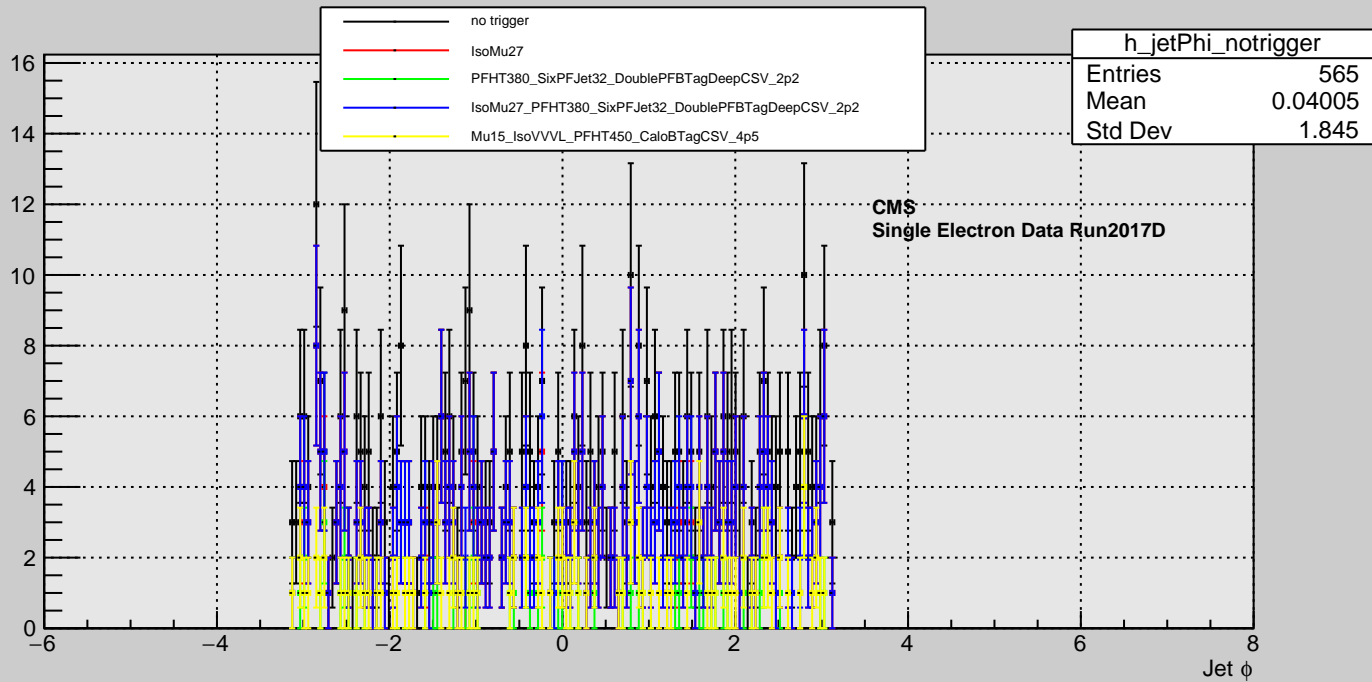
Entries	91
Mean	-0.0719
Std Dev	1.199



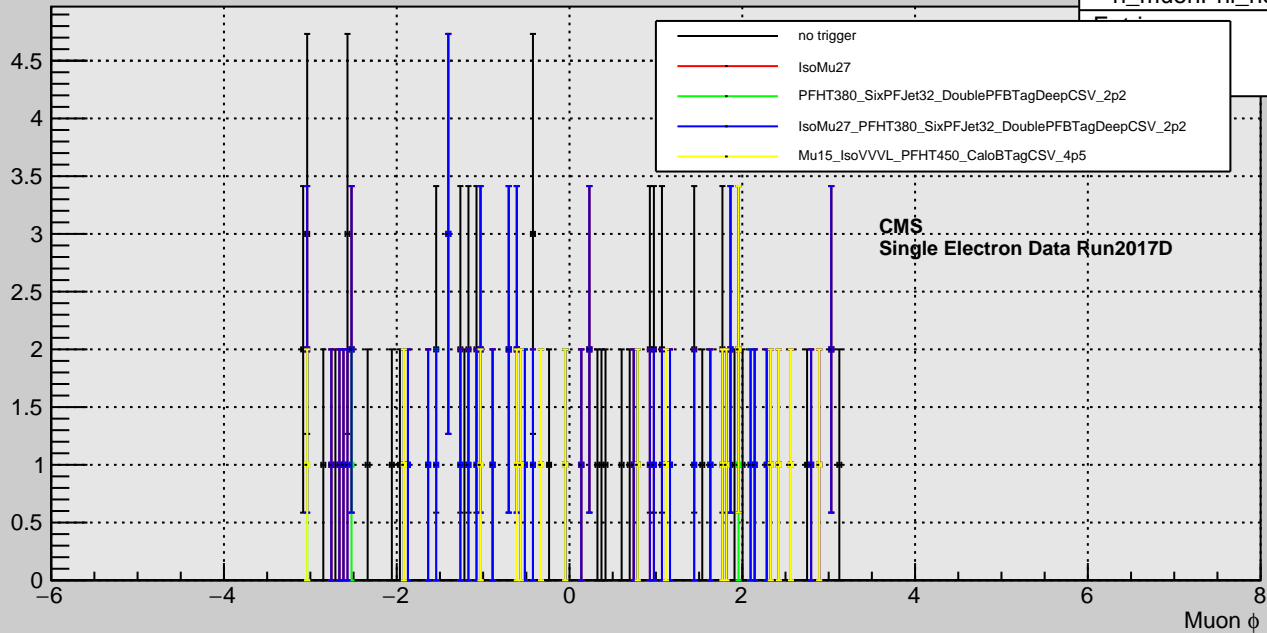




Number of Events per  $\delta\phi = 0.046$



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



h\_muonPhi\_notrigger

91

-0.114

1.817

