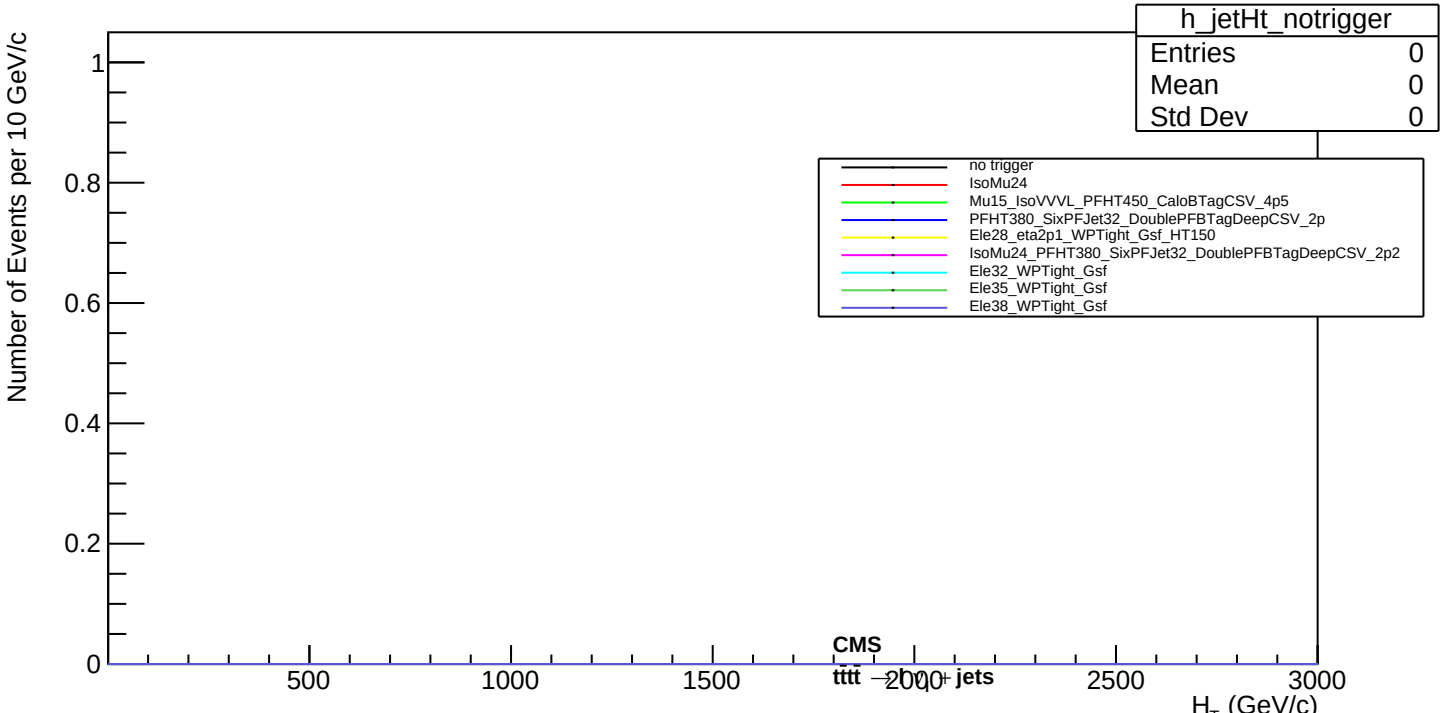
On-line (pre-)selection Requisites for:

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

Event Limit: None (see last page)

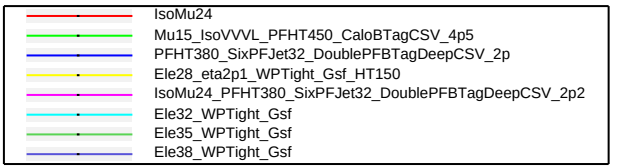
Off-line (post-)selection Requisites for:

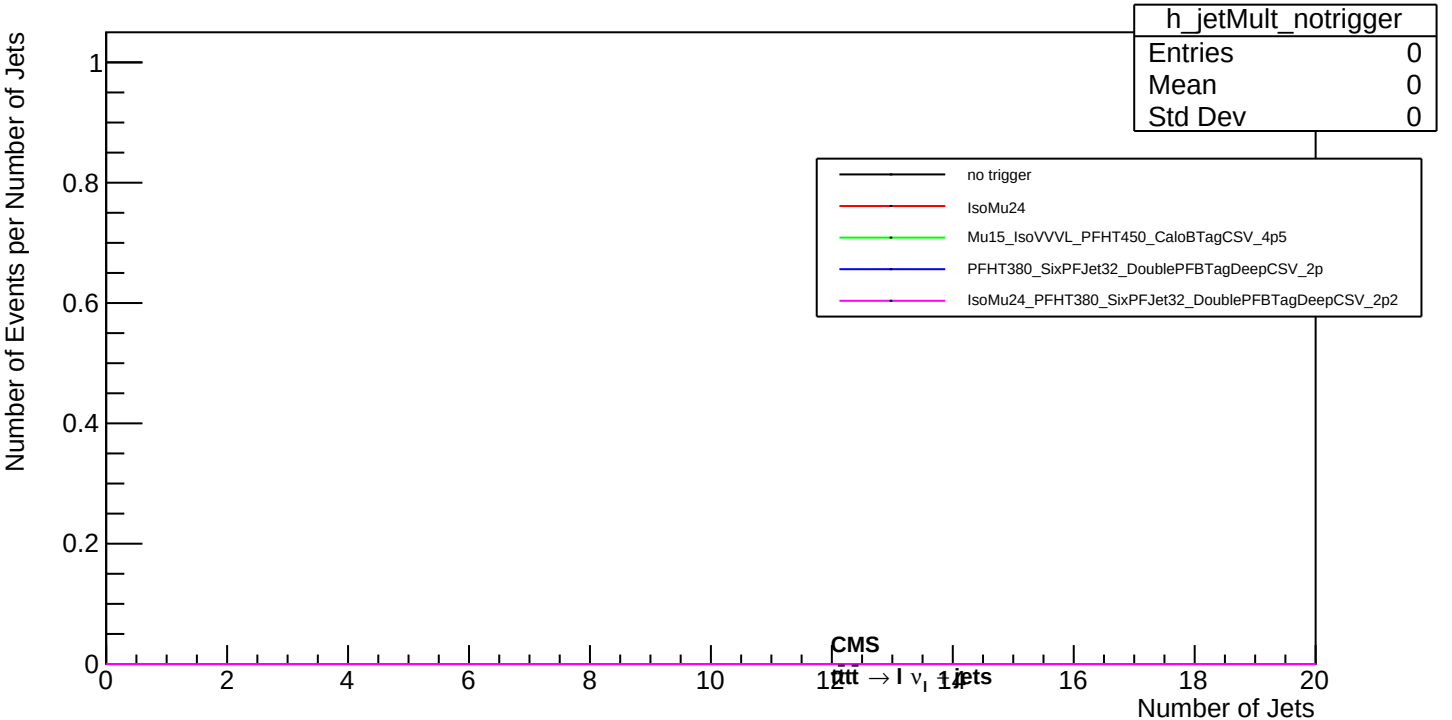
- **Jets:** jetId > 2 , p_T > 30 and |η|<2.4 (for at least 6)
  btagDeepFlavB > 0.7489 (for at least one jet)
- **Muons:** has tightId, |η|<2.4 and miniPFRelIso_all<0.15 (for at least 1)


h_jetHt_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Ele28_eta2p1_WPTight_Gsf_HT150
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Ele32_WPTight_Gsf
Ele35_WPTight_Gsf
Ele38_WPTight_Gsf
Number of Events per 10 GeV/c
0
0.2
0.4
0.6
0.8
1
500
1000
1500
2000
2500
3000
H_T (GeV/c)
CMS
tttt → 2ℓ + jets

CMS

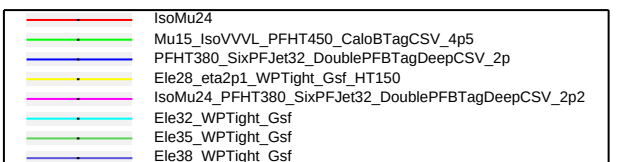
$t\bar{t}t\bar{t} \rightarrow l\ \nu_l + jets$

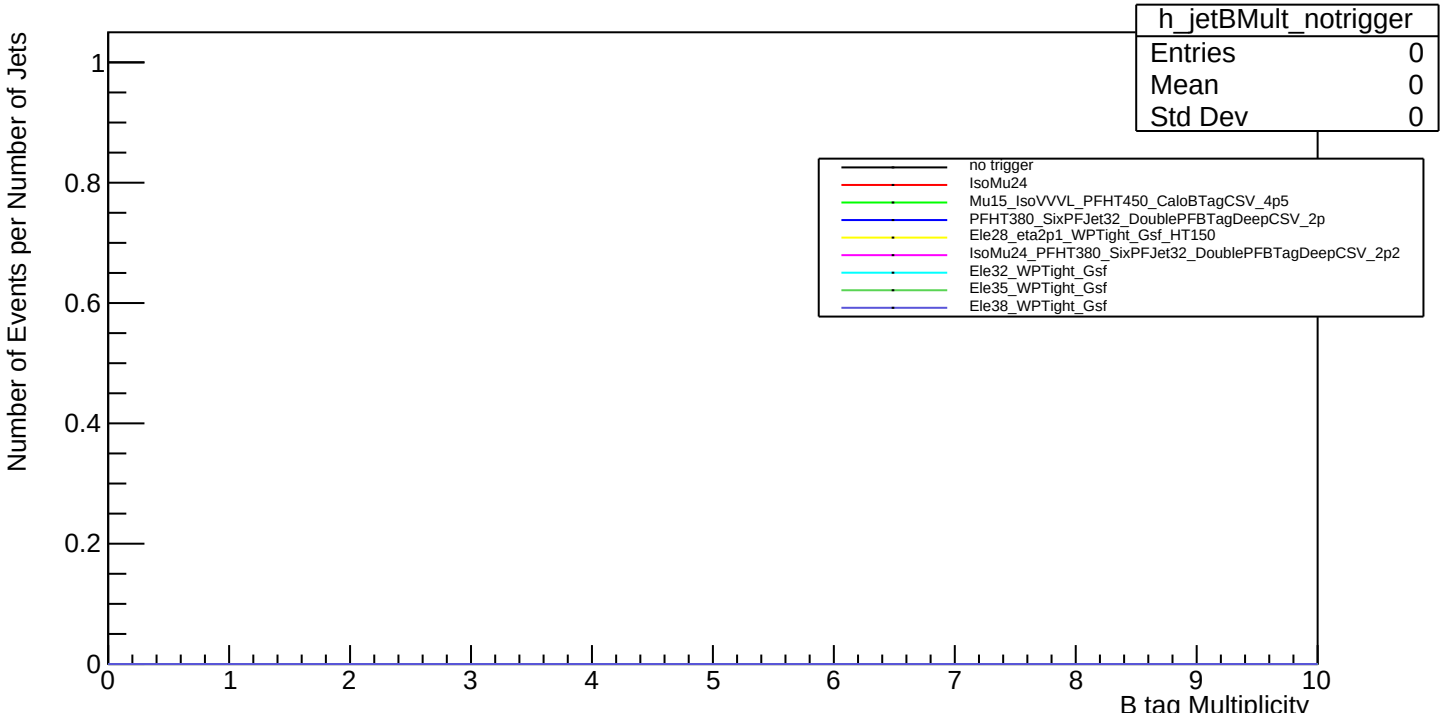



h_jetMult_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Number of Events per Number of Jets
Number of Jets
CMS
$t\bar{t} \rightarrow l\,\nu_l$ + jets
0
0.2
0.4
0.6
0.8
1
0
2
4
6
8
10
12
14
16
18
20

CMS

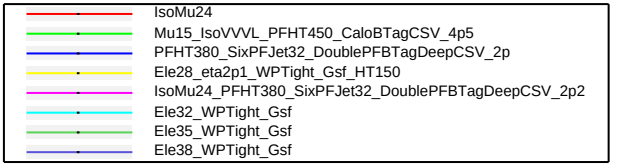
$t\bar{t}t\bar{t} \rightarrow l\ \nu_l + jets$

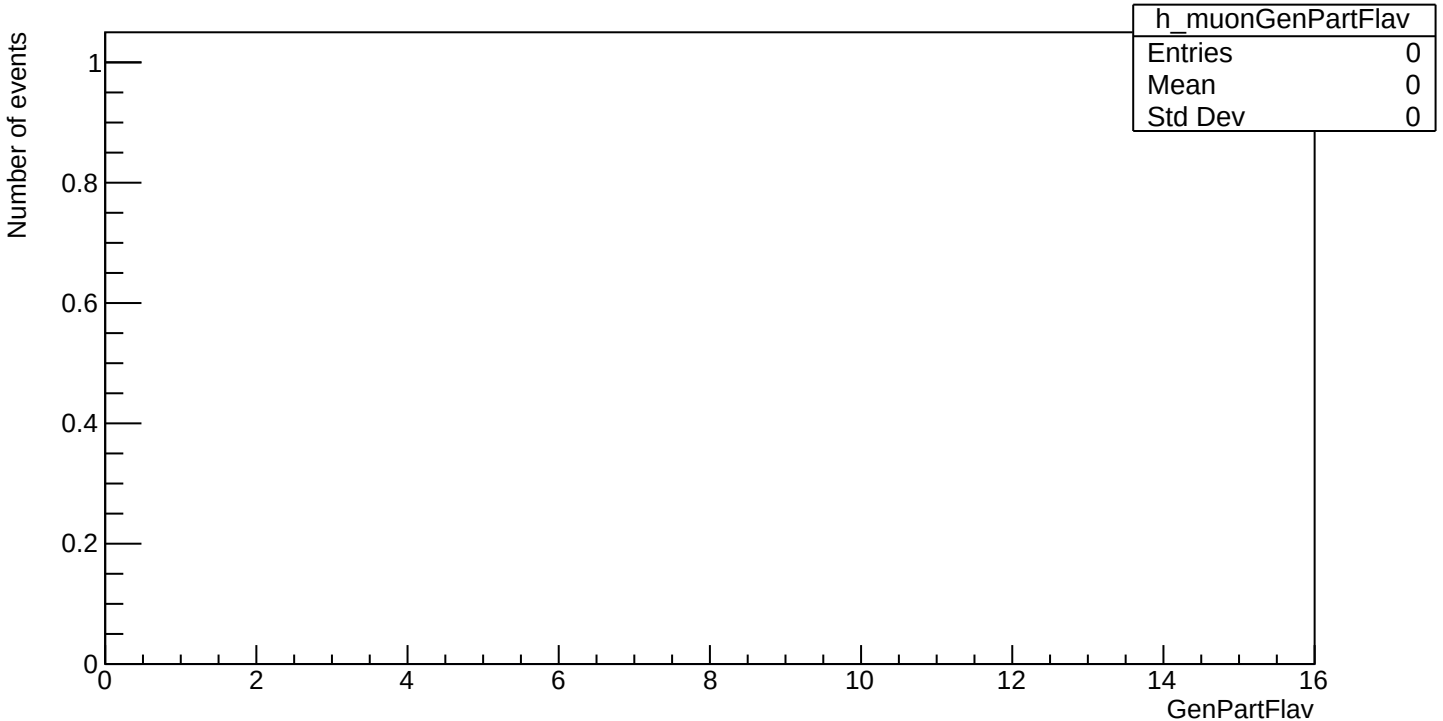


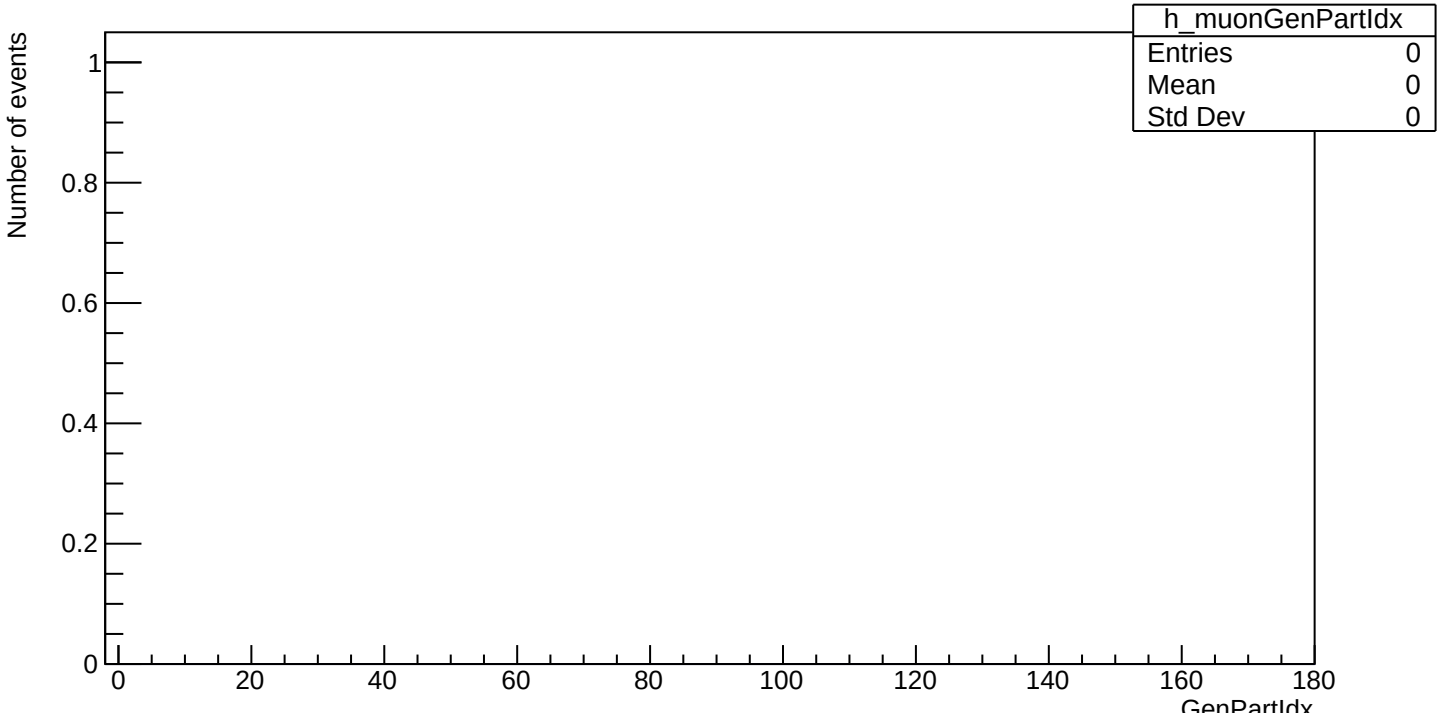

h_jetBMult_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Ele28_eta2p1_WPTight_Gsf_HT150
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Ele32_WPTight_Gsf
Ele35_WPTight_Gsf
Ele38_WPTight_Gsf
Number of Events per Number of Jets
0
0.2
0.4
0.6
0.8
1
0
1
2
3
4
5
6
7
8
9
10
B tag Multiplicity

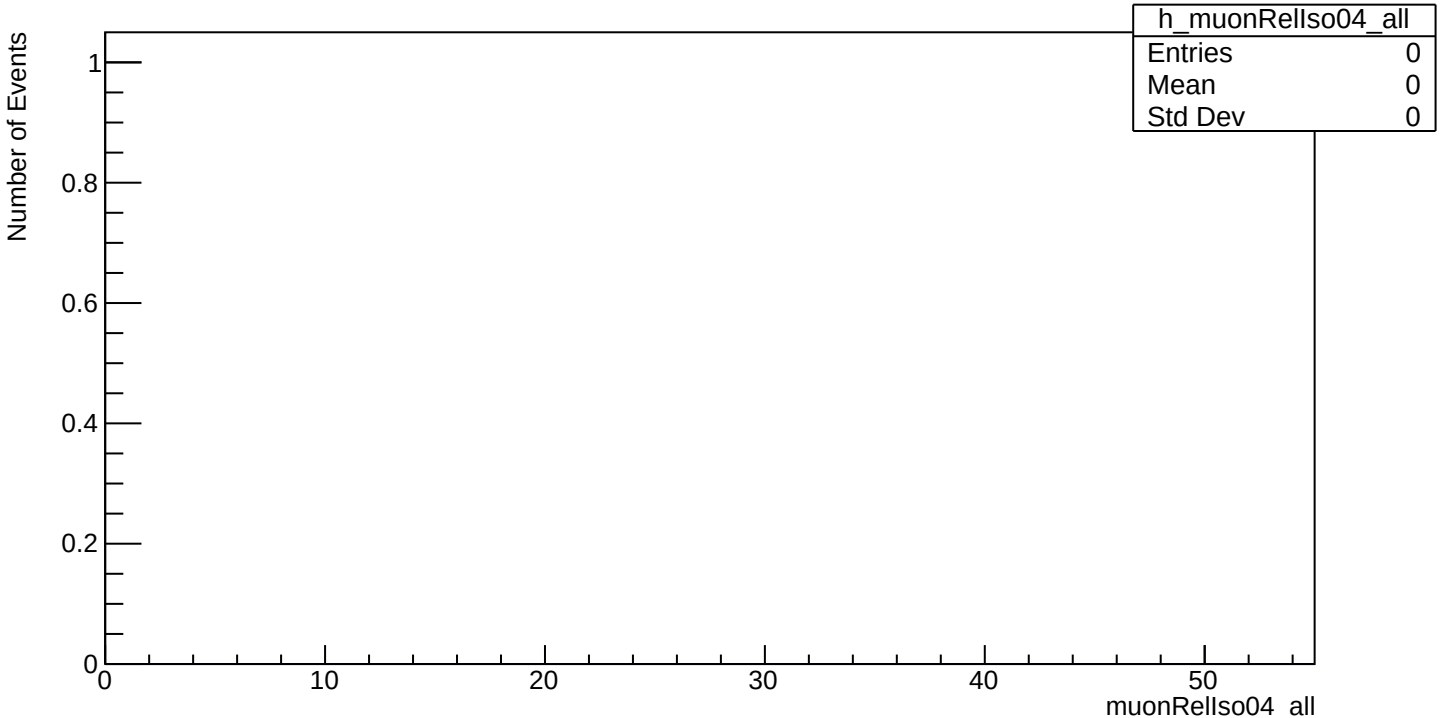
CMS

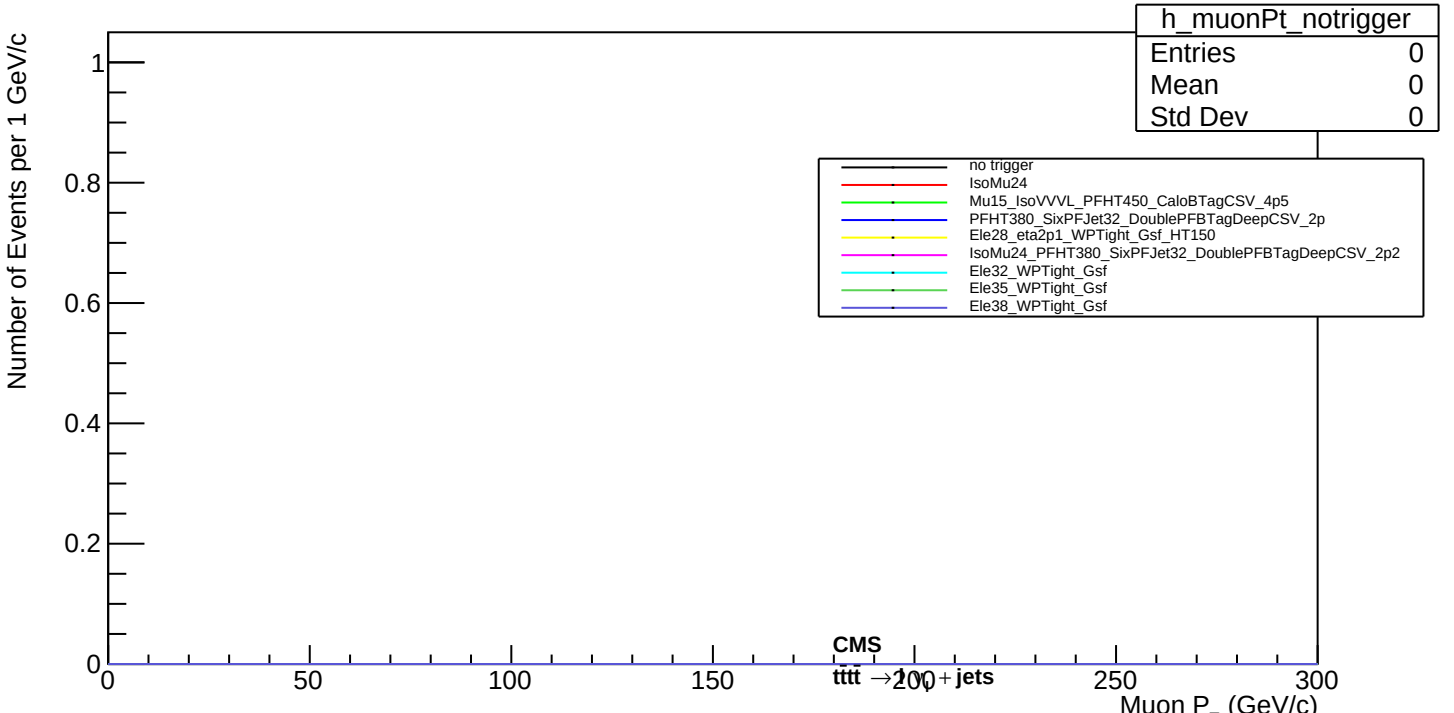
$t\bar{t}t\bar{t} \rightarrow l\ \nu_l + jets$

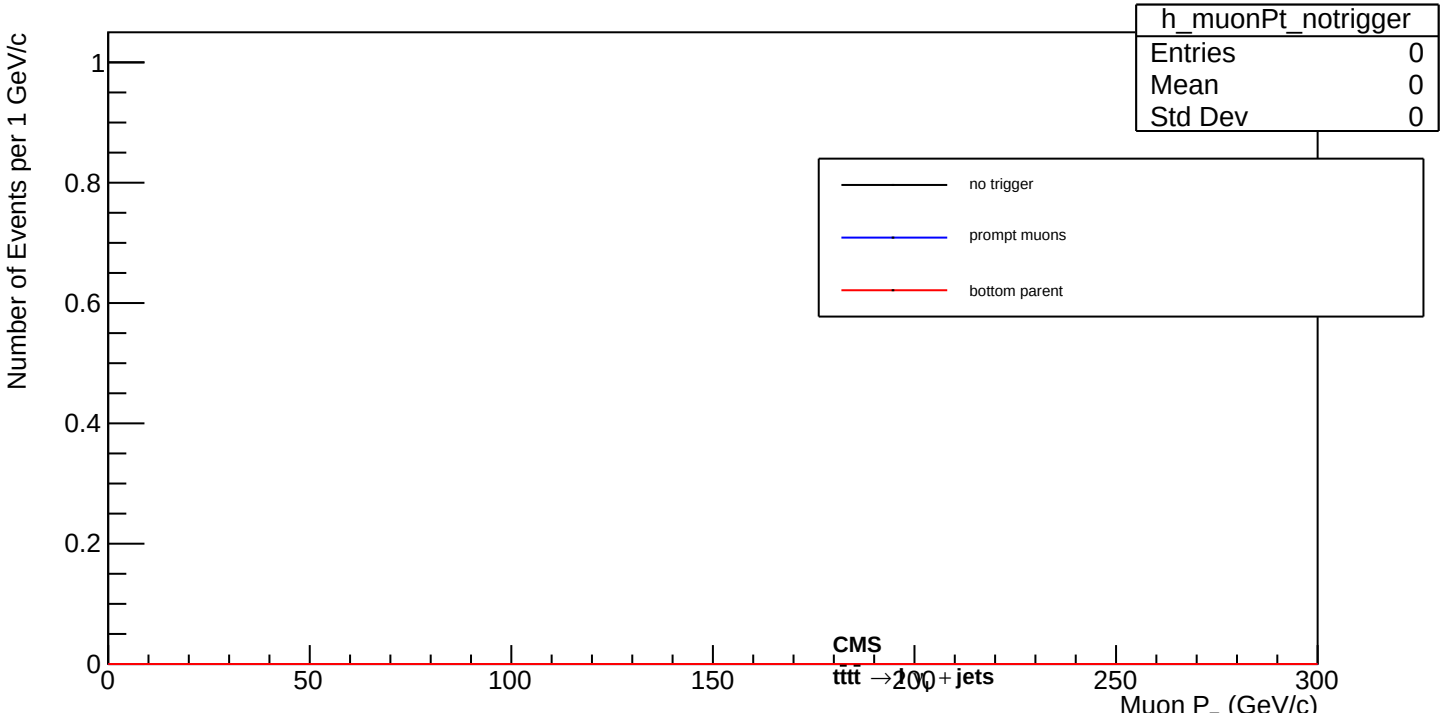



h_muonGenPartFlav
Entries 0
Mean 0
Std Dev 0
Number of events
1
0.8
0.6
0.4
0.2
0
0
2
4
6
8
10
12
14
16
GenPartFlav


h_muonGenPartIdx
Entries 0
Mean 0
Std Dev 0
Number of events
1
0.8
0.6
0.4
0.2
0
0
20
40
60
80
100
120
140
160
180
GenPartIdx

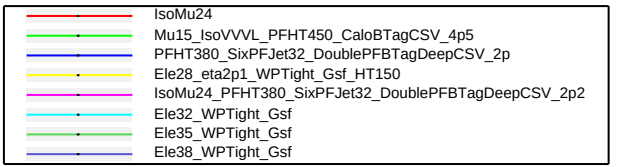

h_muonRelIso04_all
Entries 0
Mean 0
Std Dev 0
Number of Events
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
muonRelIso04_all

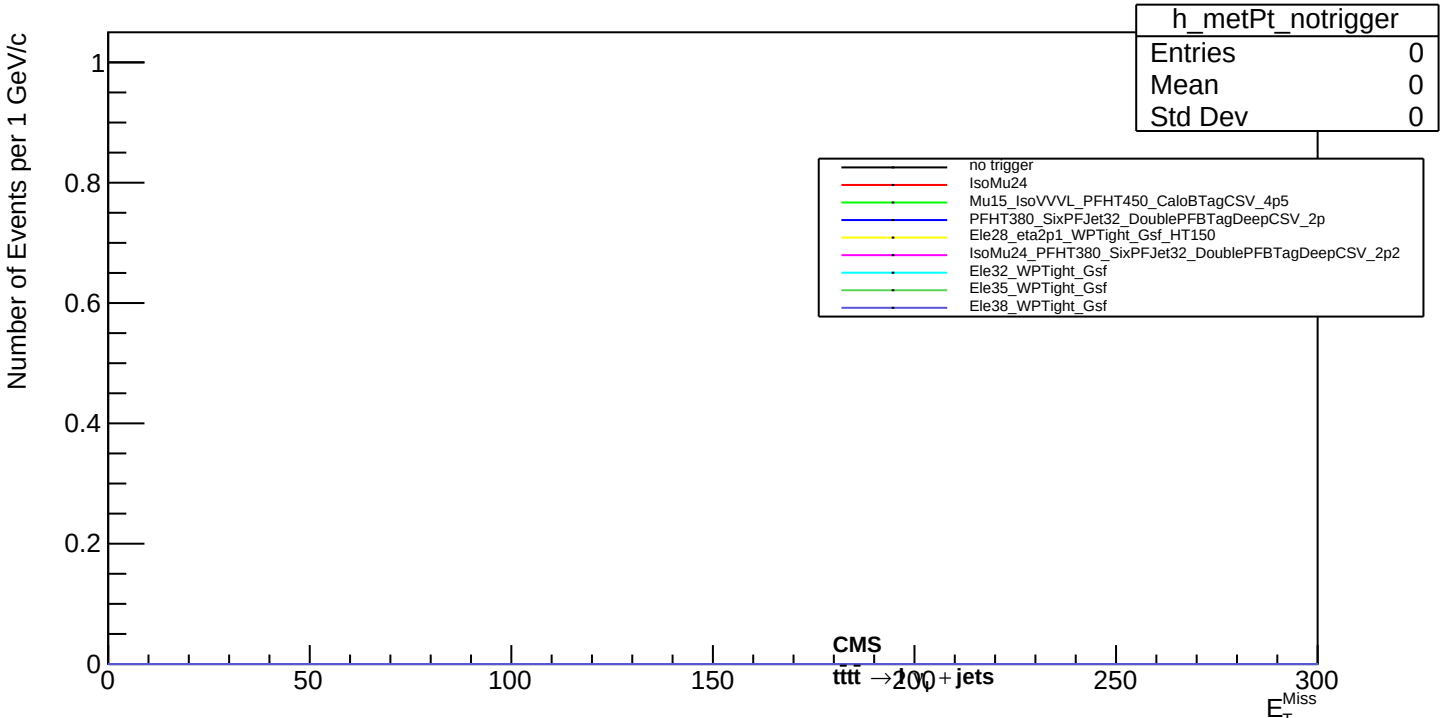

h_muonPt_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Ele28_eta2p1_WPTight_Gsf_HT150
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Ele32_WPTight_Gsf
Ele35_WPTight_Gsf
Ele38_WPTight_Gsf
Number of Events per 1 GeV/c
0
0.2
0.4
0.6
0.8
1
0
50
100
150
200
250
300
Muon P_T (GeV/c)
CMS
$t\bar{t}t\bar{t} \rightarrow 1\ell + jets$


h_muonPt_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
prompt muons
bottom parent
Number of Events per 1 GeV/c
Muon P_T (GeV/c)
CMS
tttt → 1ℓ + jets
0
0.2
0.4
0.6
0.8
1
0
50
100
150
200
250
300

CMS

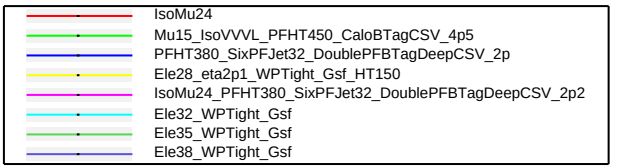
$t\bar{t}t\bar{t} \rightarrow l\ \nu_l + jets$

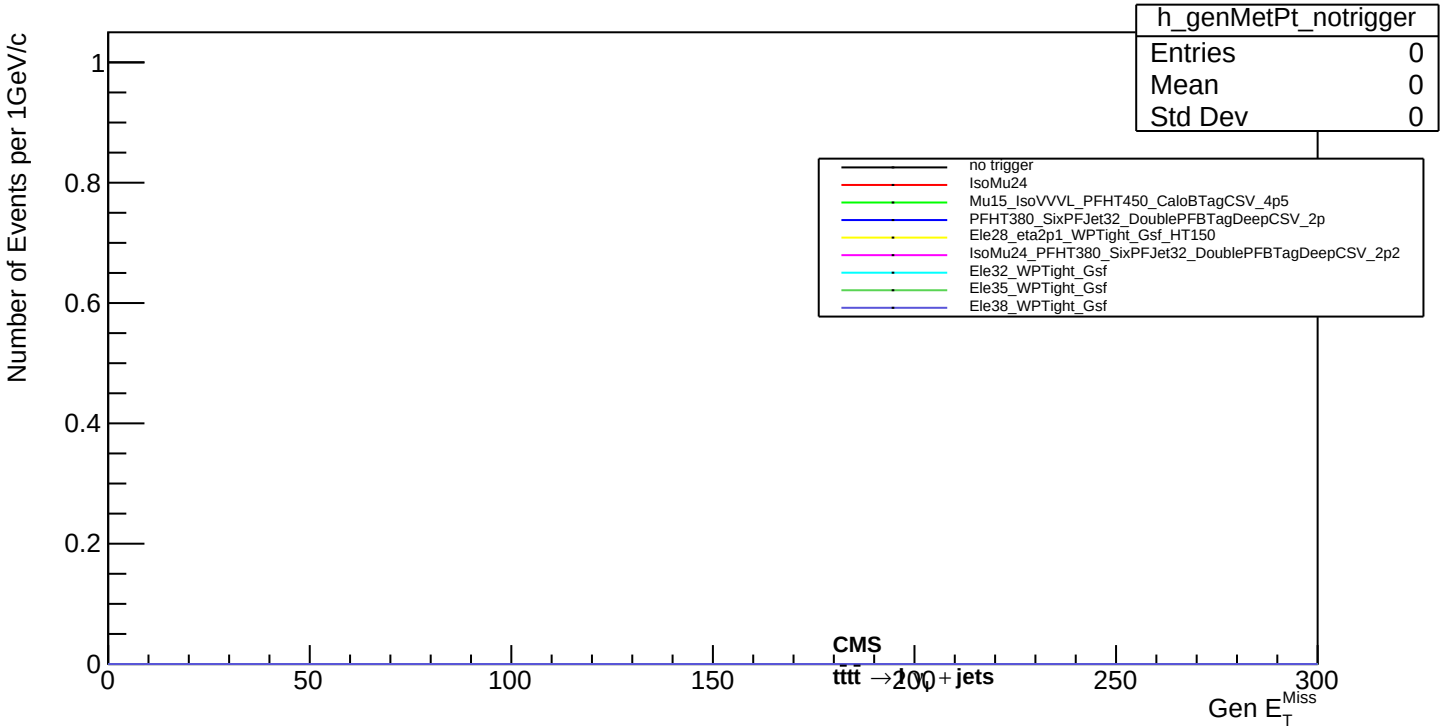



h_metPt_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Ele28_eta2p1_WPTight_Gsf_HT150
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Ele32_WPTight_Gsf
Ele35_WPTight_Gsf
Ele38_WPTight_Gsf
Number of Events per 1 GeV/c
0
0.2
0.4
0.6
0.8
1
0
50
100
150
200
250
300
CMS
E_T^{Miss}

CMS

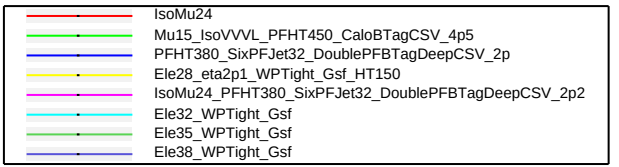
$t\bar{t}t\bar{t} \rightarrow l\ \nu_l + jets$

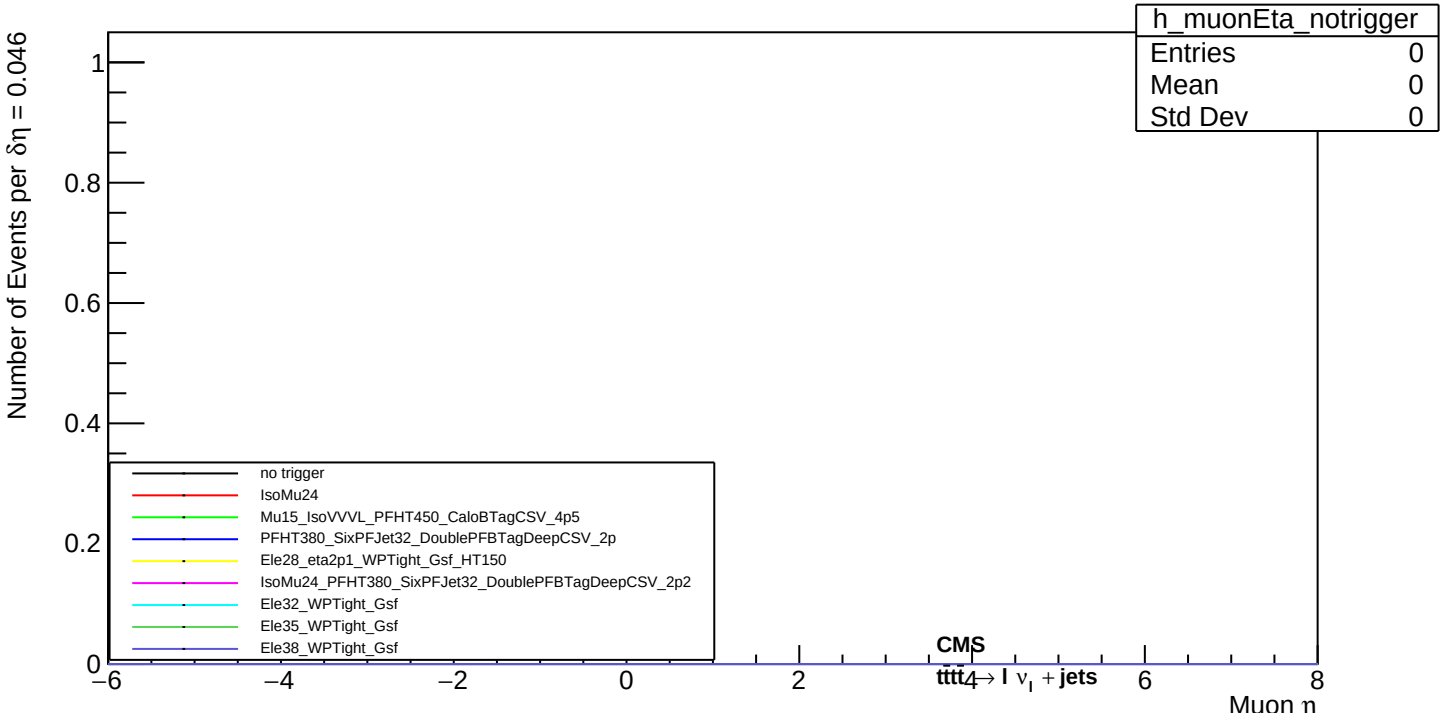



h_genMetPt_notrigger
Entries 0
Mean 0
Std Dev 0
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Ele28_eta2p1_WPTight_Gsf_HT150
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Ele32_WPTight_Gsf
Ele35_WPTight_Gsf
Ele38_WPTight_Gsf
Number of Events per 1GeV/c
0
0.2
0.4
0.6
0.8
1
0
50
100
150
200
250
300
Gen E_T^{Miss}
CMS
$t\bar{t}t\bar{t} \rightarrow 2\ell + jets$

CMS

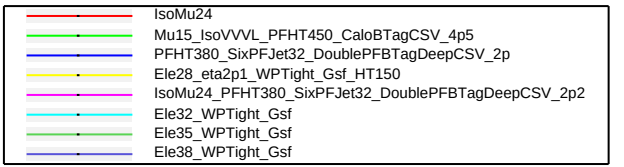
$t\bar{t}t\bar{t} \rightarrow l\ \nu_l + jets$




h_muonEta_notrigger
Entries 0
Mean 0
Std Dev 0
Number of Events per δη = 0.046
Muon η
no trigger
IsoMu24
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Ele28_eta2p1_WPTight_Gsf_HT150
IsoMu24_PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p2
Ele32_WPTight_Gsf
Ele35_WPTight_Gsf
Ele38_WPTight_Gsf
CMS
tttt → l ν_l + jets

CMS

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



h_eventsPrg
Entries 730815
Mean 0
Std Dev 0
×10^3
Total Number of Accepted Events
Cuts and Triggers
0
100
200
300
400
500
600
700
Ele38_WPTight_Gsf
Ele35_WPTight_Gsf
Ele28_eta2p1_WPTight_Gsf_HT150
PFHT380_SixPFJet32_DoublePFBTagDeepCSV_2p
Mu15_IsoVVVL_PFHT450_CaloBTagCSV_4p5
IsoMu24