

sample	nEventsIn	weightIn
SingleMu.Run2012A-22Jan2013.jsonWeight	18959552	1.37e+07
SingleMu.Run2012B-22Jan2013.jsonWeight	58291474	5.23e+07
SingleMu.Run2012C-22Jan2013.jsonWeight	87217361	8.44e+07
SingleMu.Run2012D-22Jan2013.jsonWeight	92878598	8.81e+07
T_s_powheg.puWeight.bTagWeight	243961	2.52e+05
T_tW_powheg.puWeight.bTagWeight	497658	5.13e+05
T_t_powheg.puWeight.bTagWeight	3710227	3.82e+06
Tbar_s_powheg.puWeight.bTagWeight	139974	1.45e+05
Tbar_tW_powheg.puWeight.bTagWeight	493459	5.09e+05
Tbar_t_powheg.puWeight.bTagWeight	1935071	1.99e+06
WW_py6.puWeight.bTagWeight	9840430	1.01e+07
WZ_py6.puWeight.bTagWeight	9872282	1.02e+07
ZZ_py6.puWeight.bTagWeight	9783908	1.01e+07
dyll_HT_400ToInf_M-50.puWeight.bTagWeight	2695789	2.78e+06
dyll_HT_200To400_M-50.puWeight.bTagWeight	6892777	7.11e+06
dyll_HT_10To200_M-50.puWeight.bTagWeight	7784492	8.03e+06
ttbar_CT10_powheg.puWeight.bTagWeight.topPtWeight	26406722	2.73e+07
wj_lv_mg_ht_400ToInf_LO.puWeight.bTagWeight.xsWeight	4875847	5.72e+06
wj_lv_mg_ht_250To300_LO.puWeight.bTagWeight.xsWeight	4924990	6.01e+06
wj_lv_mg_ht_300To400_LO.puWeight.bTagWeight.xsWeight	5125022	6.48e+06
wj_lv_mg_ht_200To250_LO.puWeight.bTagWeight.xsWeight	9799771	1.30e+07
wj_lv_mg_ht_10To150_LO.puWeight.bTagWeight	13851905	1.43e+07
wj_lv_mg_ht_150To200_LO.puWeight.bTagWeight.xsWeight	21126208	2.42e+07

file created at Mon Sep 15 23:34:51 2014

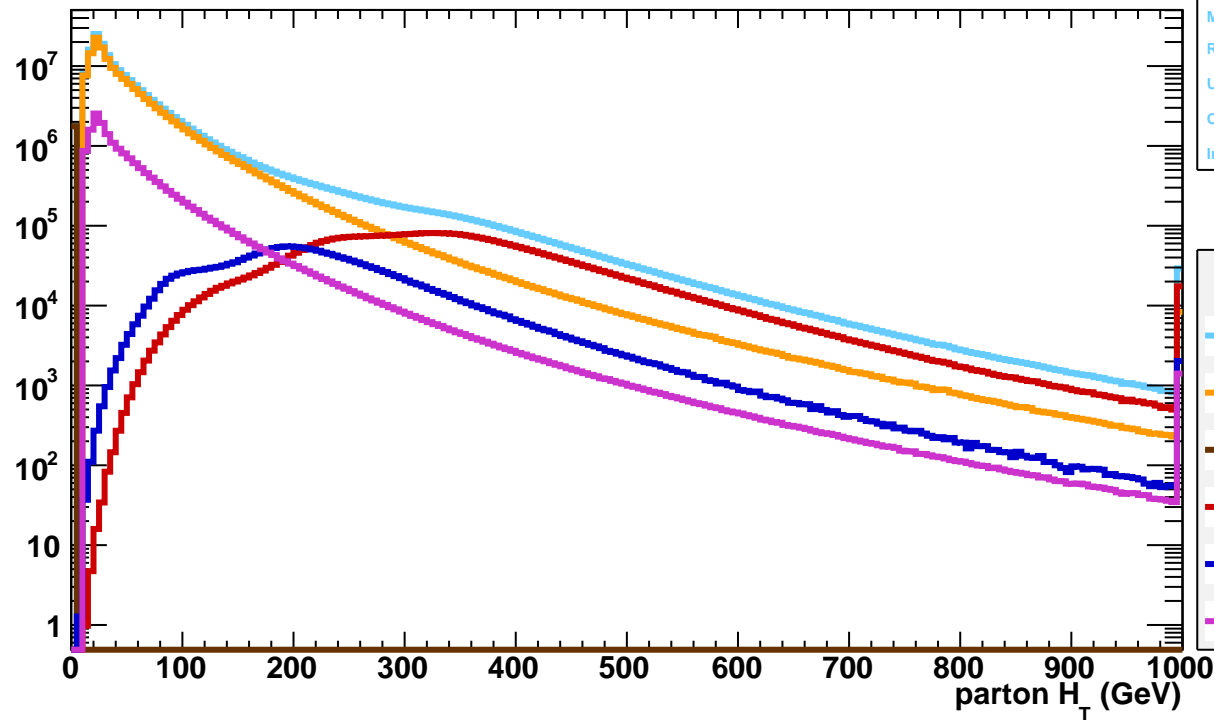
electronIndicesNonIsoPF	pass ptMin & id; fail iso
electronIndicesOtherPF	pass ptMin; fail id
electronIndicesPF	pt>10.0; (2012 Veto)
electronIndicesUnmatchedPF	electronIndicesOtherPF; no dR<0.5 match in ak5JetPFCorrectedP4Pat
genIndicesStatus3t	pdgId in [-6, 6]; status in [3]
jsonWeight	run:ls in cert/Cert_190456-208686_8TeV_22Jan2013ReReco_Collisions12_JSON.txt
lowestUnPrescaledTrigger	lowest unprescaled of HLT_IsoMu24_eta2p1_v1{1,2,3,4,5}
muonIdPog2012LoosePF	https://twiki.cern.ch/twiki/bin/view/CMSPublic/SWGuideMuonId#Loose_Muon
muonIdPog2012TightPF	https://twiki.cern.ch/twiki/bin/view/CMSPublic/SWGuideMuonId#Tight_Muon
muonIndicesNonIsoPF	pass ptMin & id; fail iso
muonIndicesOtherPF	pass ptMin; fail id
muonIndicesPF	IdPog2012Tight; pt>10.0 GeV; PfIsolationR04DeltaBCorrected<0.12
muonMtpFmetP4TypeIPF	muonPF, metP4TypeIPF, byHand=1
photonIndicesOtherPat	pass ptMin; fail id/iso
photonIndicesPat	pT>=25.0 GeV; photonSimpleCutBased2012TightPat
photonIndicesUnmatchedPat	photonIndicesOtherPat; no dR<0.5 match in ak5JetPFCorrectedP4Pat
vertexID	!fake; nd>=5.0; z <=24.0 cm; d0<=2.0 cm
vertexIndices	; pass ID
vertexIndicesOther	pass sumPtMin; fail ID
weight	1.bTagWeight.puWeight
weight	1.bTagWeight.puWeight.topPtWeight
weight	1.bTagWeight.puWeight.xsWeight
weight	1.jsonWeight
xcak5JetCorrectedP4Pat	muonPFDR<0.50; electronPFDR<0.50; photonPatDR<0.50
xcak5JetIndicesOtherPat	pass ptMin; fail jetID or etaMax
xcak5JetIndicesPat	pT>=36.6 GeV; eta <3.0; JetIDtight
xcak5JetPFCorrectedP4Pat	muonPFDR<0.50; electronPFDR<0.50; photonPatDR<0.50
xcak5JetPFFDeadEcalDRlowPtPat	xcak5JetPFPat; nXtal>=10; cracks checked
xcak5JetPFFIndicesBtagged2Pat	(>0.679)
xcak5JetPFFIndicesOtherPat	pass ptMin; fail jetID or etaMax
xcak5JetPFFIndicesPat	pT>=36.6 GeV; eta <3.0; JetIDloose
xcak5JetPFFIndiceshighPtPat	pT>=50.0 GeV; eta <3.0; JetIDloose
xcak5JetPFFIndiceslowPtPat	pT>=30.0 GeV; eta <3.0; JetIDloose

Calculables (imperfect) absent calc leaf sltr

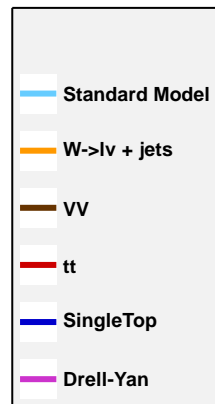
NONE

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
a:	238570468	1.7740(4)e+8	1.5146(4)e+8	1.7669(4)e+6	4.5550(9)e+6	2.0779(8)e+6	1.7545(6)e+7	1.3448(3)

events / bin / 20 fb⁻¹



genPartonHT	
Entries	1.25724e+08
Mean	63.7
RMS	77.77
Underflow	0
Overflow	0
Integral	1.774e+08



```

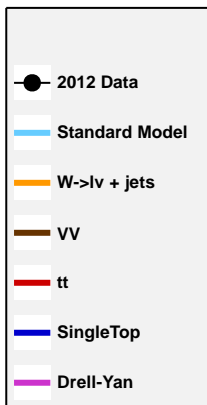
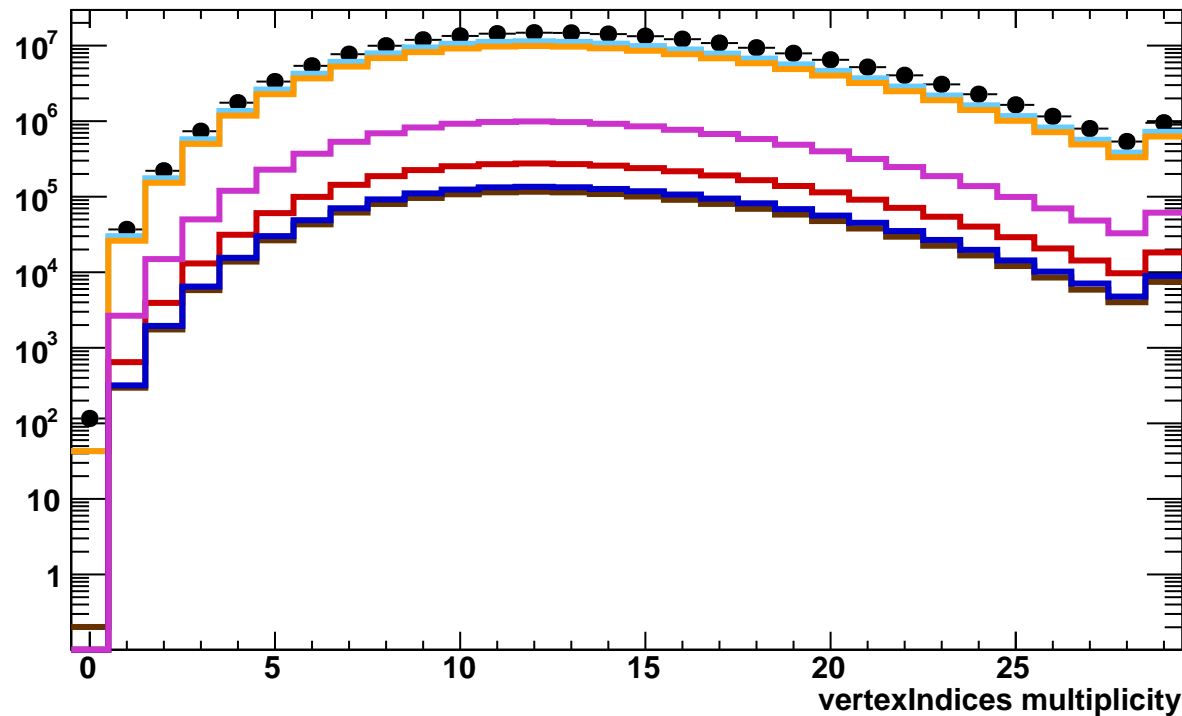
a: master          master
b: monster        <=10 tracks or >0.25 good fraction
c: hbheNoise      hbheNoise
d: value          beamHaloCSCSTightHaloId<=0.00
e: value          1.00<=trackingFailureFilterFlag

f: value          1.00<=hcalLaserEventFilterFlag
g: value          1.00<=ecalDeadCellTPFilterFlag
h: value          1.00<=eeBadScFilterFlag
i: value          1.00<=inconsistentMuonPFCandidateFilterFlag
j: value          1.00<=greedyMuonPFCandidateFilterFlag

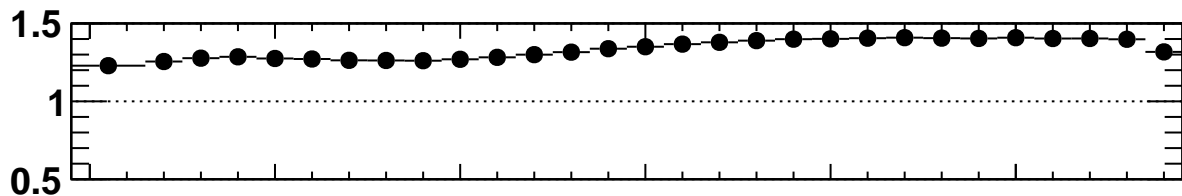
k: multiplicity   0 <= singleIsolatedTrack <= 0

```

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
a:	238570468	1.7740(4)e+8	1.5146(4)e+8	1.7669(4)e+6	4.5550(9)e+6	2.0779(8)e+6	1.7545(6)e+7	1.3448(3)
b:	238570274	1.7740(4)e+8	1.5146(4)e+8	1.7669(4)e+6	4.5550(9)e+6	2.0779(8)e+6	1.7545(6)e+7	1.3448(3)
c:	238403689	-	-	-	-	-	-	-
d:	237406199	1.7738(4)e+8	1.5144(4)e+8	1.7667(4)e+6	4.5542(9)e+6	2.0775(8)e+6	1.7543(6)e+7	1.3384(3)
e:	232485623	1.7738(4)e+8	1.5144(4)e+8	1.7667(4)e+6	4.5542(9)e+6	2.0775(8)e+6	1.7543(6)e+7	1.3107(3)
f:	232485623	-	-	-	-	-	-	-
g:	232476748	1.7736(4)e+8	1.5143(4)e+8	1.7664(4)e+6	4.5523(9)e+6	2.0771(8)e+6	1.7540(6)e+7	1.3108(3)
h:	232476748	1.7736(4)e+8	1.5143(4)e+8	1.7664(4)e+6	4.5523(9)e+6	2.0771(8)e+6	1.7540(6)e+7	1.3108(3)
i:	232415370	1.7731(4)e+8	1.5139(4)e+8	1.7658(4)e+6	4.5494(9)e+6	2.0766(8)e+6	1.7527(6)e+7	1.3108(3)
j:	232378642	1.7729(4)e+8	1.5138(4)e+8	1.7656(4)e+6	4.5487(9)e+6	2.0764(8)e+6	1.7523(6)e+7	1.3107(3)
k:	192251230	1.4504(4)e+8	1.2574(4)e+8	1.4813(4)e+6	3.5048(8)e+6	1.7271(8)e+6	1.2587(6)e+7	1.3255(4)

events / bin / 20 fb⁻¹

data/s.m.



```

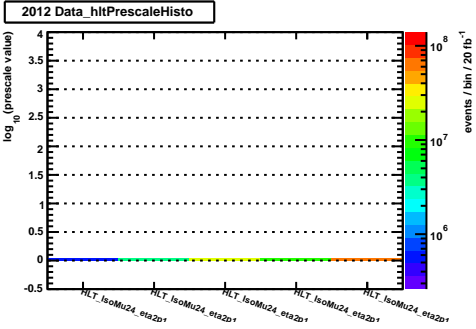
a: master          master
b: monster        <=10 tracks or >0.25 good fraction
c: hbheNoise      hbheNoise
d: value          beamHaloCSCTightHaloId<=0.00
e: value          1.00<=trackingFailureFilterFlag

f: value          1.00<=hcalLaserEventFilterFlag
g: value          1.00<=ecalDeadCellTPFilterFlag
h: value          1.00<=eeBadScFilterFlag
i: value          1.00<=inconsistentMuonPFCandidateFilterFlag
j: value          1.00<=greedyMuonPFCandidateFilterFlag

k: multiplicity   0 <= singleIsolatedTrack <= 0
l: multiplicity   1 <= vertexIndices
m: lowestUnPrescaledTriggerFilter lowest unprescaled of triggers in calculable

```

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
a:	238570468	1.7740(4)e+8	1.5146(4)e+8	1.7669(4)e+6	4.5550(9)e+6	2.0779(8)e+6	1.7545(6)e+7	1.3448(3)
b:	238570274	1.7740(4)e+8	1.5146(4)e+8	1.7669(4)e+6	4.5550(9)e+6	2.0779(8)e+6	1.7545(6)e+7	1.3448(3)
c:	238403689	-	-	-	-	-	-	-
d:	237406199	1.7738(4)e+8	1.5144(4)e+8	1.7667(4)e+6	4.5542(9)e+6	2.0775(8)e+6	1.7543(6)e+7	1.3384(3)
e:	232485623	1.7738(4)e+8	1.5144(4)e+8	1.7667(4)e+6	4.5542(9)e+6	2.0775(8)e+6	1.7543(6)e+7	1.3107(3)
f:	232485623	-	-	-	-	-	-	-
g:	232476748	1.7736(4)e+8	1.5143(4)e+8	1.7664(4)e+6	4.5523(9)e+6	2.0771(8)e+6	1.7540(6)e+7	1.3108(3)
h:	232476748	1.7736(4)e+8	1.5143(4)e+8	1.7664(4)e+6	4.5523(9)e+6	2.0771(8)e+6	1.7540(6)e+7	1.3108(3)
i:	232415370	1.7731(4)e+8	1.5139(4)e+8	1.7658(4)e+6	4.5494(9)e+6	2.0766(8)e+6	1.7527(6)e+7	1.3108(3)
j:	232378642	1.7729(4)e+8	1.5138(4)e+8	1.7656(4)e+6	4.5487(9)e+6	2.0764(8)e+6	1.7523(6)e+7	1.3107(3)
k:	192251230	1.4504(4)e+8	1.2574(4)e+8	1.4813(4)e+6	3.5048(8)e+6	1.7271(8)e+6	1.2587(6)e+7	1.3255(4)
l:	192251114	1.4504(4)e+8	1.2574(4)e+8	1.4813(4)e+6	3.5048(8)e+6	1.7271(8)e+6	1.2587(6)e+7	1.3255(4)
m:	109470719	-	-	-	-	-	-	-



```

p: jetEtaSelector          xcak5JetPFPat; |eta[index[0]]|<=2.5
q: jetPtSelector          xcak5JetPFPat; pT[index[0]]>=73.3 GeV
r: jetPtSelector          xcak5JetPFPat; pT[index[1]]>=73.3 GeV
s: value                  200.00<=xcak5JetPFSumEtPat
t: value                  xcak5JetPFSumEtPat<=325.00

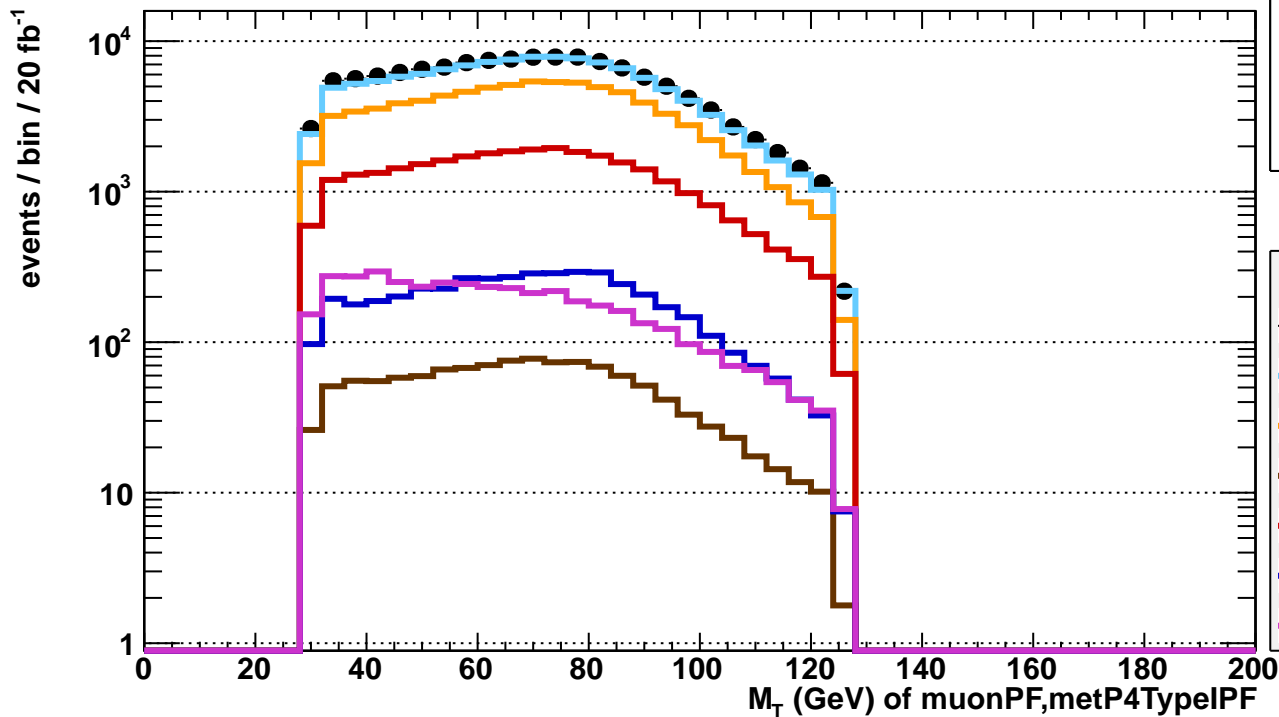
u: multiplicity           2 <= xcak5JetPFIndicesPat
v: multiplicity           0 <= xcak5JetPFIndicesOtherPat <= 0
w: multiplicity           0 <= xcak5JetPFIndicesWithOddMuonPat <= 0
x: uniquelyMatchedNonisoMuons xcak5JetPFPat
y: multiplicity           0 <= electronIndicesPF <= 0

z: multiplicity           0 <= photonIndicesPat <= 0
A: multiplicity           0 <= electronIndicesUnmatchedPF <= 0
B: multiplicity           0 <= photonIndicesUnmatchedPat <= 0
C: deadEcalFilter         xcak5JetPFPat; dR>0.300 when deltaPhiStar<0.500
D: multiplicity           1 <= muonIndicesPF <= 1

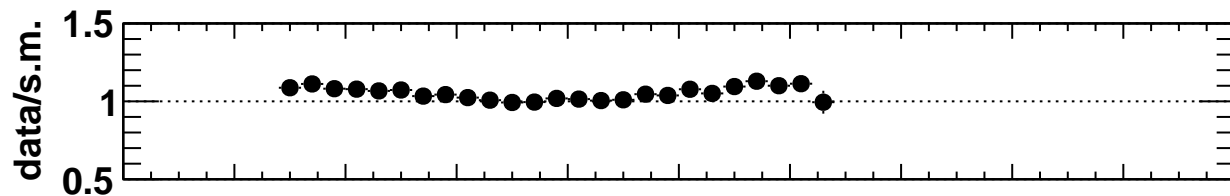
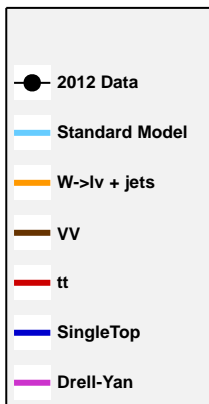
E: pt                     30.00<=muonP4PF[i[0]].pt; muonIndicesPF
F: eta                    -2.10<=muonP4PF[i[0]].eta<=2.10; muonIndicesPF
G: value                  30.00<=muonMtPFFmetP4TypeIPF<=125.00

```

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
p:	21115755	6.060(2)e+7	4.931(2)e+7	1.0802(3)e+6	3.3976(8)e+6	1.5353(7)e+6	5.278(4)e+6	0.3485(2)
q:	4637379	1.7189(9)e+7	1.1828(9)e+7	3.777(2)e+5	2.7896(7)e+6	8.702(6)e+5	1.323(2)e+6	0.2698(2)
r:	900832	4.531(2)e+6	2.051(2)e+6	1.305(1)e+5	1.7183(6)e+6	3.843(4)e+5	2.465(4)e+5	0.1988(2)
s:	712145	3.939(1)e+6	1.622(1)e+6	1.0936(10)e+5	1.6668(6)e+6	3.457(4)e+5	1.951(3)e+5	0.1808(2)
t:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
u:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
v:	424166	1.885(1)e+6	9.903(10)e+5	6.034(7)e+4	5.478(3)e+5	1.709(2)e+5	1.158(3)e+5	0.2250(4)
w:	384351	1.868(1)e+6	9.824(9)e+5	6.018(7)e+4	5.416(3)e+5	1.698(2)e+5	1.138(3)e+5	0.2058(4)
x:	383246	1.866(1)e+6	9.818(9)e+5	6.017(7)e+4	5.410(3)e+5	1.697(2)e+5	1.137(3)e+5	0.2053(4)
y:	377864	1.487(1)e+6	7.471(9)e+5	5.700(7)e+4	4.503(3)e+5	1.568(2)e+5	7.63(3)e+4	0.2540(4)
z:	376527	1.466(1)e+6	7.314(9)e+5	5.668(7)e+4	4.471(3)e+5	1.562(2)e+5	7.43(3)e+4	0.2569(5)
A:	376458	1.465(1)e+6	7.308(9)e+5	5.667(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2570(5)
B:	376440	1.464(1)e+6	7.306(9)e+5	5.666(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2571(5)
C:	225666	7.492(7)e+5	4.182(6)e+5	2.220(4)e+4	2.069(2)e+5	6.23(1)e+4	3.96(2)e+4	0.3012(7)
D:	190980	2.299(3)e+5	1.549(2)e+5	2.10(1)e+3	5.42(1)e+4	8.29(6)e+3	1.040(7)e+4	0.831(2)
E:	168996	1.721(2)e+5	1.162(2)e+5	1.70(1)e+3	4.061(9)e+4	5.89(5)e+3	7.71(6)e+3	0.982(3)
F:	168968	1.593(2)e+5	1.060(2)e+5	1.59(1)e+3	3.930(9)e+4	5.71(5)e+3	6.69(6)e+3	1.061(3)
G:	126657	1.218(2)e+5	8.21(2)e+4	1.17(1)e+3	2.998(8)e+4	4.44(4)e+3	4.10(4)e+3	1.040(3)



muonMtPFmetP4TypeIPF	
Entries	126657
Mean	69.61
RMS	22.47
Underflow	0
Overflow	0
Integral	1.267e+05



```

q:  jetPtSelector          xcak5JetPFPat; pT[index[0]]>=73.3 GeV
r:  jetPtSelector          xcak5JetPFPat; pT[index[1]]>=73.3 GeV
s:  value                  200.00<=xcak5JetPFSumEtPat
t:  value                  xcak5JetPFSumEtPat<=325.00

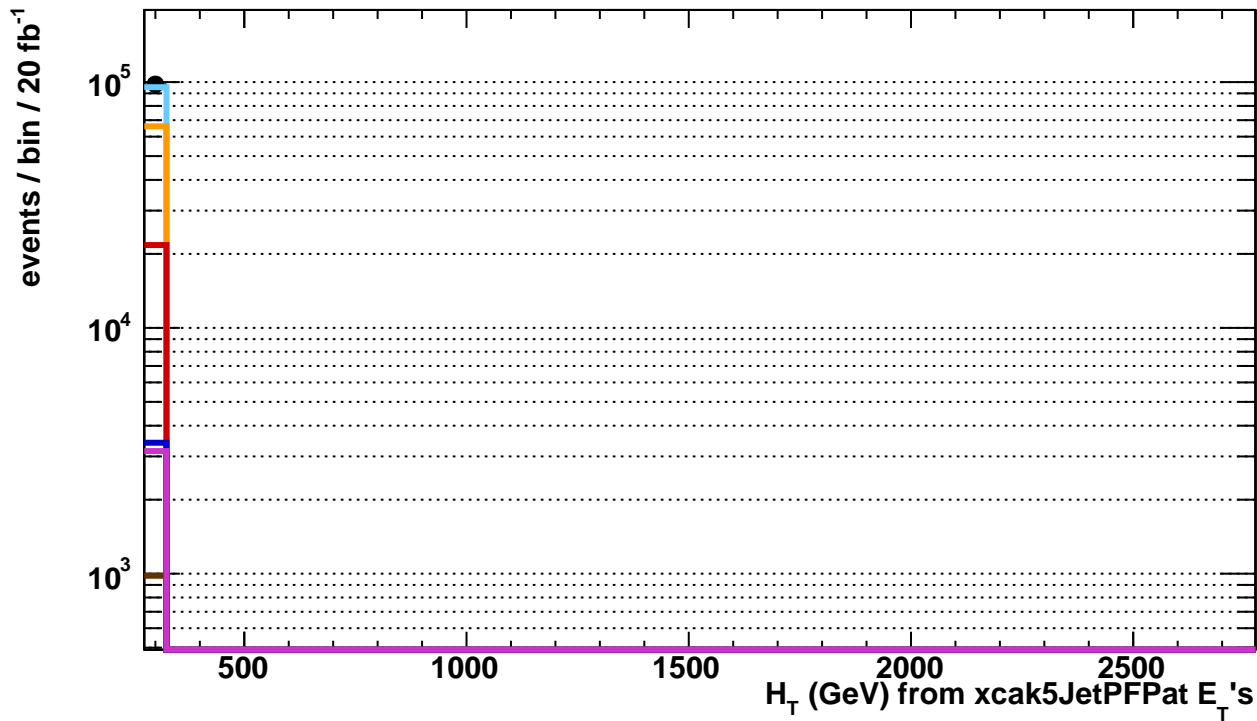
u:  multiplicity           2 <= xcak5JetPFIndicesPat
v:  multiplicity           0 <= xcak5JetPFIndicesOtherPat <= 0
w:  multiplicity           0 <= xcak5JetPFIndicesWithOddMuonPat <= 0
x:  uniquelyMatchedNonisoMuons xcak5JetPFPat
y:  multiplicity           0 <= electronIndicesPF <= 0

z:  multiplicity           0 <= photonIndicesPat <= 0
A:  multiplicity           0 <= electronIndicesUnmatchedPF <= 0
B:  multiplicity           0 <= photonIndicesUnmatchedPat <= 0
C:  deadEcalFilter         xcak5JetPFPat; dR>0.300 when deltaPhiStar<0.500
D:  multiplicity           1 <= muonIndicesPF <= 1

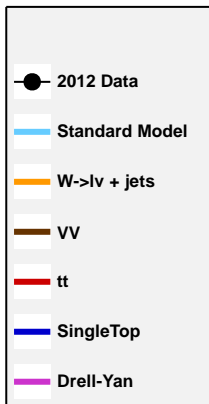
E:  pt                    30.00<=muonP4PF[i[0]].pt; muonIndicesPF
F:  eta                    -2.10<=muonP4PF[i[0]].eta<=2.10; muonIndicesPF
G:  value                  30.00<=muonMtPFFmetP4TypeIPF<=125.00
H:  value                  xcak5JetPFMhthighPtPatOvermetP4TypeIPFPlusmuonIndicesPF<=1.25

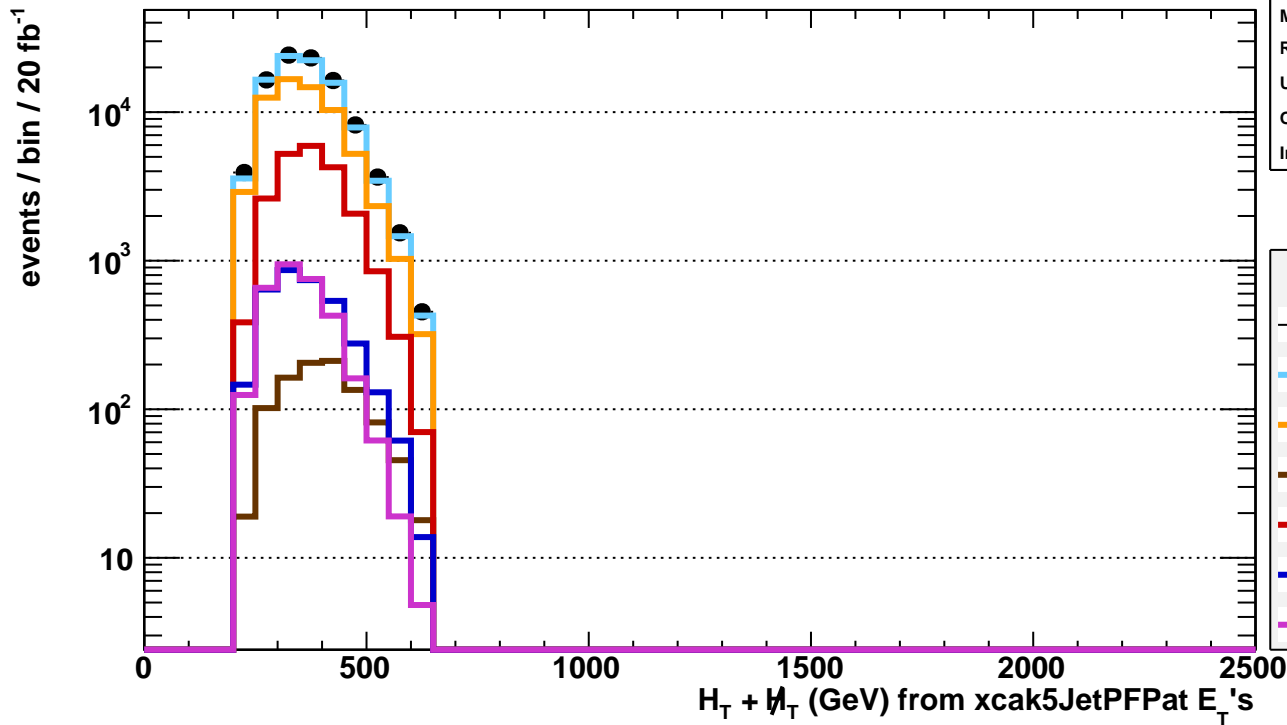
```

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
q:	4637379	1.7189(9)e+7	1.1828(9)e+7	3.777(2)e+5	2.7896(7)e+6	8.702(6)e+5	1.323(2)e+6	0.2698(2)
r:	900832	4.531(2)e+6	2.051(2)e+6	1.305(1)e+5	1.7183(6)e+6	3.843(4)e+5	2.465(4)e+5	0.1988(2)
s:	712145	3.939(1)e+6	1.622(1)e+6	1.0936(10)e+5	1.6668(6)e+6	3.457(4)e+5	1.951(3)e+5	0.1808(2)
t:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
u:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
v:	424166	1.885(1)e+6	9.903(10)e+5	6.034(7)e+4	5.478(3)e+5	1.709(2)e+5	1.158(3)e+5	0.2250(4)
w:	384351	1.868(1)e+6	9.824(9)e+5	6.018(7)e+4	5.416(3)e+5	1.698(2)e+5	1.138(3)e+5	0.2058(4)
x:	383246	1.866(1)e+6	9.818(9)e+5	6.017(7)e+4	5.410(3)e+5	1.697(2)e+5	1.137(3)e+5	0.2053(4)
y:	377864	1.487(1)e+6	7.471(9)e+5	5.700(7)e+4	4.503(3)e+5	1.568(2)e+5	7.63(3)e+4	0.2540(4)
z:	376527	1.466(1)e+6	7.314(9)e+5	5.668(7)e+4	4.471(3)e+5	1.562(2)e+5	7.43(3)e+4	0.2569(5)
A:	376458	1.465(1)e+6	7.308(9)e+5	5.667(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2570(5)
B:	376440	1.464(1)e+6	7.306(9)e+5	5.666(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2571(5)
C:	225666	7.492(7)e+5	4.182(6)e+5	2.220(4)e+4	2.069(2)e+5	6.23(1)e+4	3.96(2)e+4	0.3012(7)
D:	190980	2.299(3)e+5	1.549(2)e+5	2.10(1)e+3	5.42(1)e+4	8.29(6)e+3	1.040(7)e+4	0.831(2)
E:	168996	1.721(2)e+5	1.162(2)e+5	1.70(1)e+3	4.061(9)e+4	5.89(5)e+3	7.71(6)e+3	0.982(3)
F:	168968	1.593(2)e+5	1.060(2)e+5	1.59(1)e+3	3.930(9)e+4	5.71(5)e+3	6.69(6)e+3	1.061(3)
G:	126657	1.218(2)e+5	8.21(2)e+4	1.17(1)e+3	2.998(8)e+4	4.44(4)e+3	4.10(4)e+3	1.040(3)
H:	97966	9.53(2)e+4	6.61(1)e+4	9.8(1)e+2	2.173(6)e+4	3.41(4)e+3	3.15(4)e+3	1.028(4)

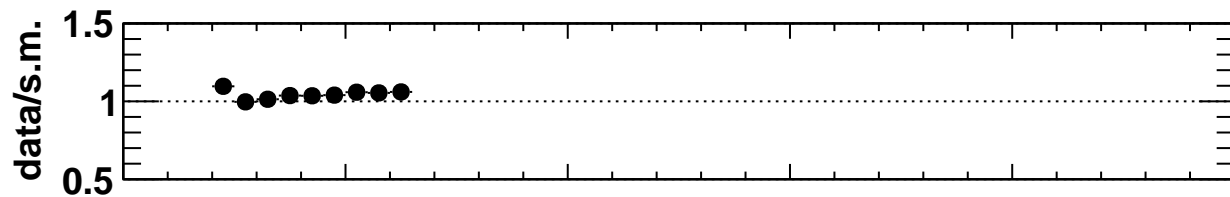
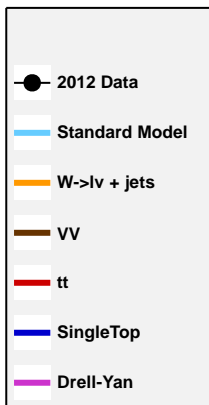


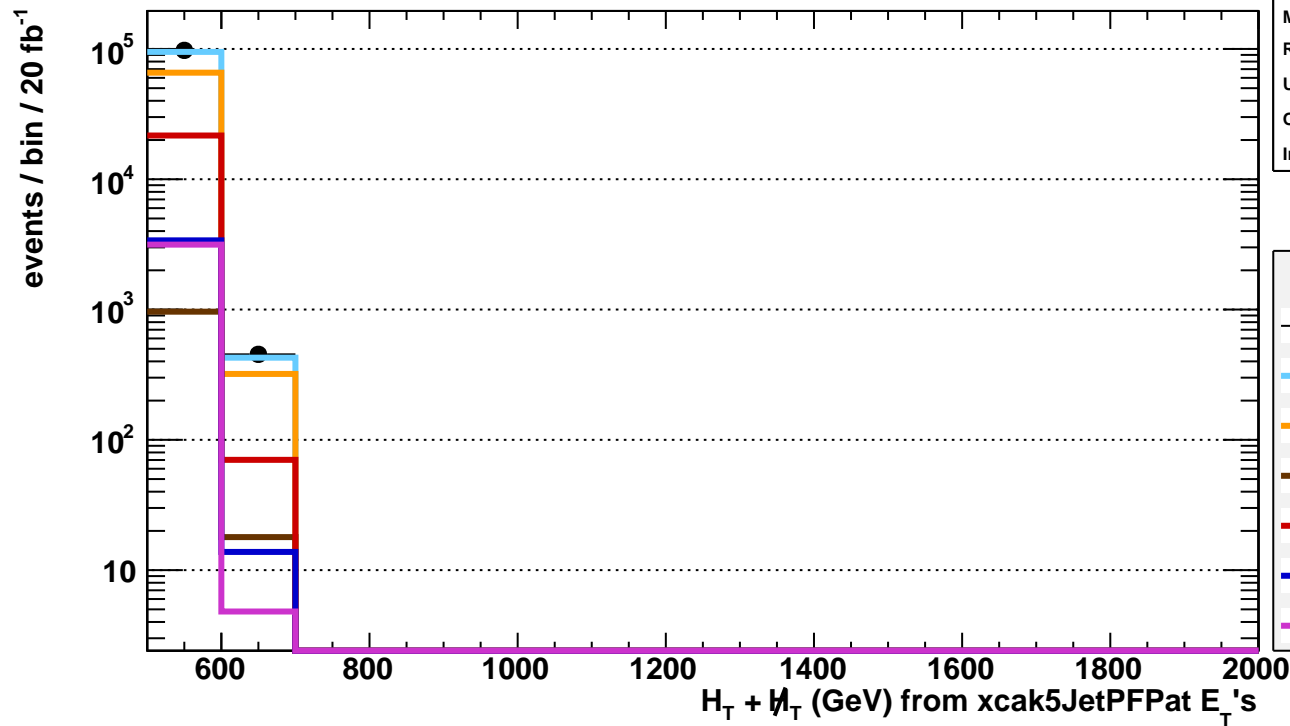
xcak5JetPFPat	
Entries	97966
Mean	300
RMS	0
Underflow	0
Overflow	0
Integral	9.797e+04



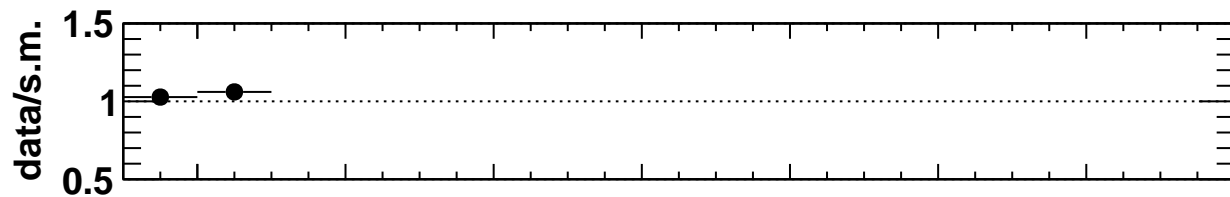
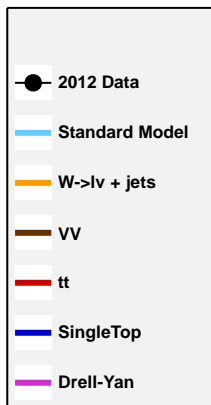


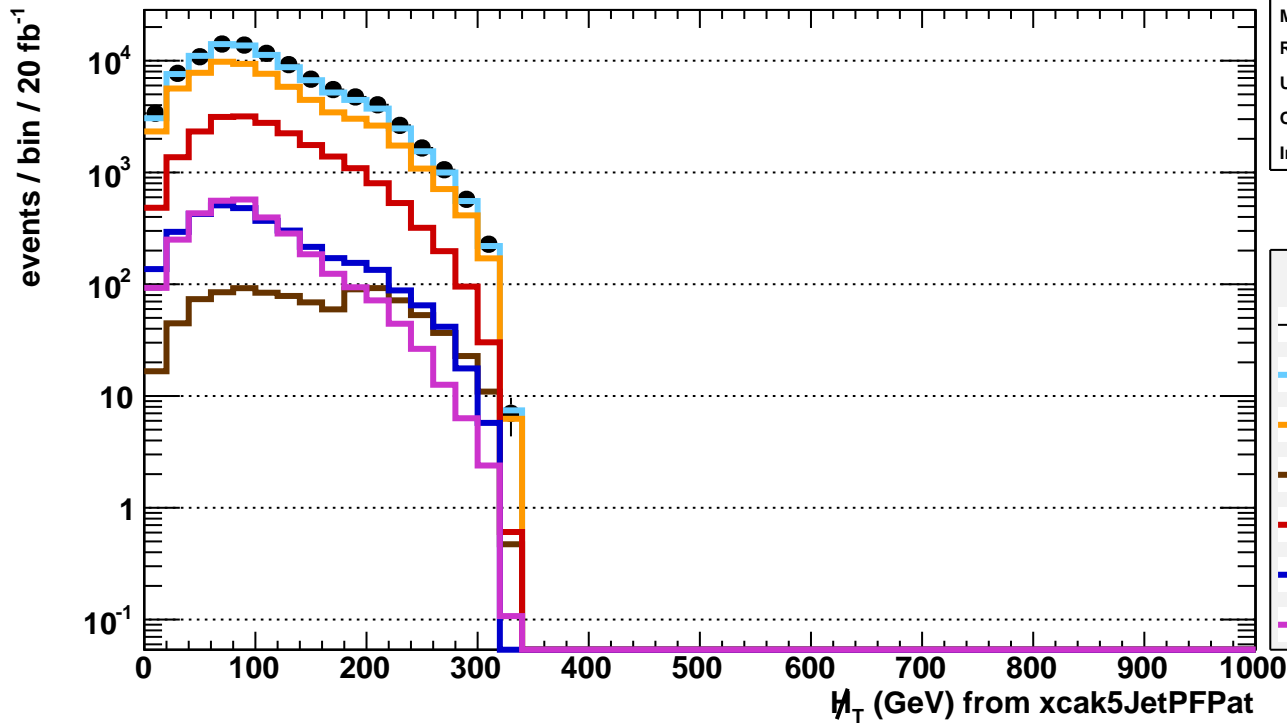
xcak5JetPFPatPlusMhtPat	
Entries	97966
Mean	366.5
RMS	76.92
Underflow	0
Overflow	0
Integral	9.797e+04



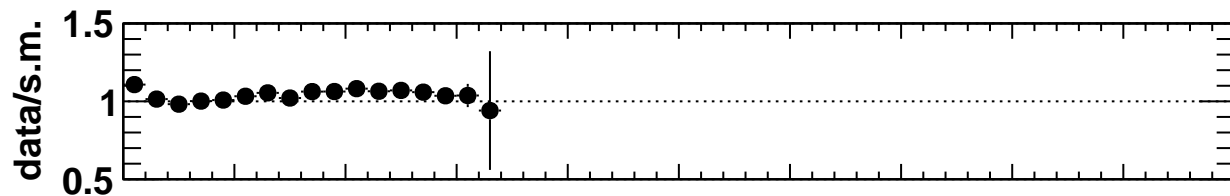
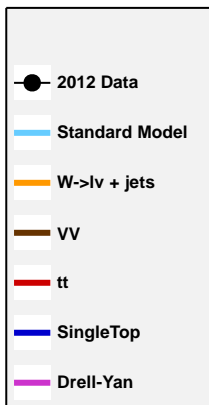


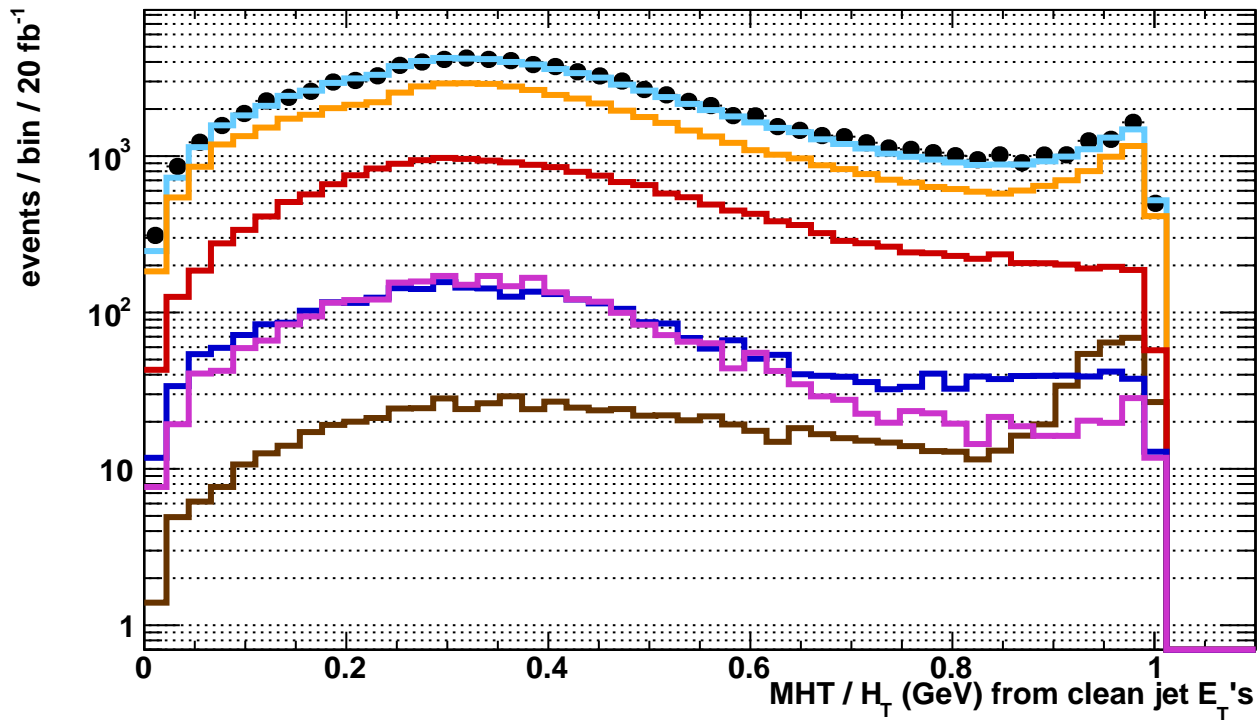
xcak5JetPFPatPlusMhtRoughPat	
Entries	97966
Mean	550.5
RMS	6.784
Underflow	0
Overflow	0
Integral	9.797e+04



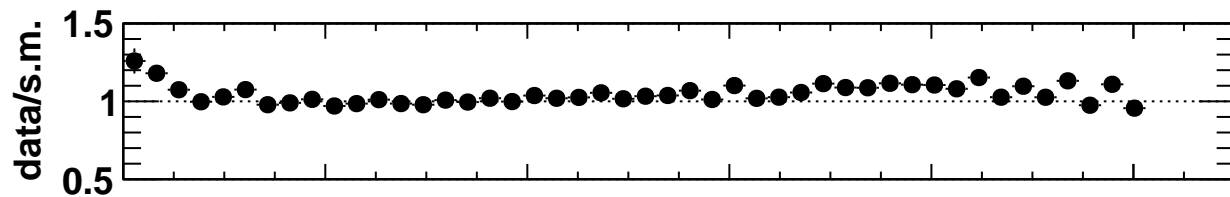
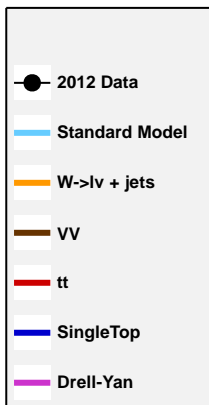


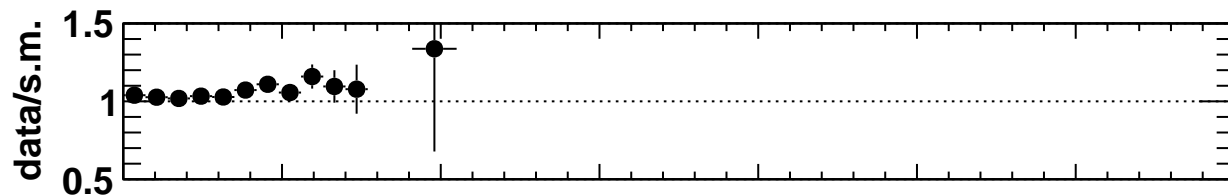
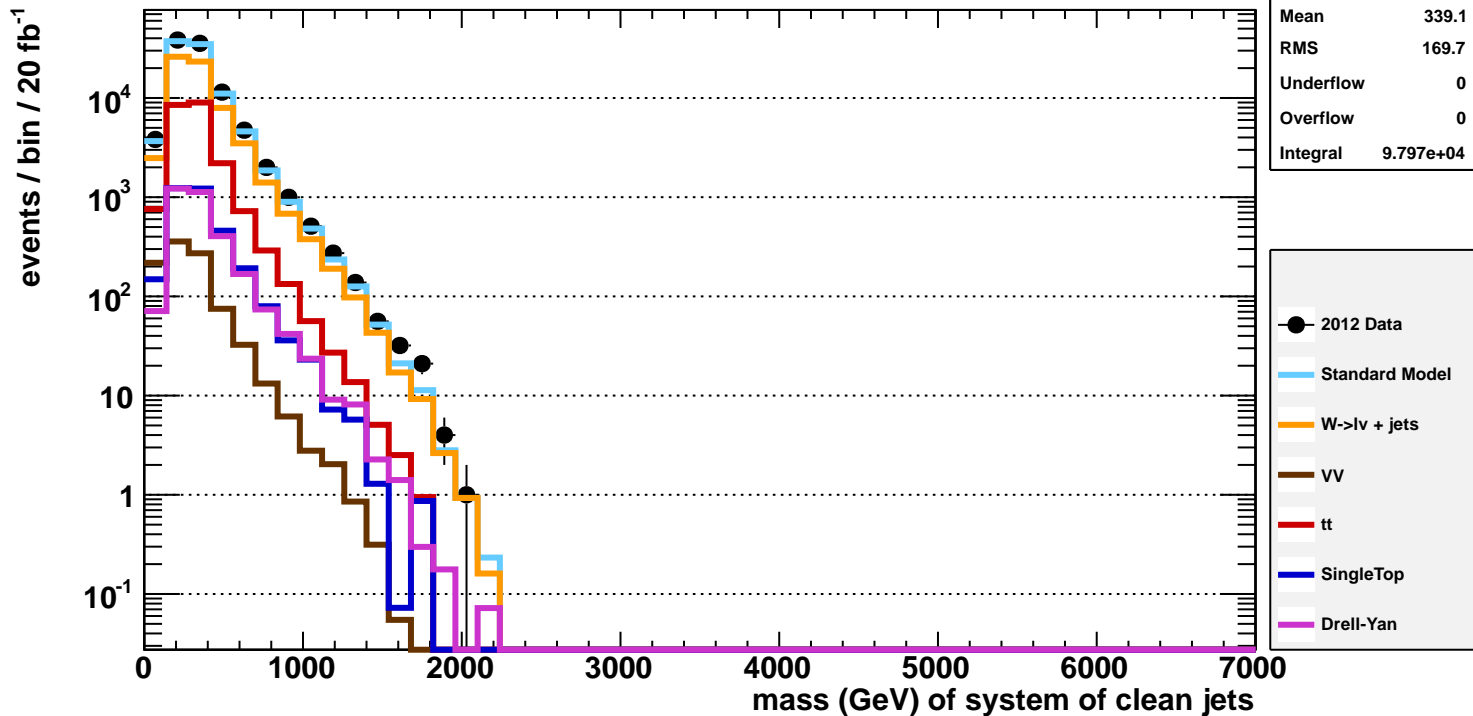
xcak5JetPFMhtPat	
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Mean	109.9
RMS	62.14
Underflow	0
Overflow	0
Integral	9.797e+04

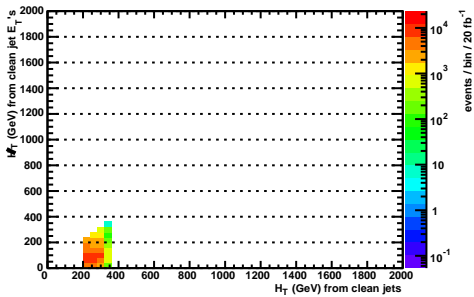
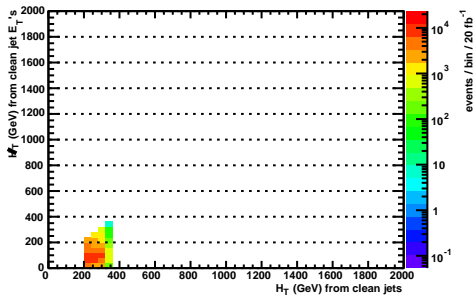
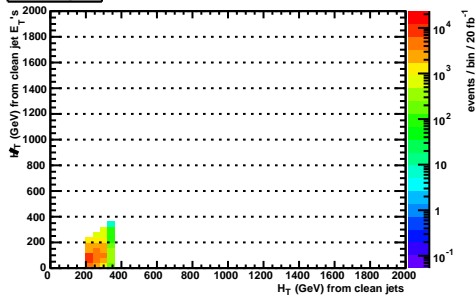
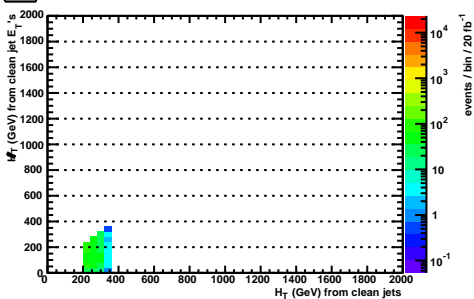
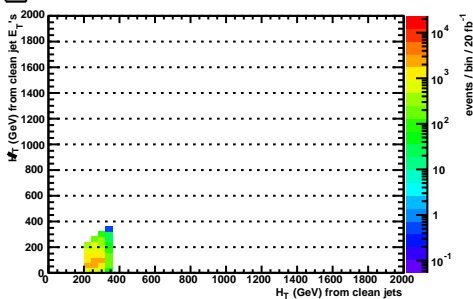
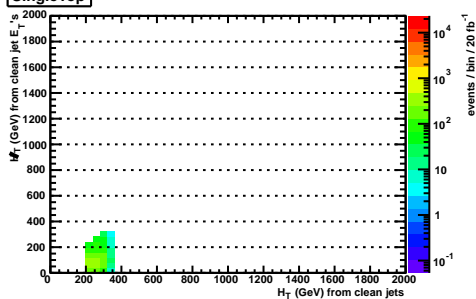
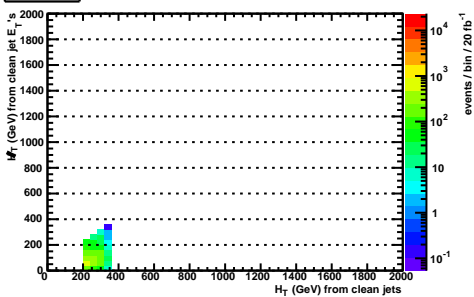


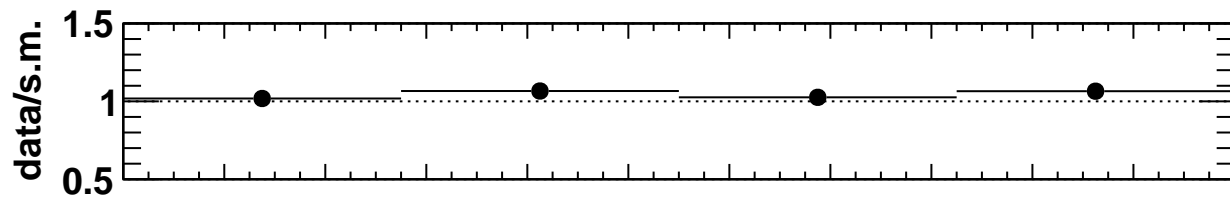
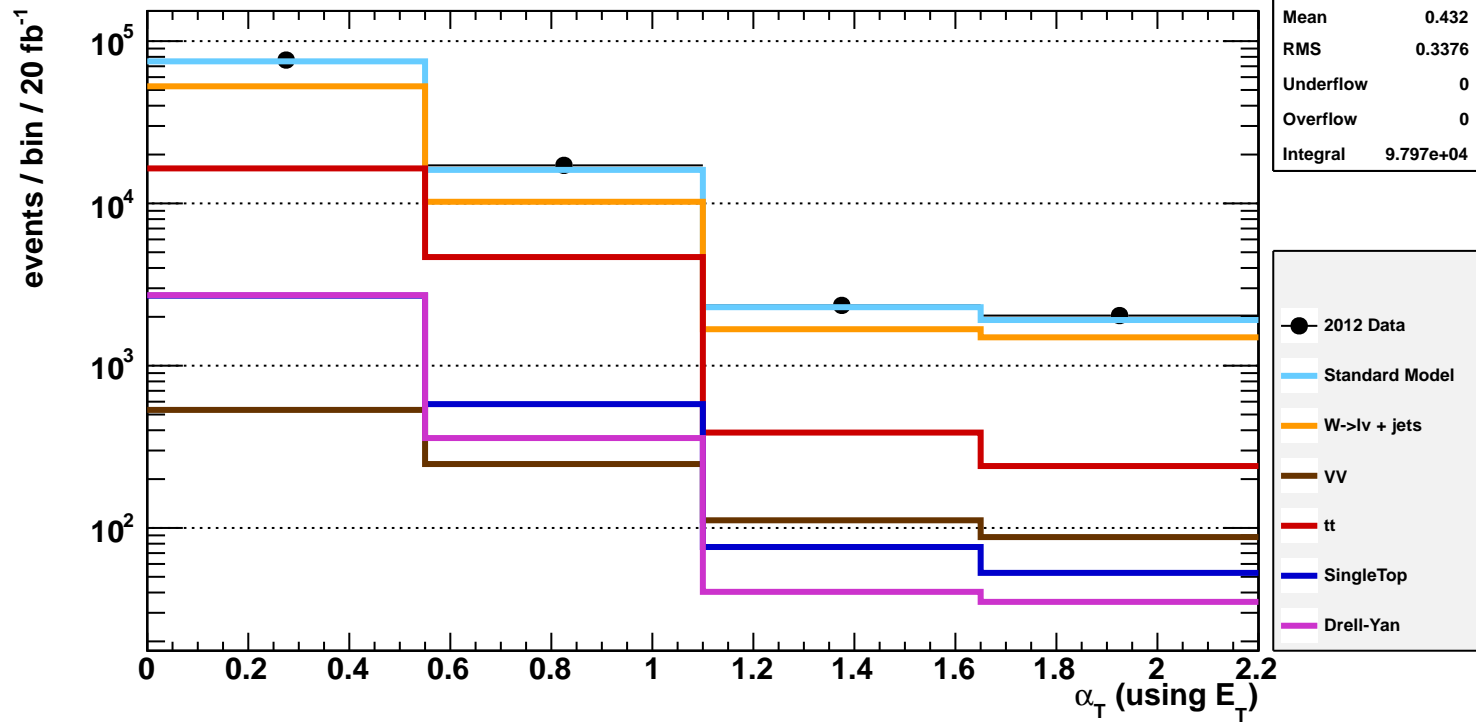


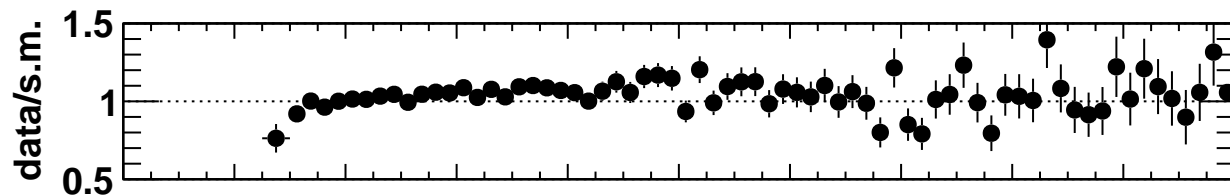
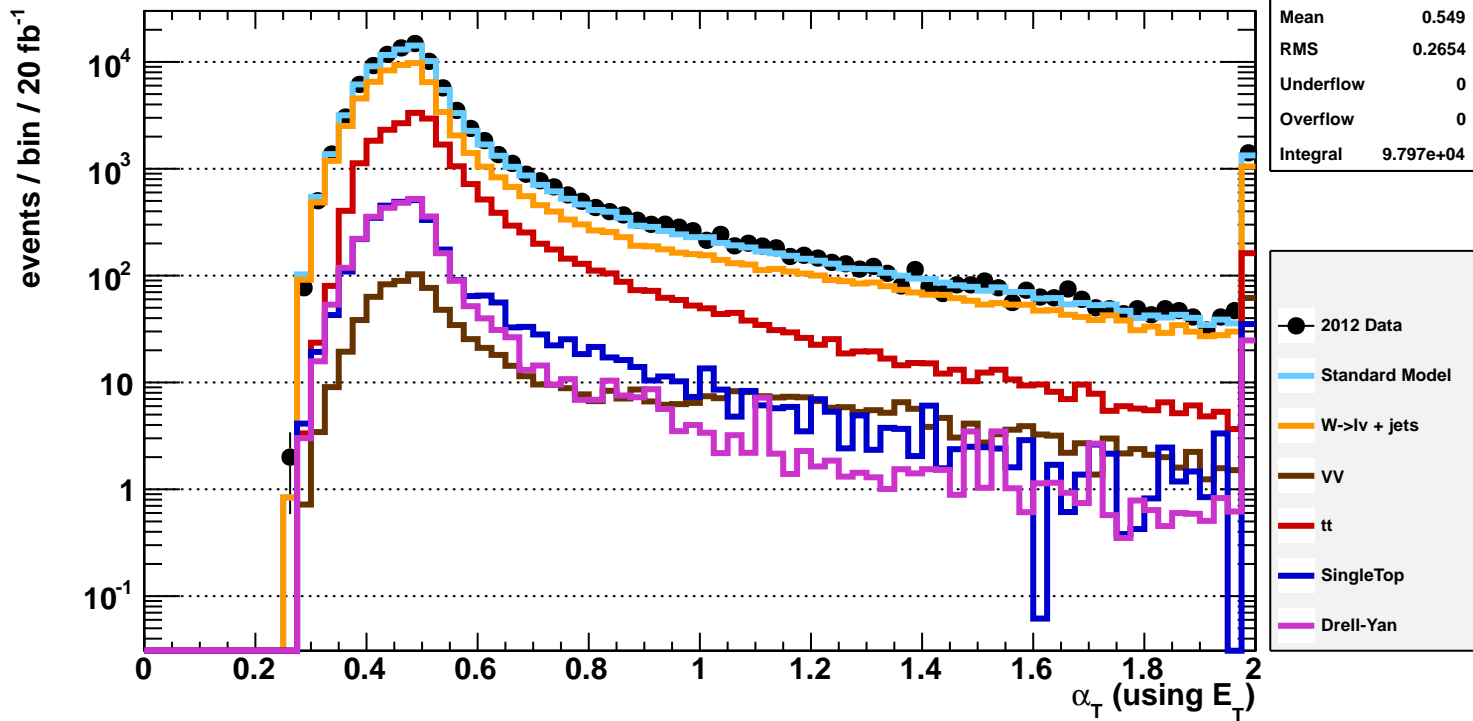
xcak5JetPFmHtOverHtPat	
Entries	97966
Mean	0.4301
RMS	0.2388
Underflow	0
Overflow	0
Integral	9.797e+04

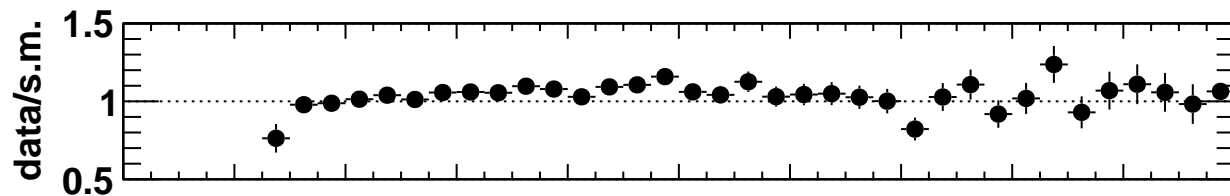
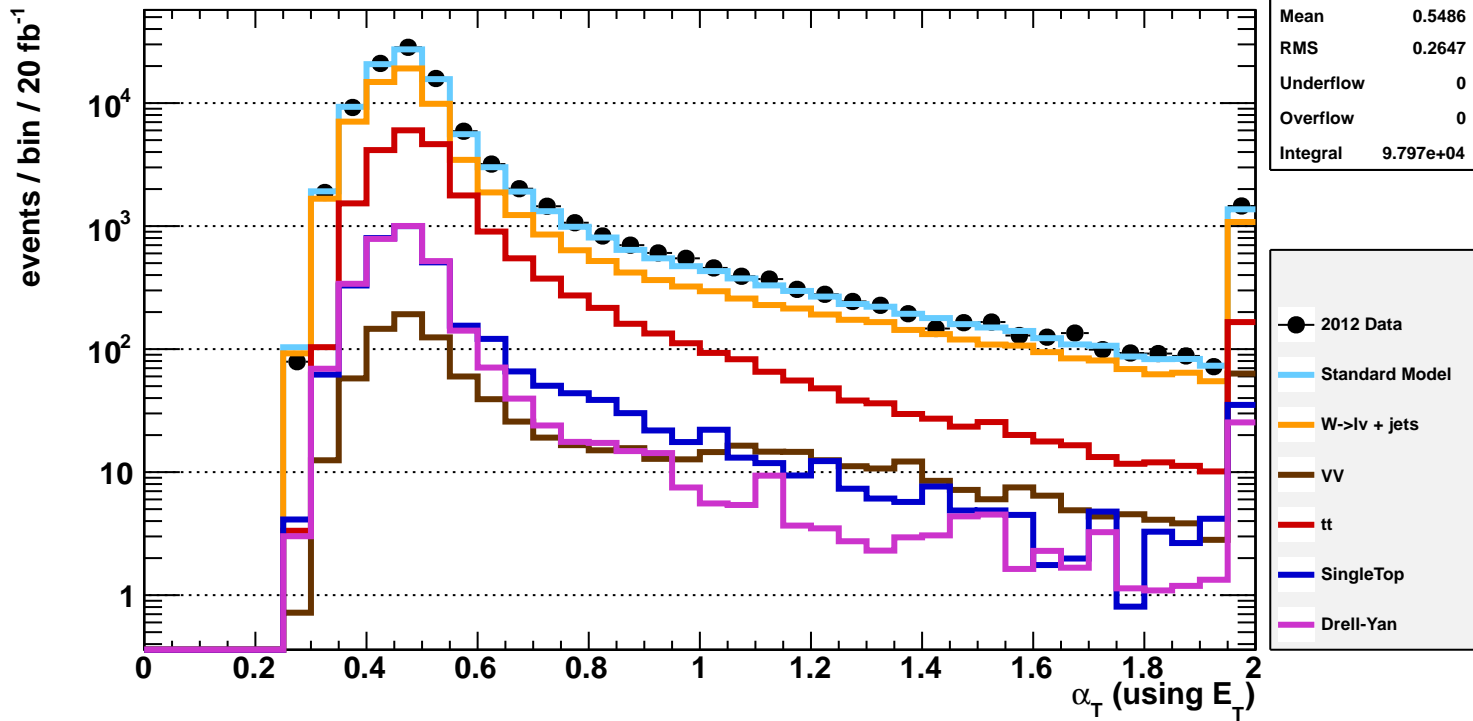


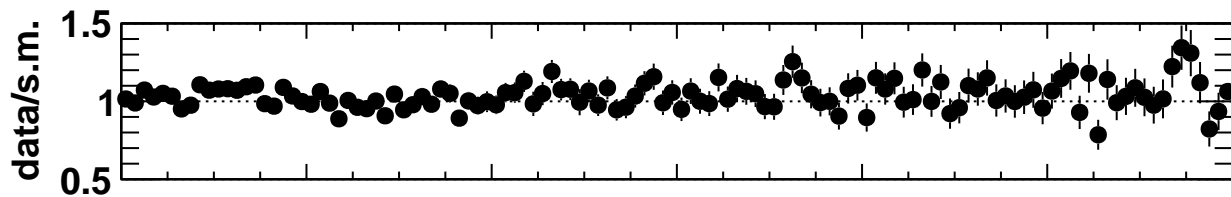
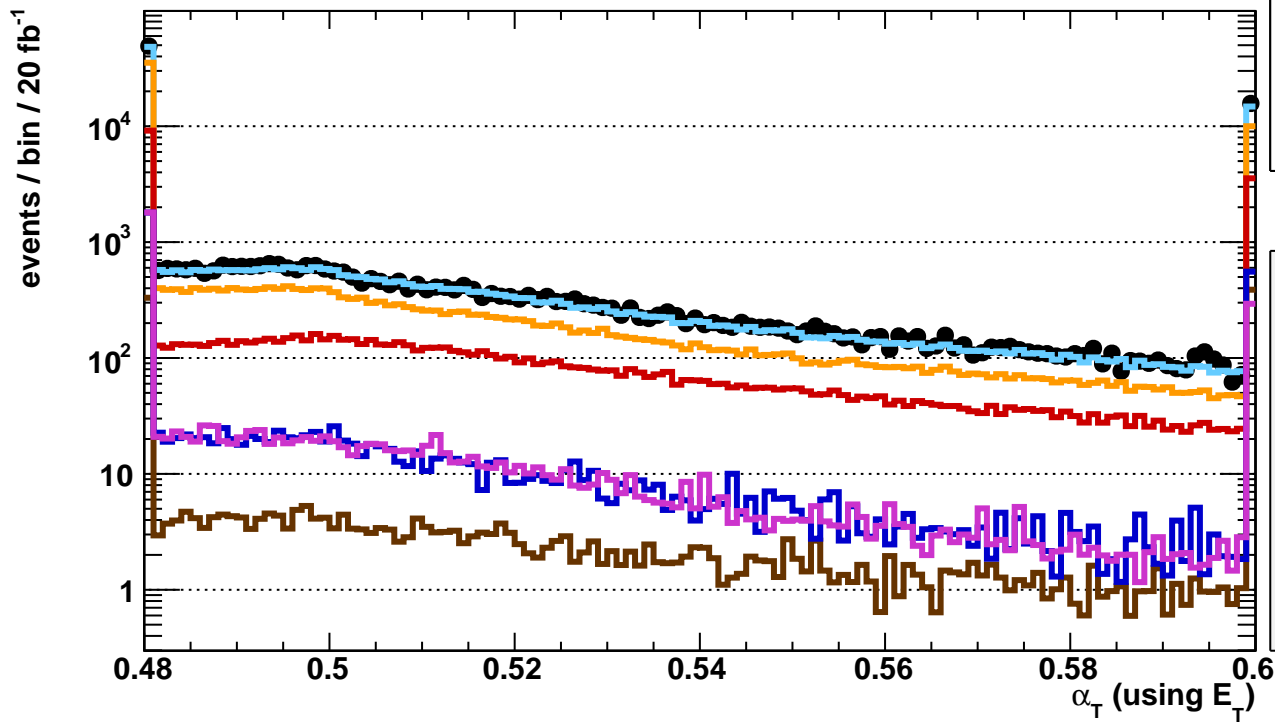


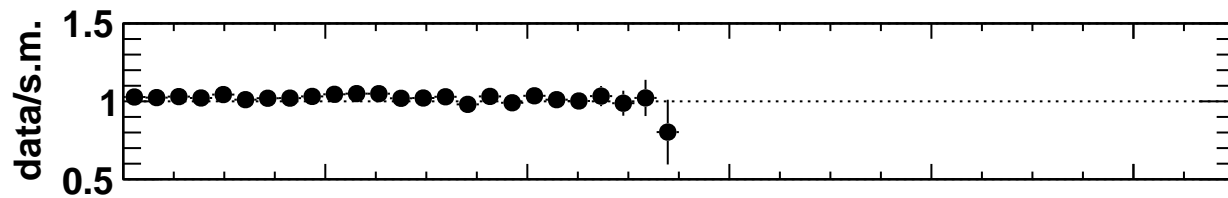
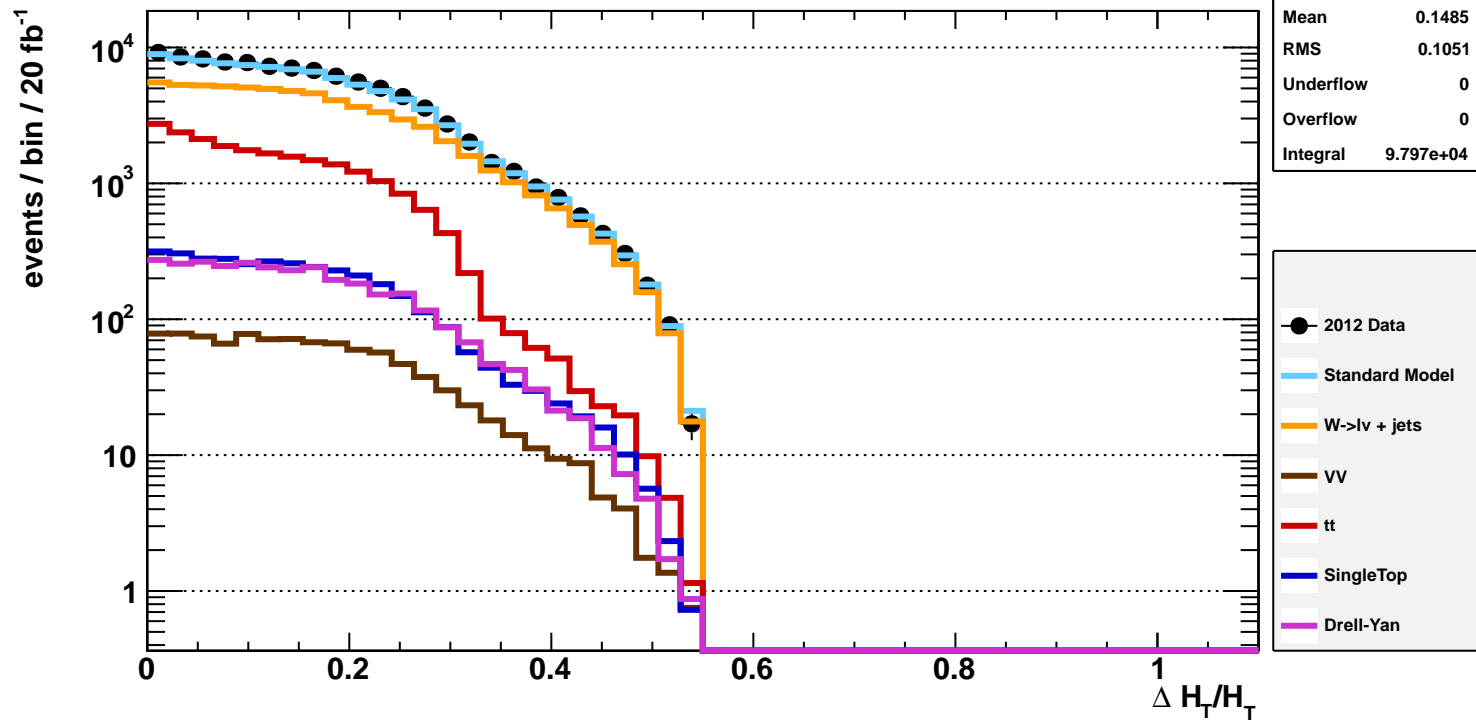
2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**

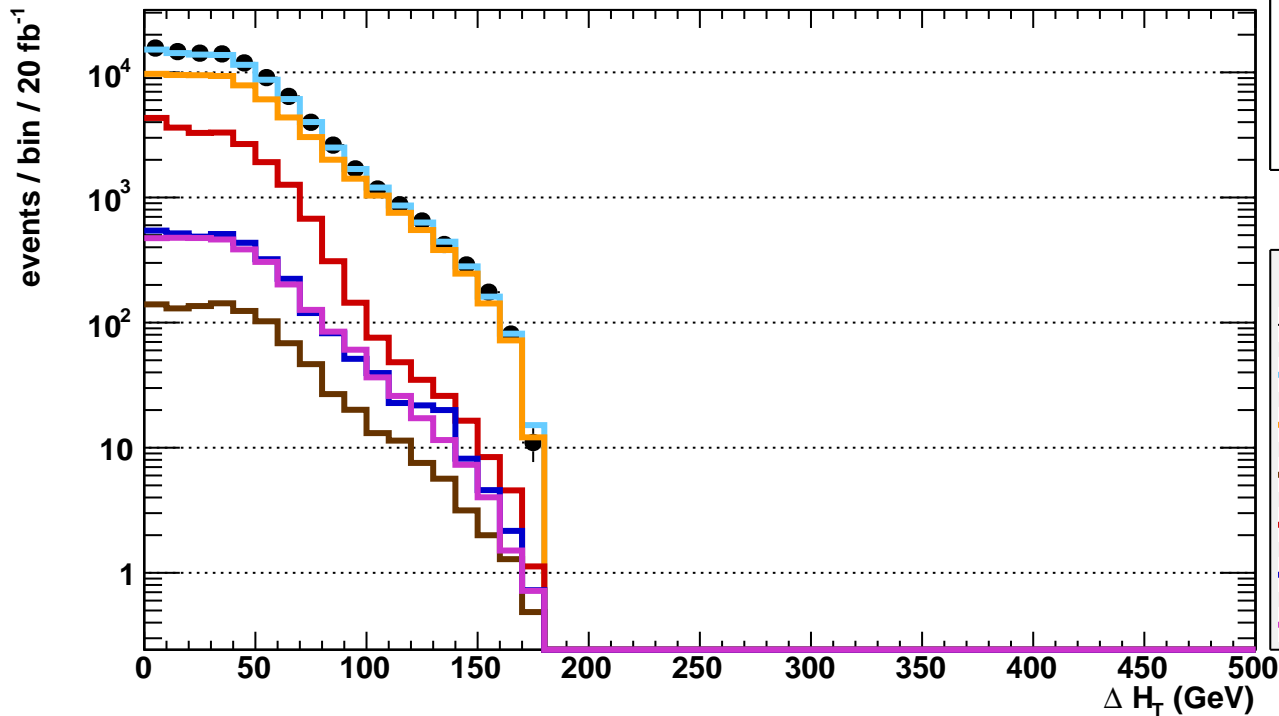




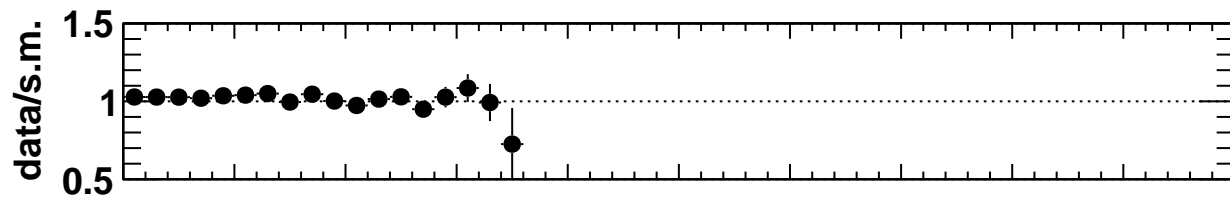
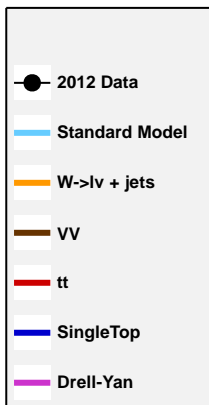


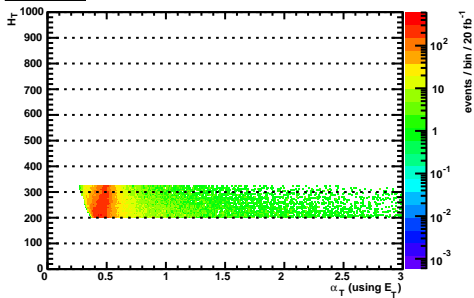
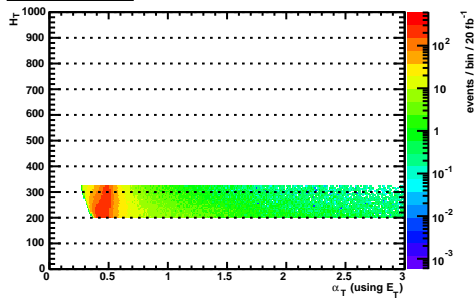
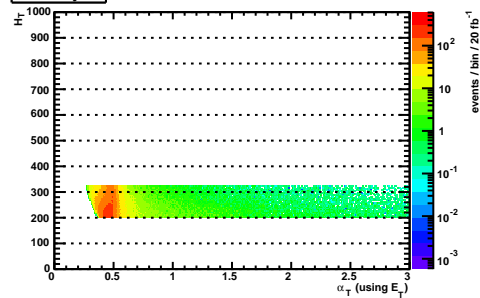
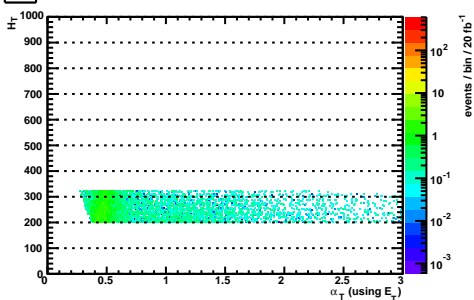
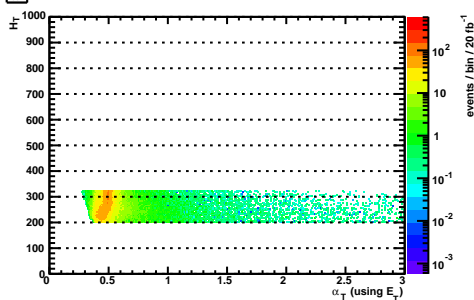
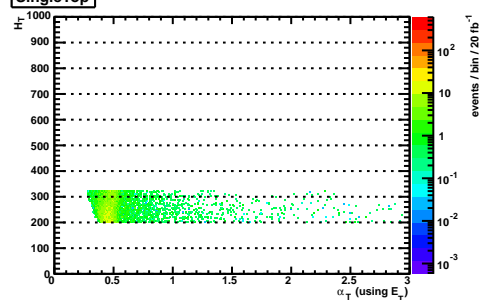
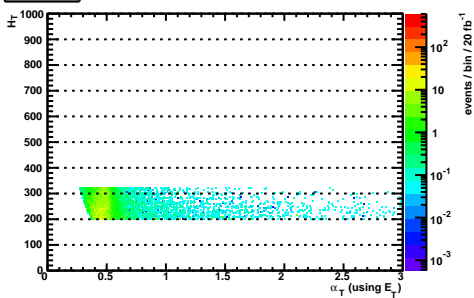


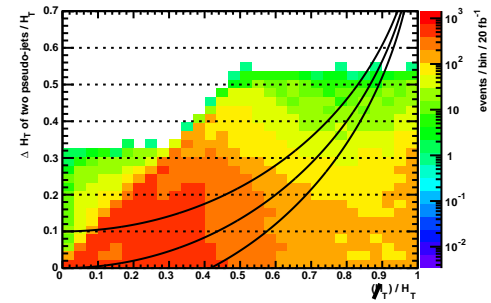
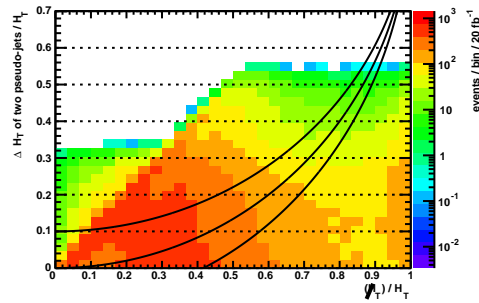
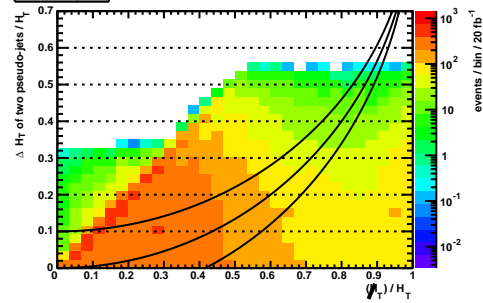
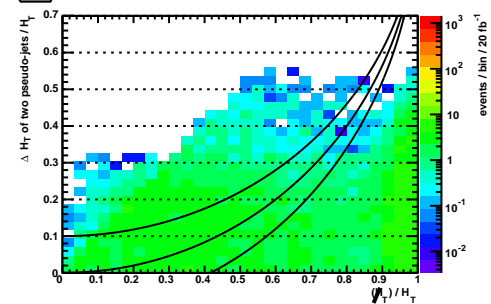
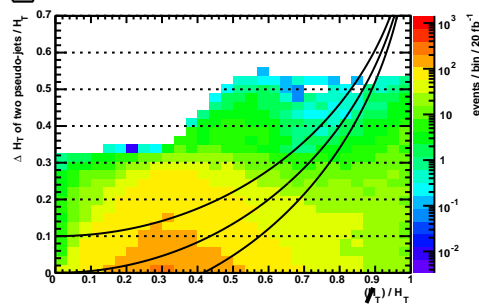
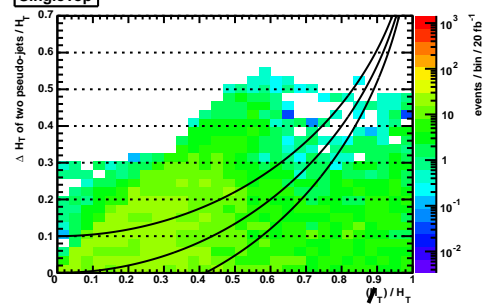
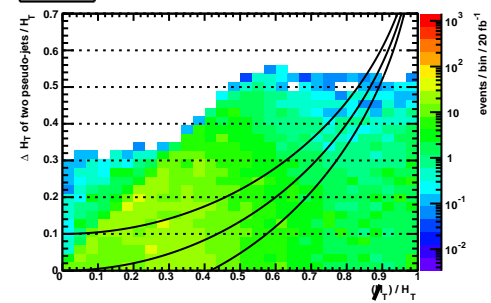


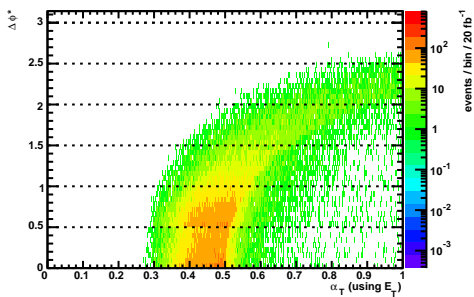
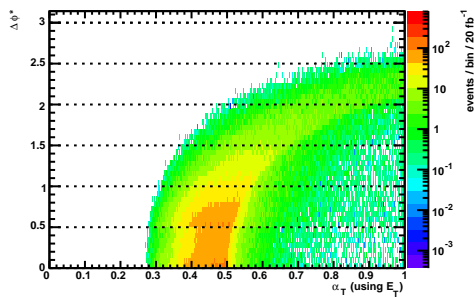
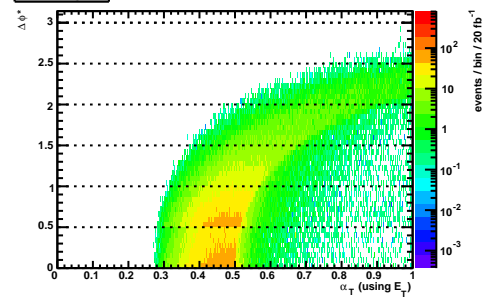
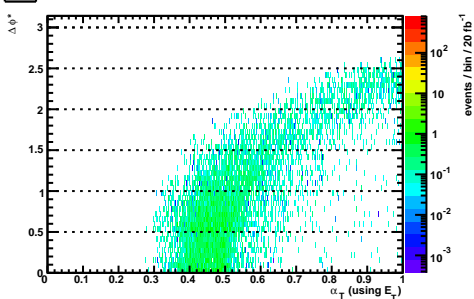
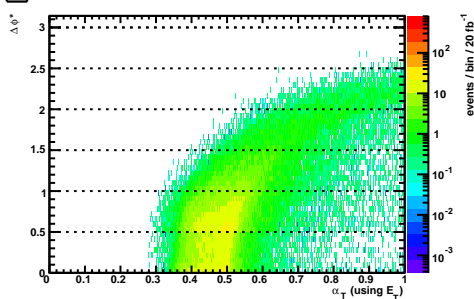
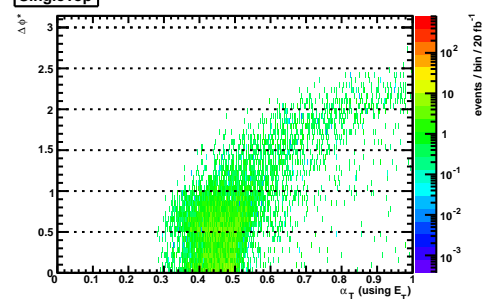
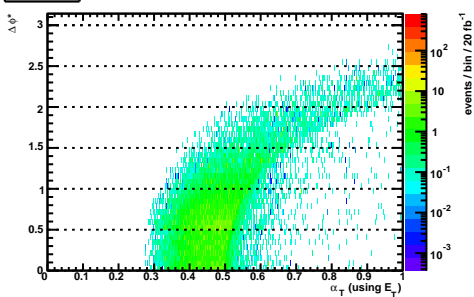


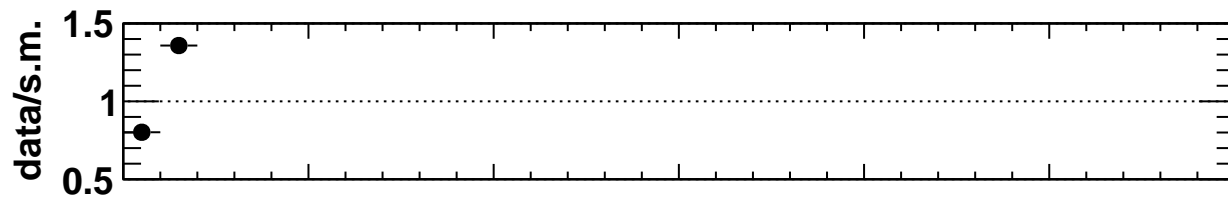
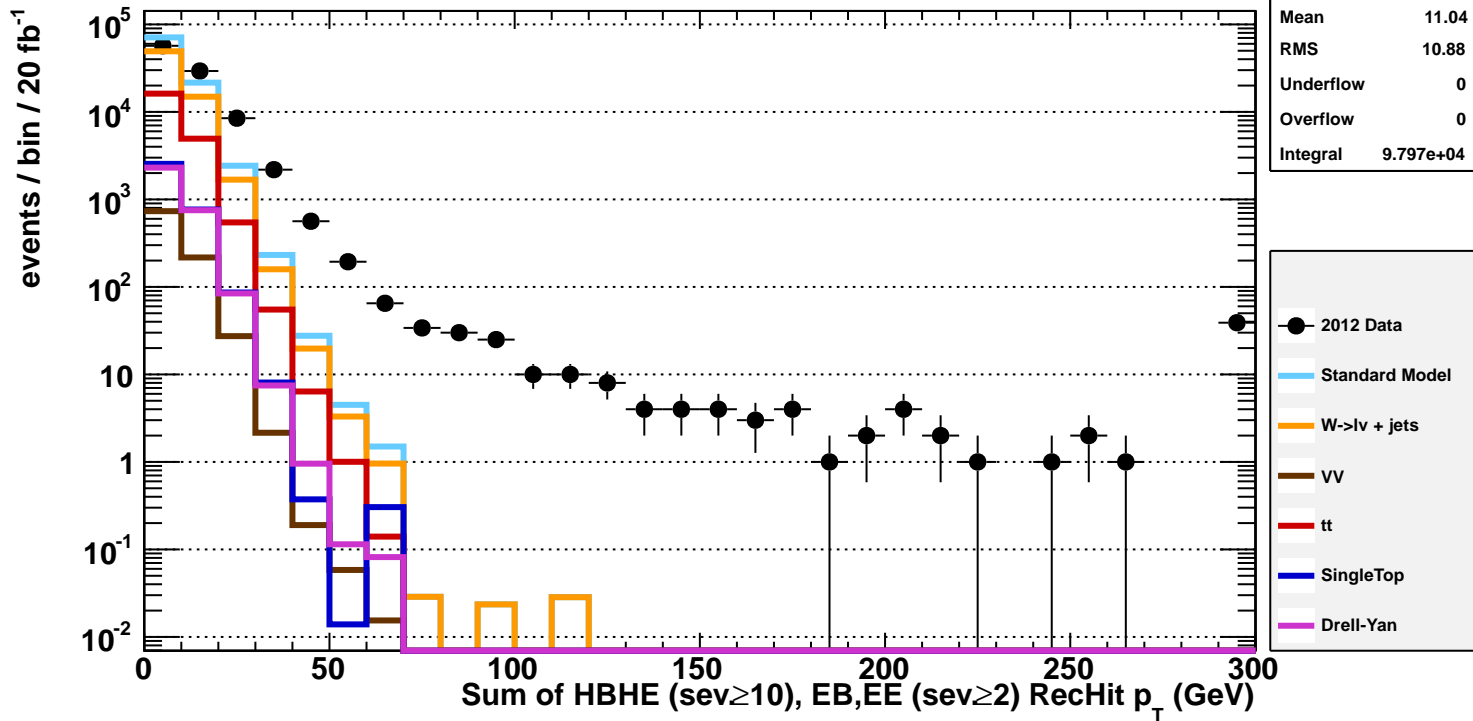
xcak5JetPFDeltaHtPat	
Entries	97966
Mean	37.9
RMS	28.35
Underflow	0
Overflow	0
Integral	9.797e+04



2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**

2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**

2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**



```

r: jetPtSelector          xcak5JetPFPat; pT[index[1]]>=73.3 GeV
s: value                  200.00<=xcak5JetPFSumEtPat
t: value                  xcak5JetPFSumEtPat<=325.00

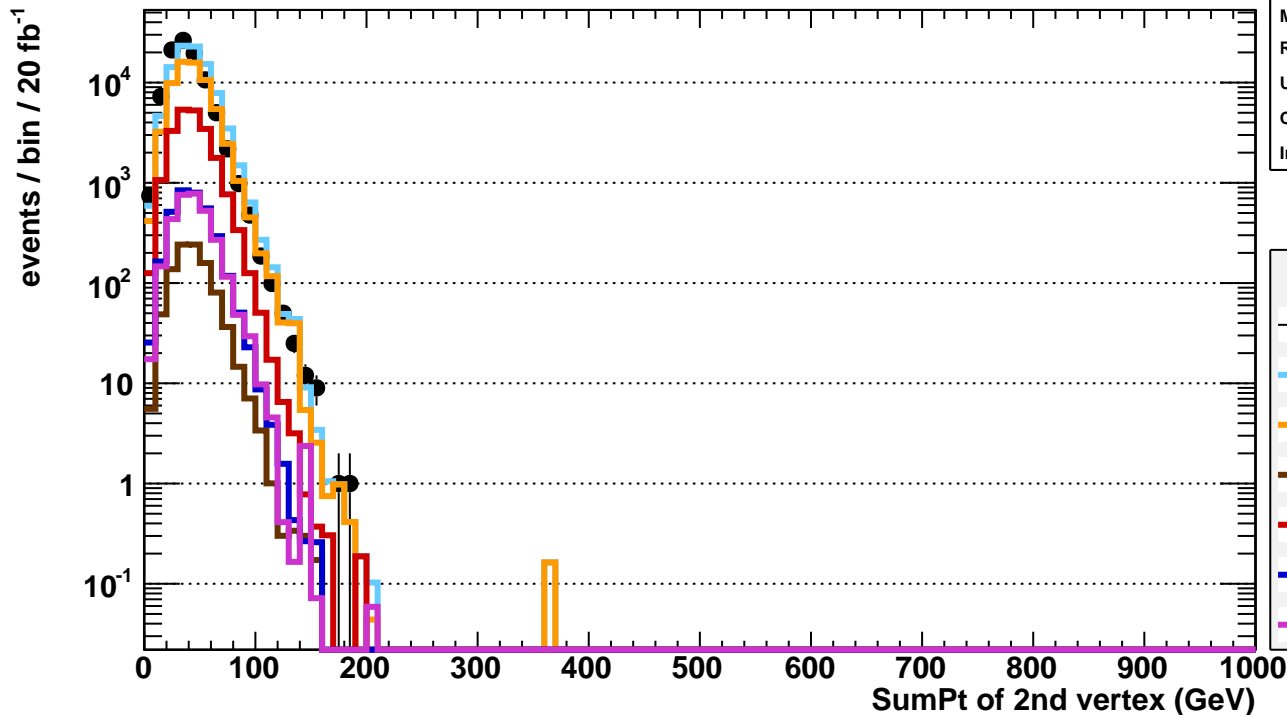
u: multiplicity           2 <= xcak5JetPFIIndicesPat
v: multiplicity           0 <= xcak5JetPFIIndicesOtherPat <= 0
w: multiplicity           0 <= xcak5JetPFIIndicesWithOddMuonPat <= 0
x: uniquelyMatchedNonisoMuons xcak5JetPFPat
y: multiplicity           0 <= electronIndicesPF <= 0

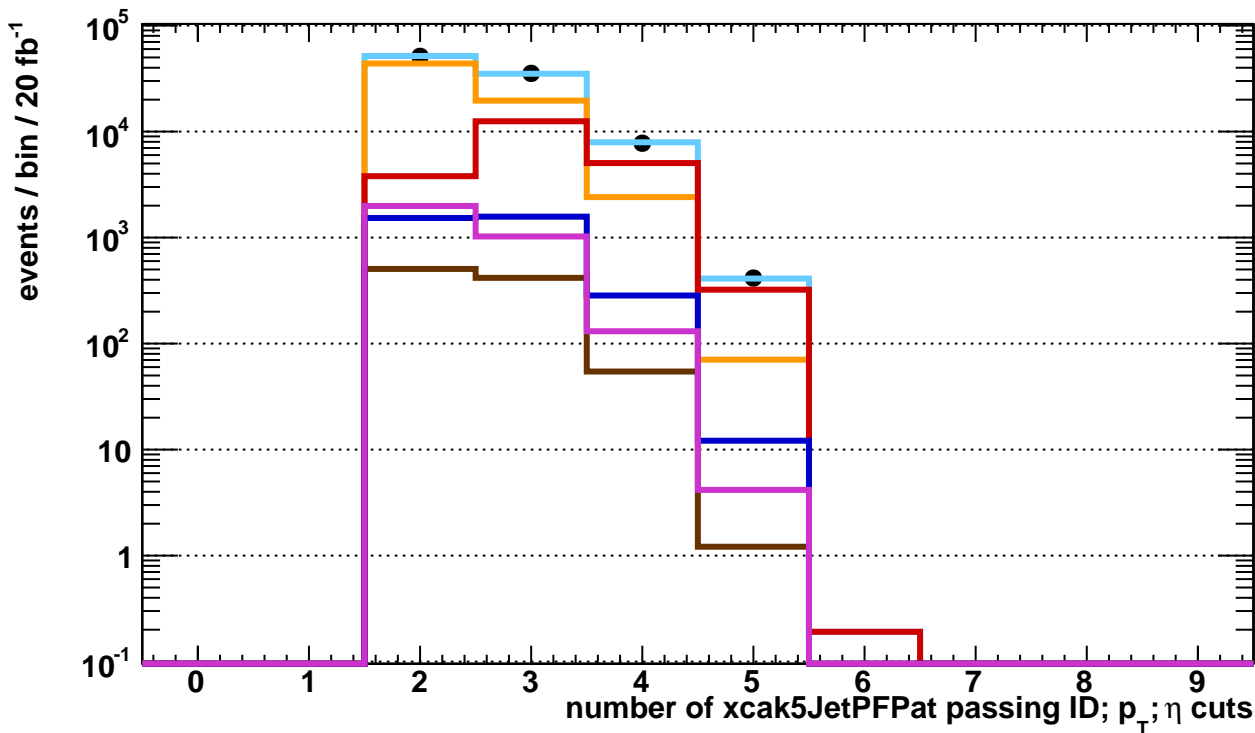
z: multiplicity           0 <= photonIndicesPat <= 0
A: multiplicity           0 <= electronIndicesUnmatchedPF <= 0
B: multiplicity           0 <= photonIndicesUnmatchedPat <= 0
C: deadEcalFilter         xcak5JetPFPat; dR>0.300 when deltaPhiStar<0.500
D: multiplicity           1 <= muonIndicesPF <= 1

E: pt                    30.00<=muonP4PF[i[0]].pt; muonIndicesPF
F: eta                   -2.10<=muonP4PF[i[0]].eta<=2.10; muonIndicesPF
G: value                 30.00<=muonMtPFFmetP4TypeIPF<=125.00
H: value                 xcak5JetPFFMhthighPtPatOvermetP4TypeIPFPlusmuonIndicesPF<=1.25
I: value                 PFFRecHitSumPt<=30.00

```

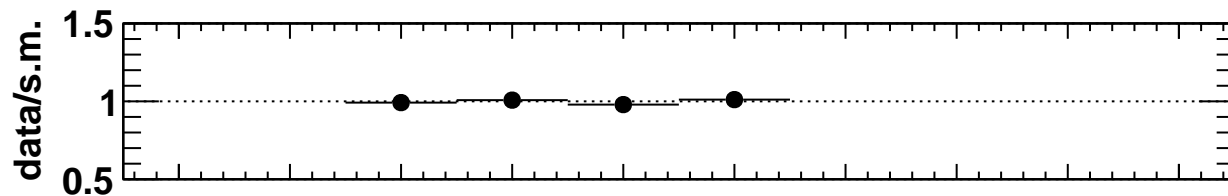
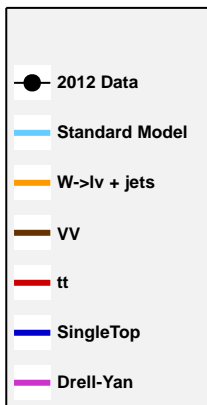
	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
r:	900832	4.531(2)e+6	2.051(2)e+6	1.305(1)e+5	1.7183(6)e+6	3.843(4)e+5	2.465(4)e+5	0.1988(2)
s:	712145	3.939(1)e+6	1.622(1)e+6	1.0936(10)e+5	1.6668(6)e+6	3.457(4)e+5	1.951(3)e+5	0.1808(2)
t:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
u:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
v:	424166	1.885(1)e+6	9.903(10)e+5	6.034(7)e+4	5.478(3)e+5	1.709(2)e+5	1.158(3)e+5	0.2250(4)
w:	384351	1.868(1)e+6	9.824(9)e+5	6.018(7)e+4	5.416(3)e+5	1.698(2)e+5	1.138(3)e+5	0.2058(4)
x:	383246	1.866(1)e+6	9.818(9)e+5	6.017(7)e+4	5.410(3)e+5	1.697(2)e+5	1.137(3)e+5	0.2053(4)
y:	377864	1.487(1)e+6	7.471(9)e+5	5.700(7)e+4	4.503(3)e+5	1.568(2)e+5	7.63(3)e+4	0.2540(4)
z:	376527	1.466(1)e+6	7.314(9)e+5	5.668(7)e+4	4.471(3)e+5	1.562(2)e+5	7.43(3)e+4	0.2569(5)
A:	376458	1.465(1)e+6	7.308(9)e+5	5.667(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2570(5)
B:	376440	1.464(1)e+6	7.306(9)e+5	5.666(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2571(5)
C:	225666	7.492(7)e+5	4.182(6)e+5	2.220(4)e+4	2.069(2)e+5	6.23(1)e+4	3.96(2)e+4	0.3012(7)
D:	190980	2.299(3)e+5	1.549(2)e+5	2.10(1)e+3	5.42(1)e+4	8.29(6)e+3	1.040(7)e+4	0.831(2)
E:	168996	1.721(2)e+5	1.162(2)e+5	1.70(1)e+3	4.061(9)e+4	5.89(5)e+3	7.71(6)e+3	0.982(3)
F:	168968	1.593(2)e+5	1.060(2)e+5	1.59(1)e+3	3.930(9)e+4	5.71(5)e+3	6.69(6)e+3	1.061(3)
G:	126657	1.218(2)e+5	8.21(2)e+4	1.17(1)e+3	2.998(8)e+4	4.44(4)e+3	4.10(4)e+3	1.040(3)
H:	97966	9.53(2)e+4	6.61(1)e+4	9.8(1)e+2	2.173(6)e+4	3.41(4)e+3	3.15(4)e+3	1.028(4)
I:	94768	9.51(2)e+4	6.59(1)e+4	9.8(1)e+2	2.166(6)e+4	3.40(4)e+3	3.15(4)e+3	0.997(4)

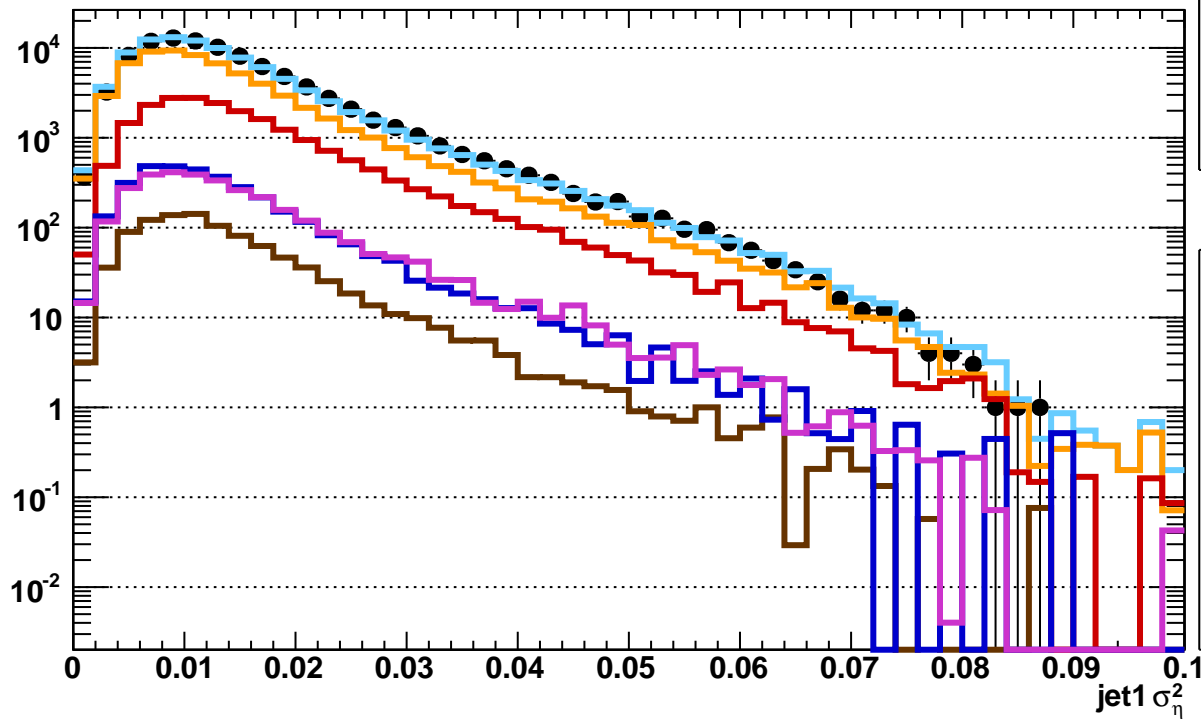




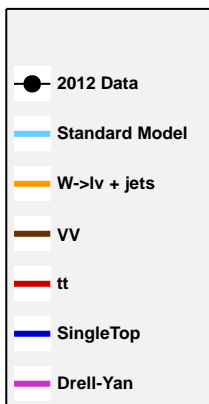
jetMultiplicity

Entries	94768
Mean	2.55
RMS	0.6614
Underflow	0
Overflow	0
Integral	9.477e+04

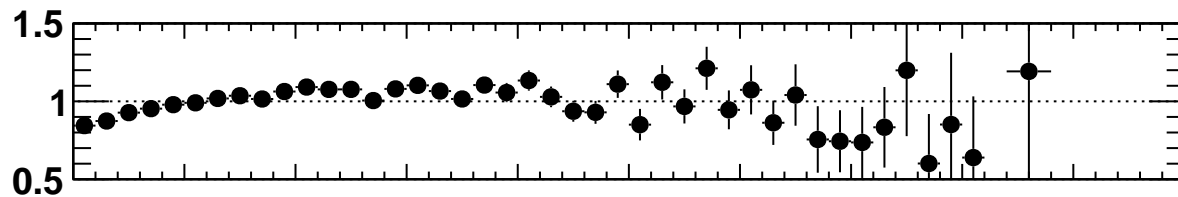


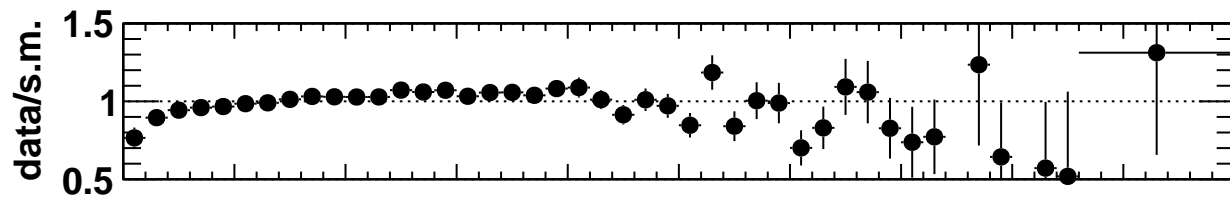
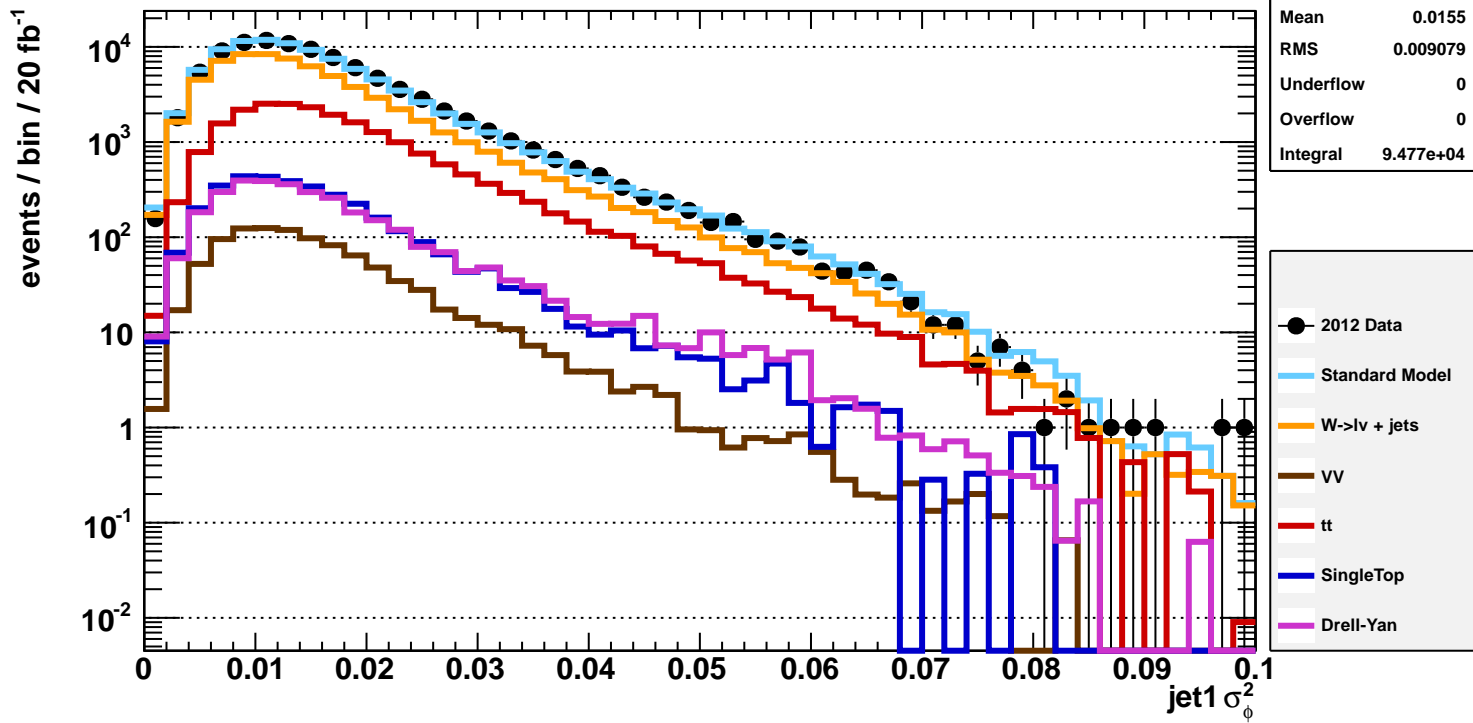
events / bin / 20 fb⁻¹

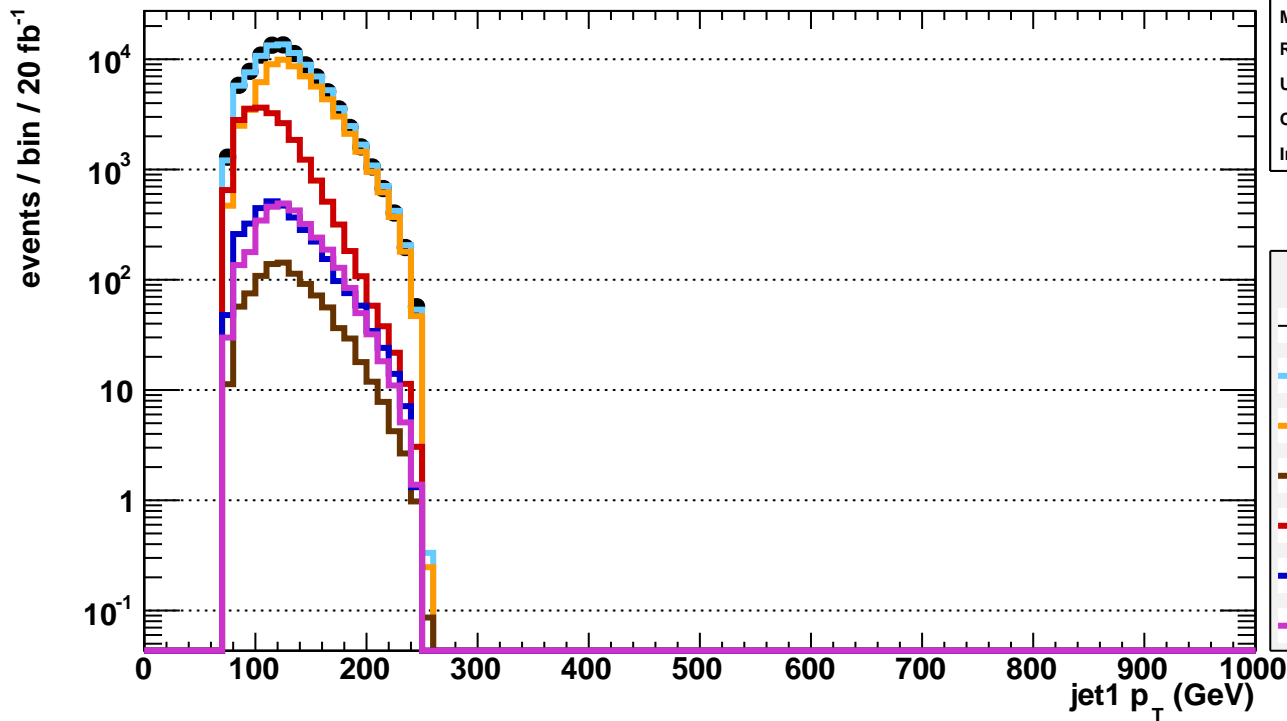
xcak5JetPFPat1Eta2mom	
Entries	94768
Mean	0.014
RMS	0.008987
Underflow	0
Overflow	0
Integral	9.477e+04



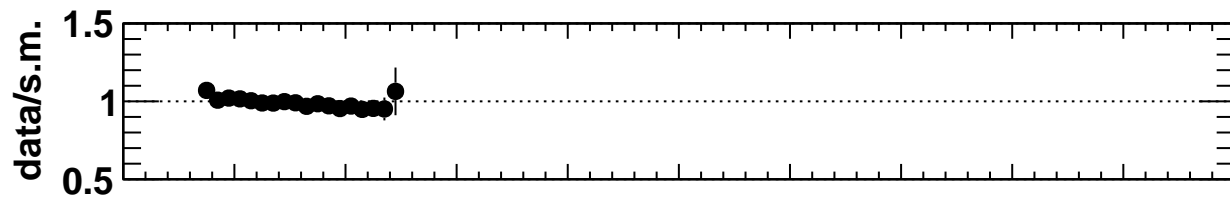
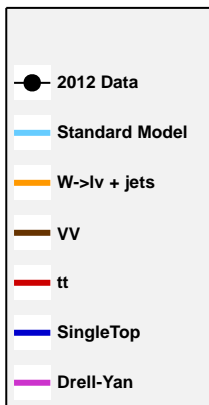
data/s.m.

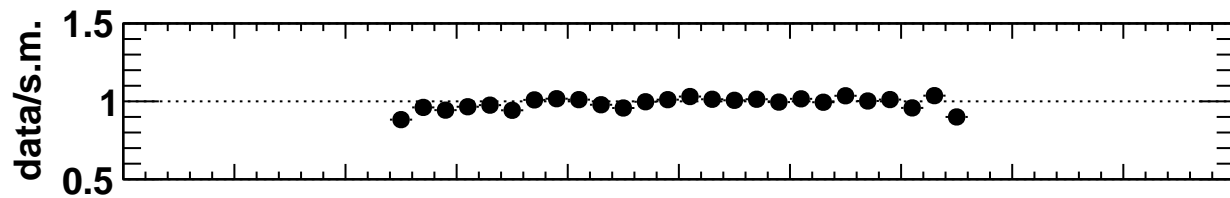
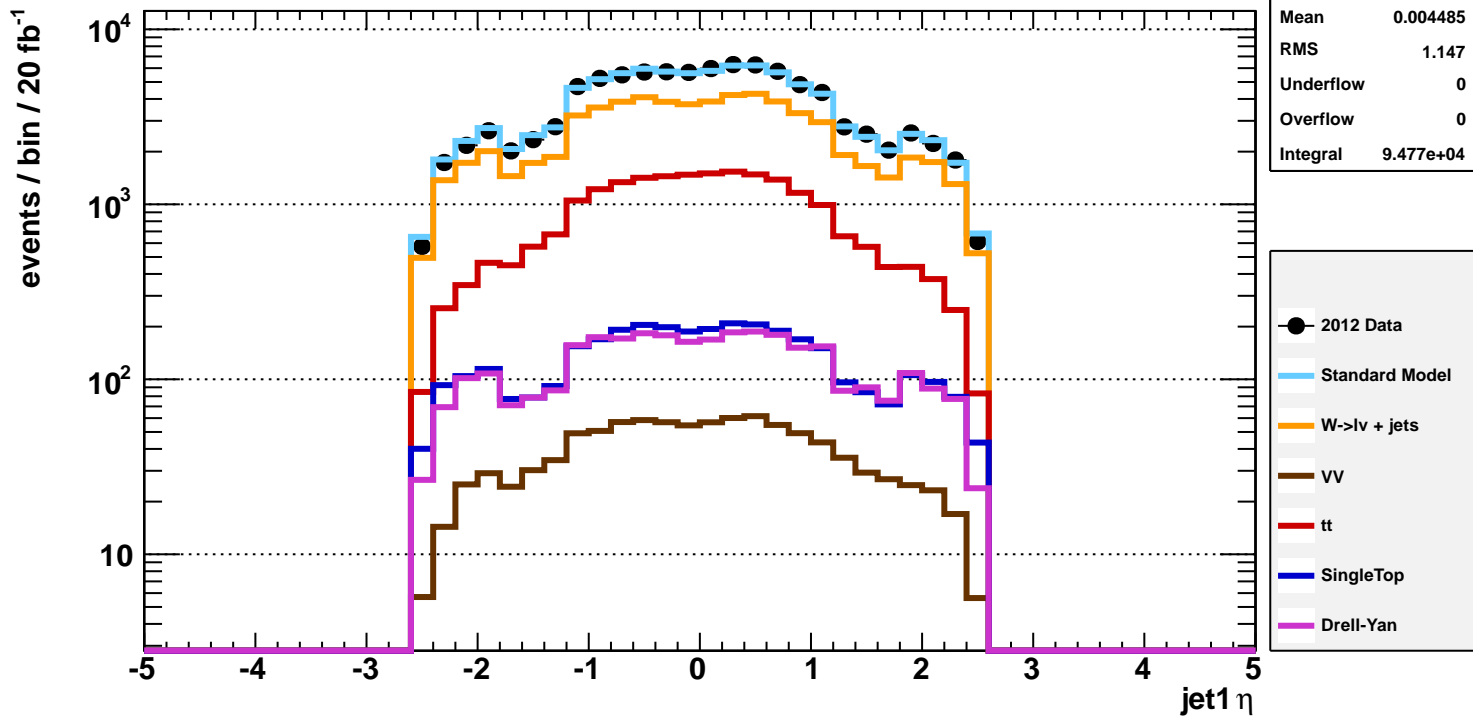


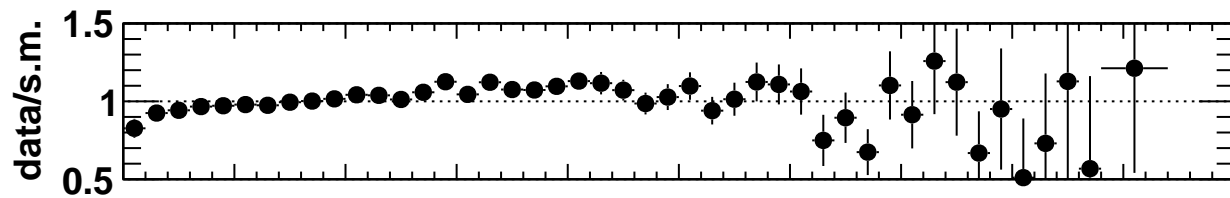
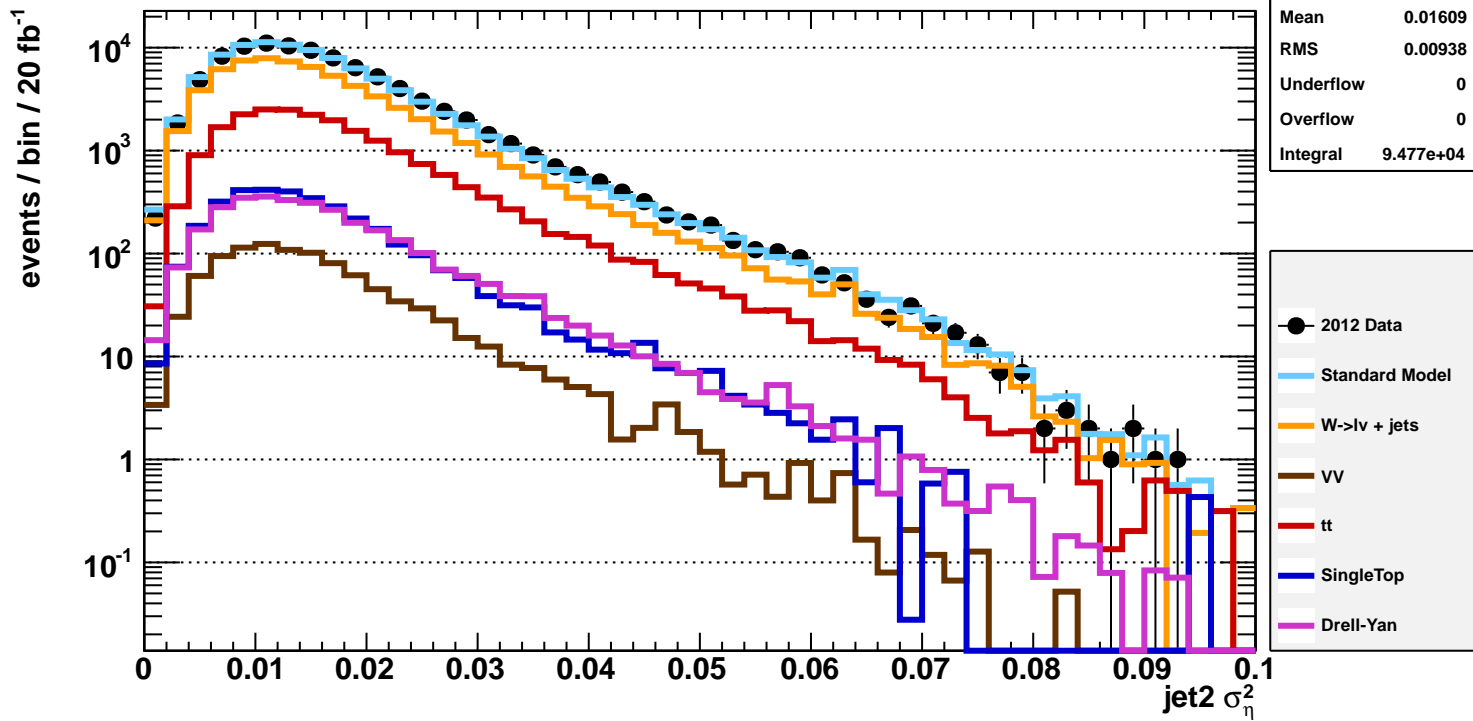


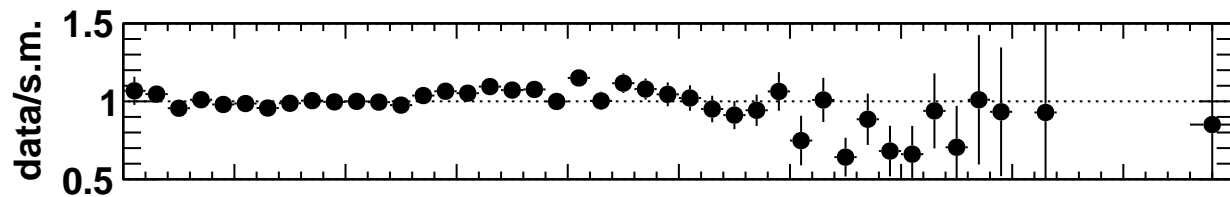
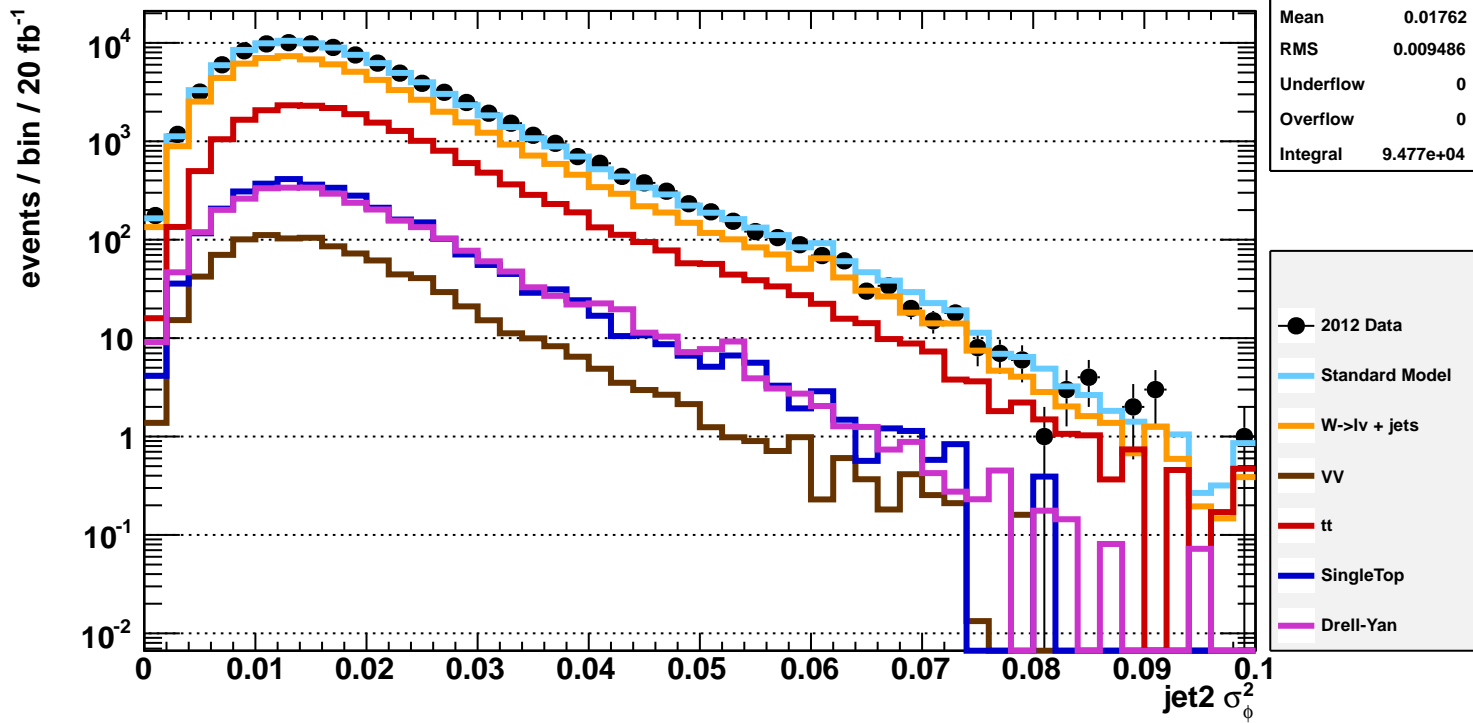


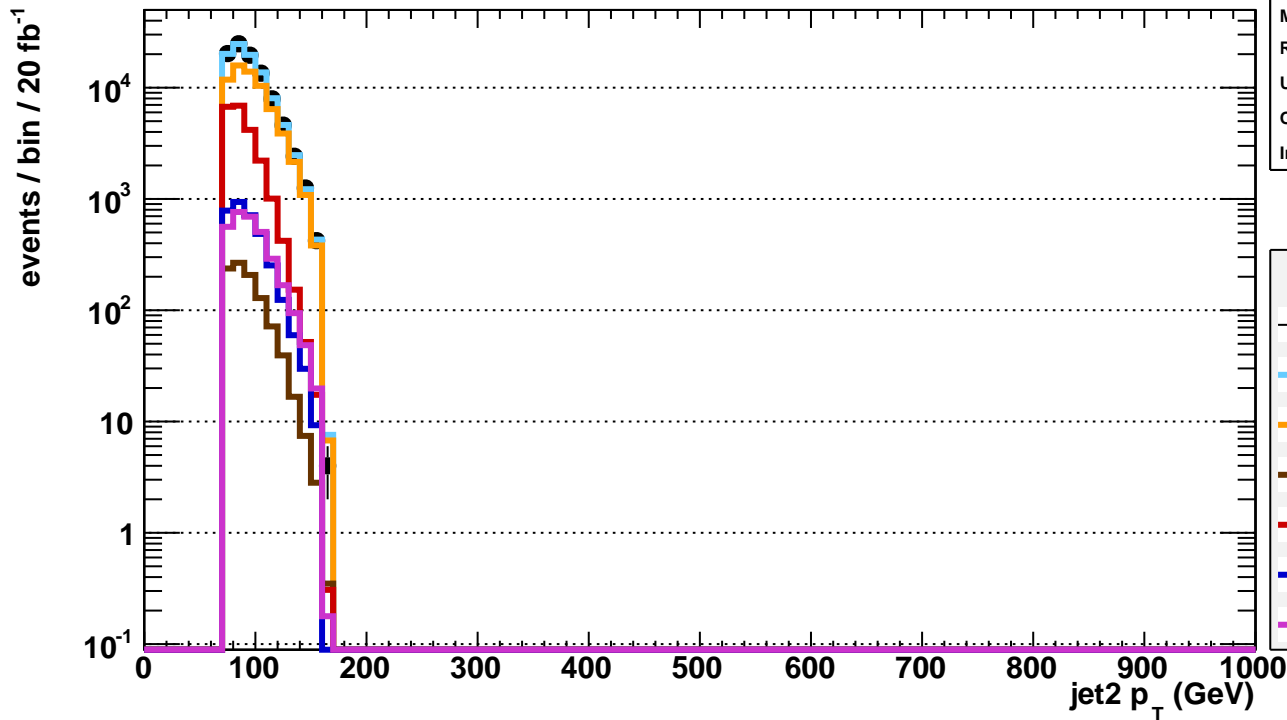
xcak5JetPFPat1Pt	
Entries	94768
Mean	129.9
RMS	30.1
Underflow	0
Overflow	0
Integral	9.477e+04



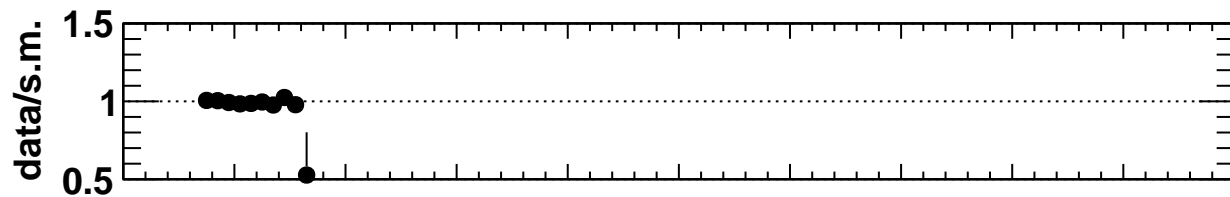


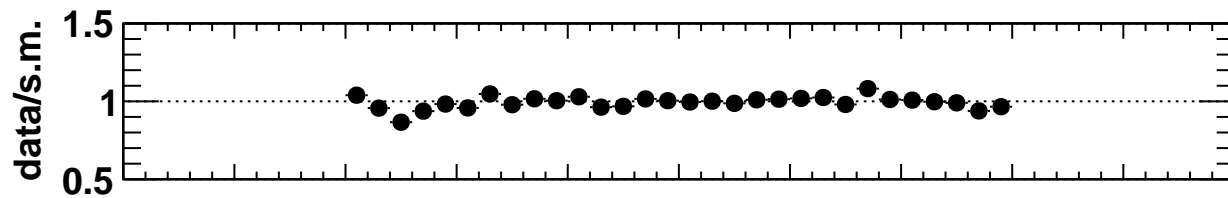
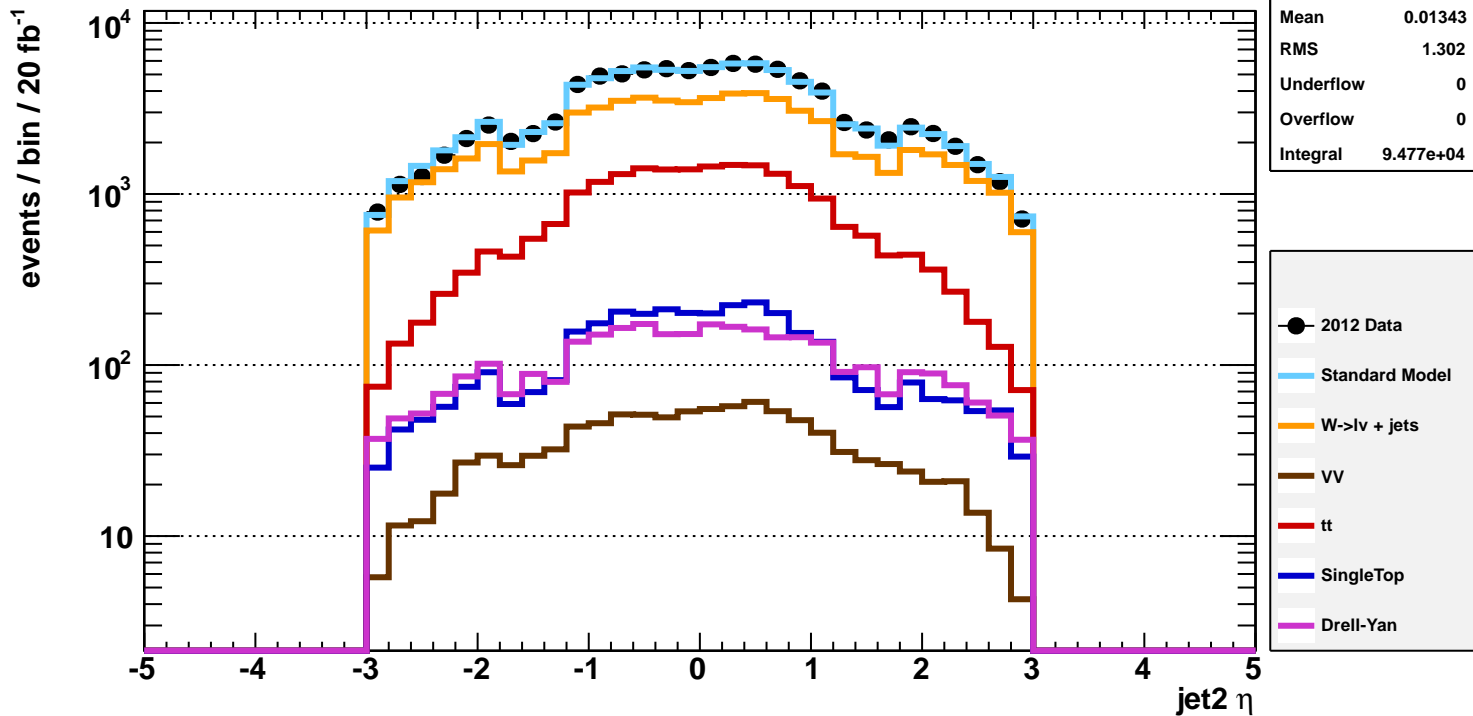


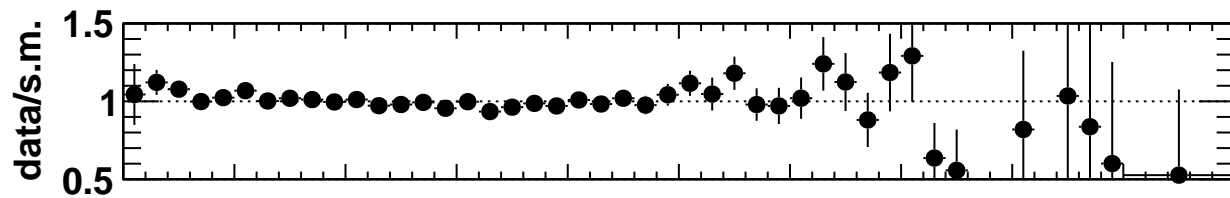
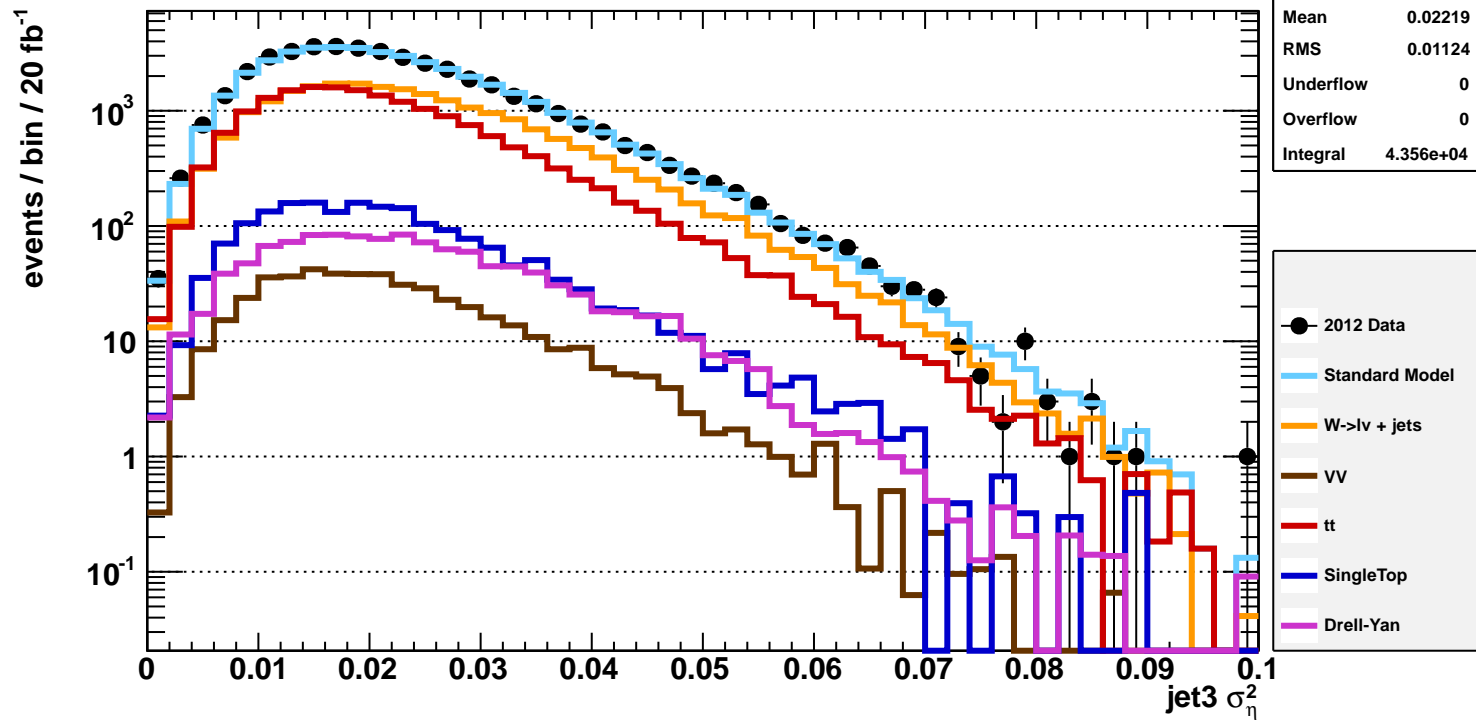


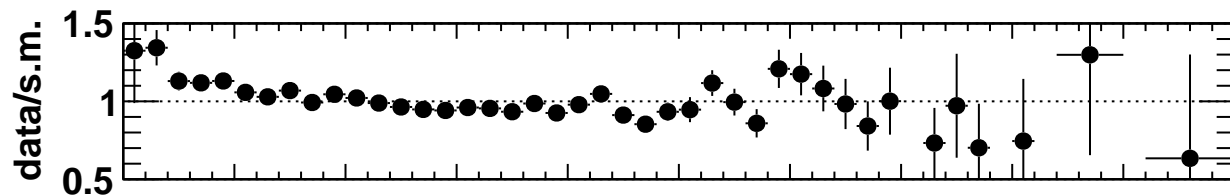
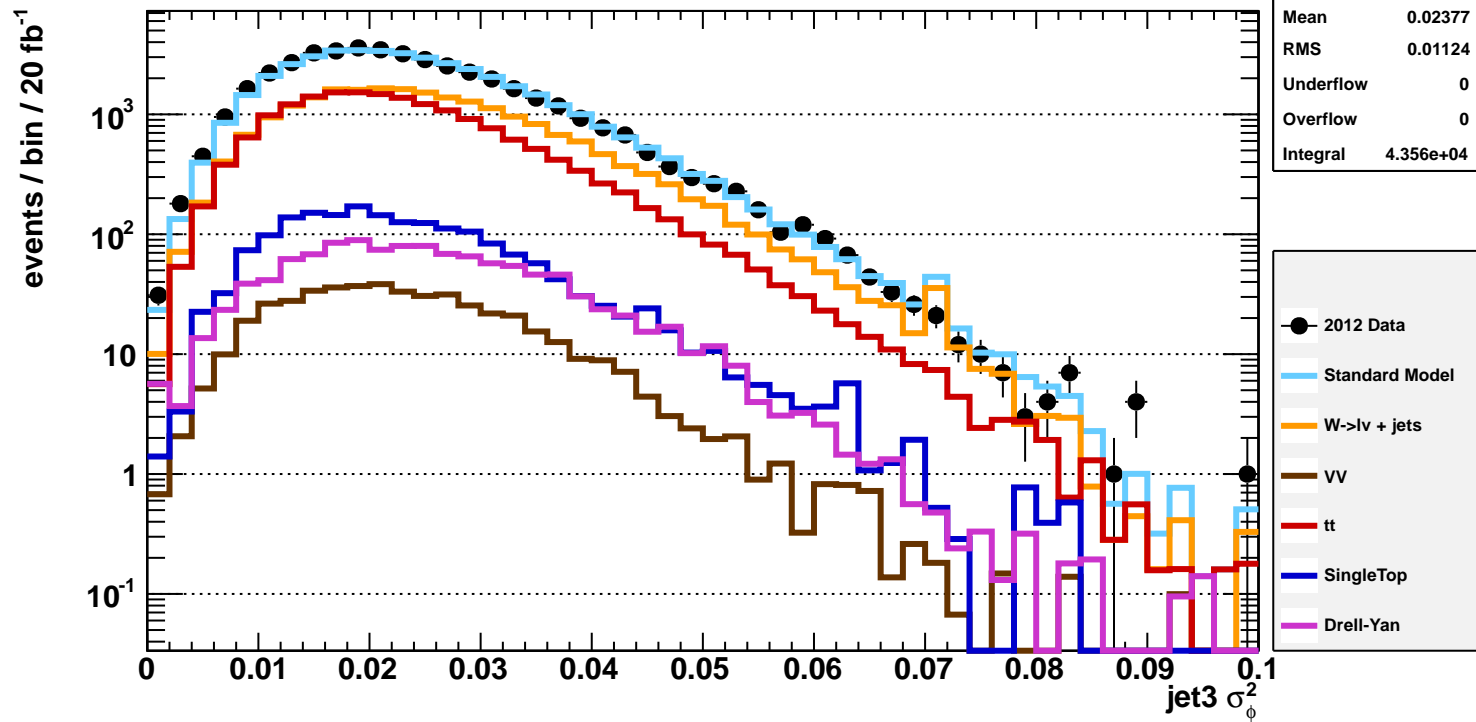


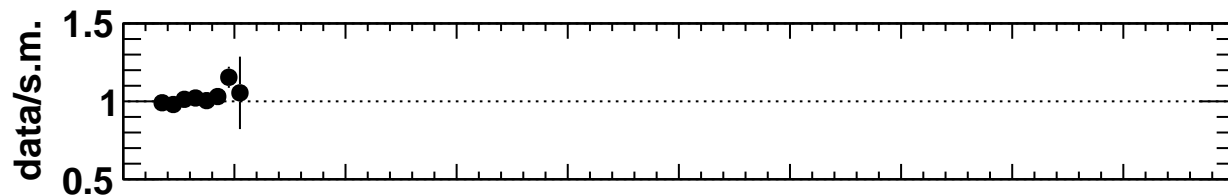
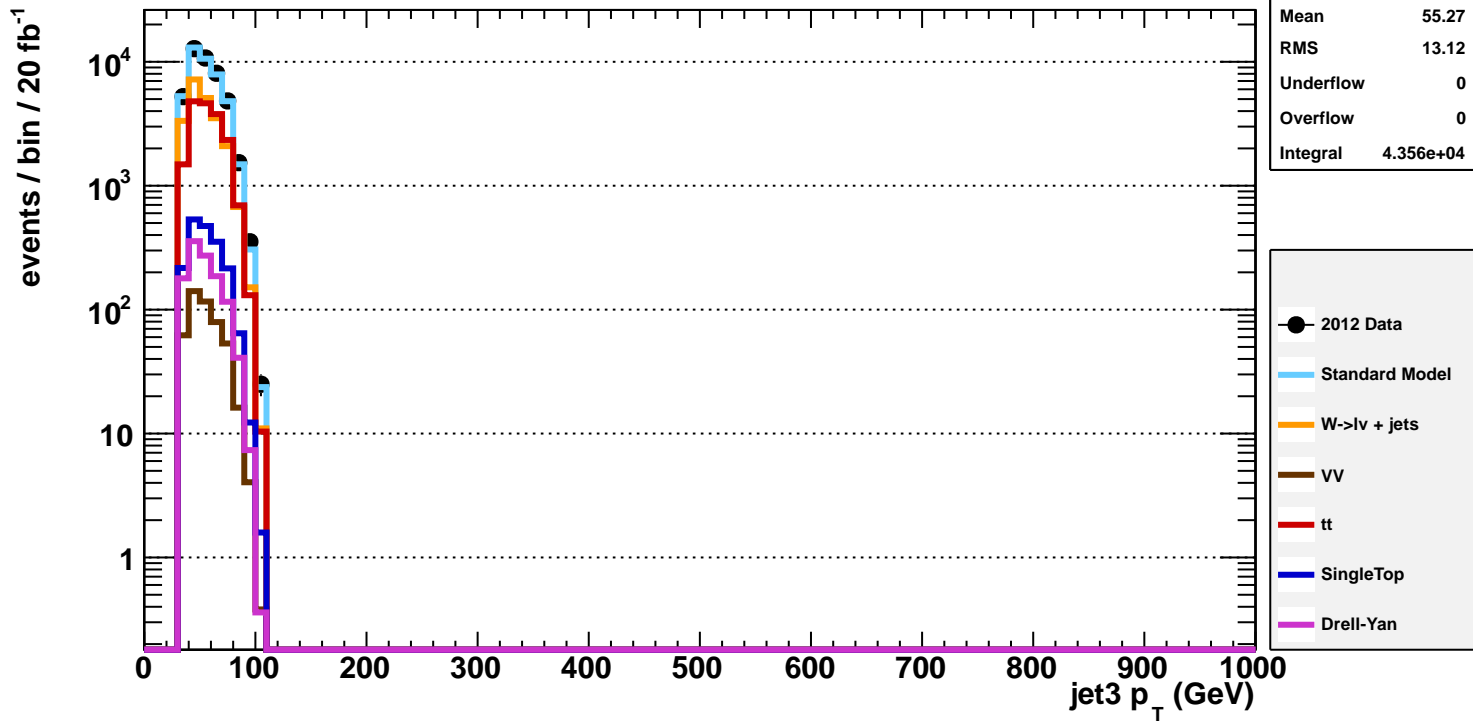
xcak5JetPFPat2Pt	
Entries	94768
Mean	94.71
RMS	16.77
Underflow	0
Overflow	0
Integral	9.477e+04

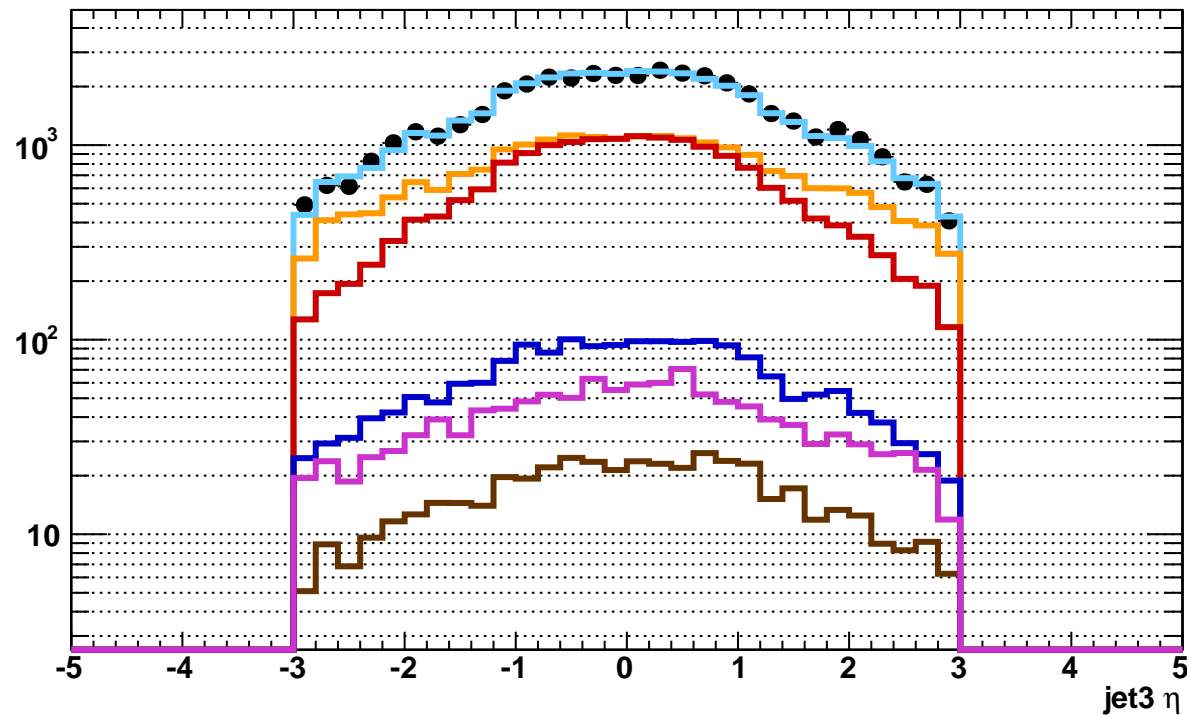




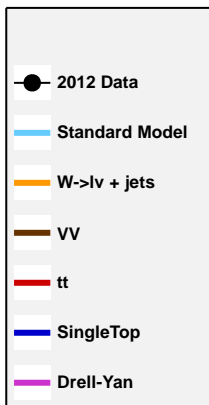




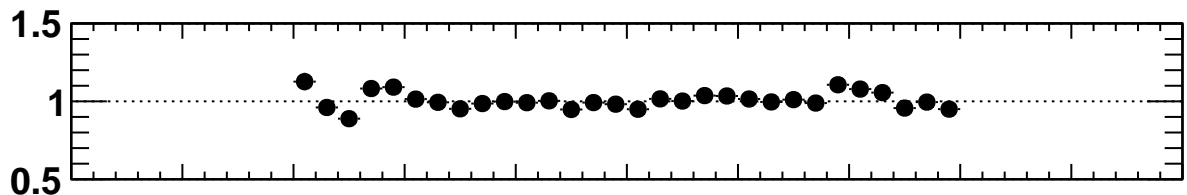


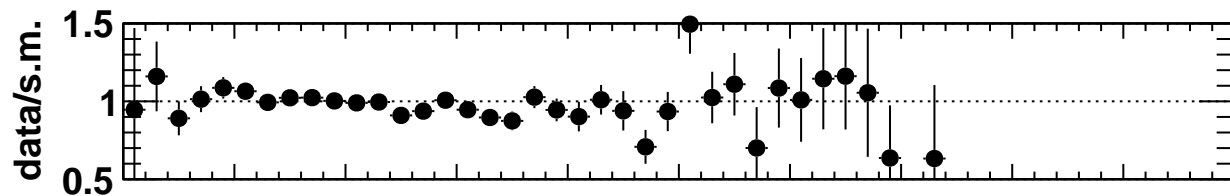
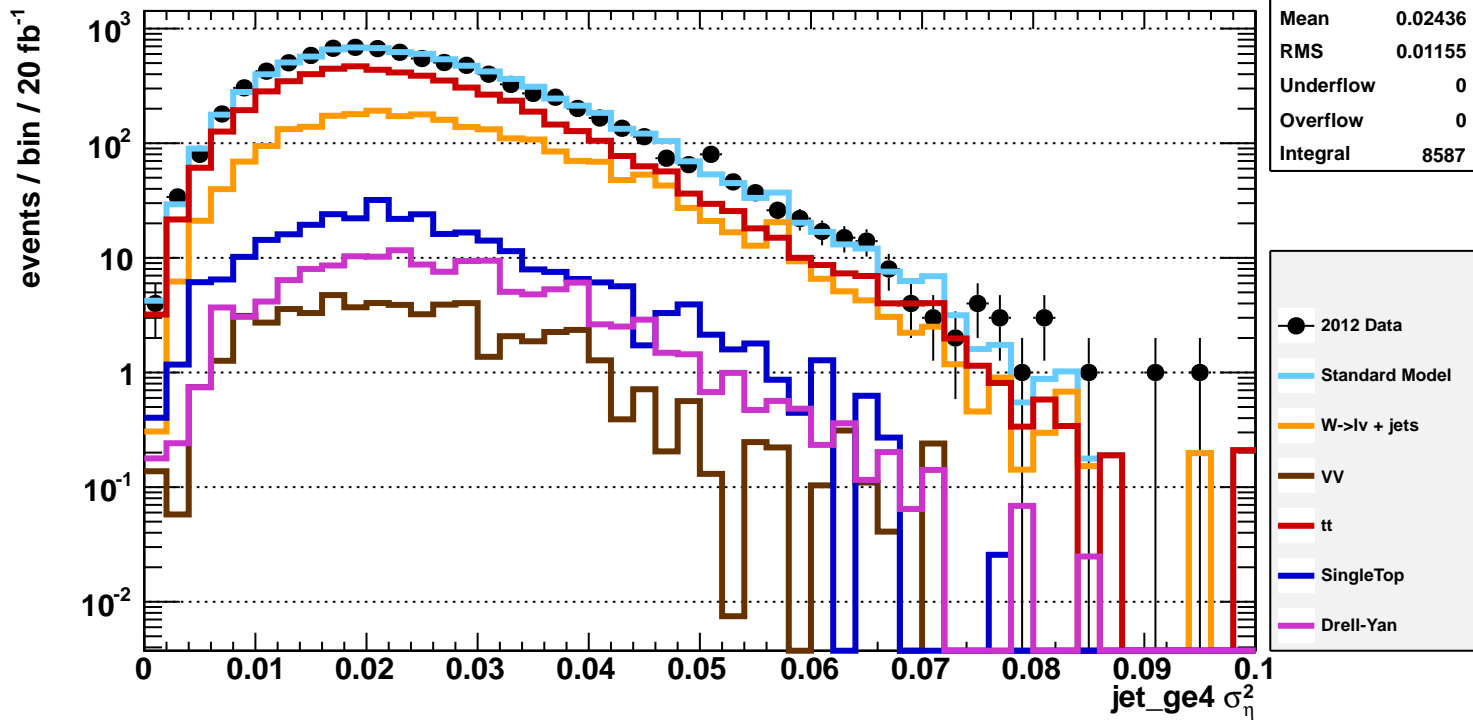
events / bin / 20 fb⁻¹

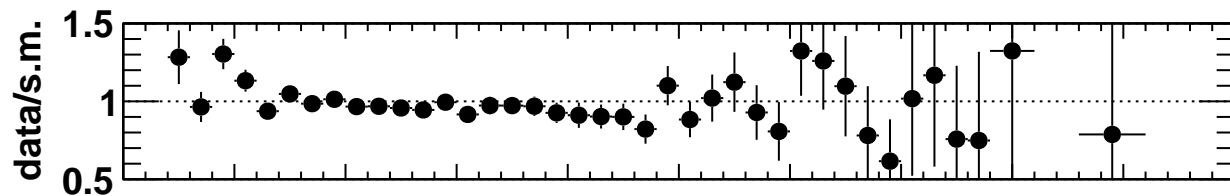
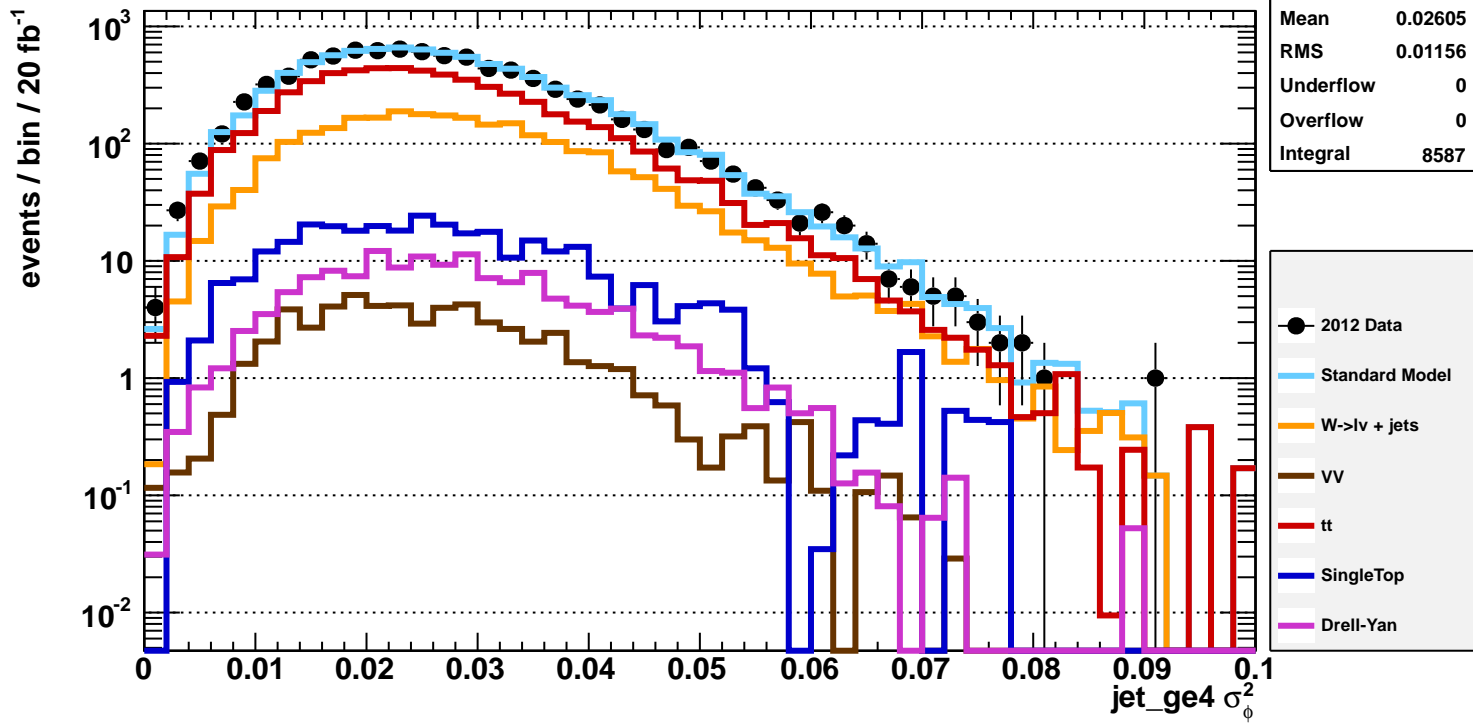
xcak5JetPFPat3eta	
Entries	43556
Mean	0.006151
RMS	1.357
Underflow	0
Overflow	0
Integral	4.356e+04

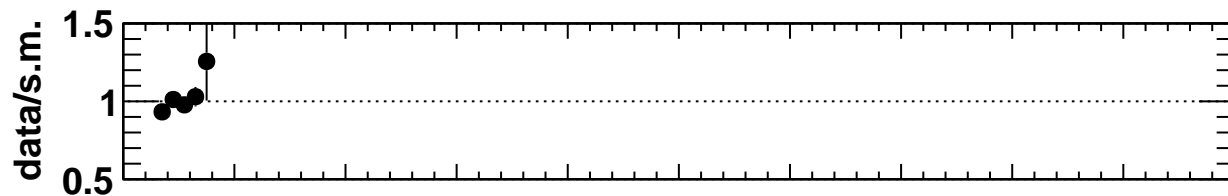
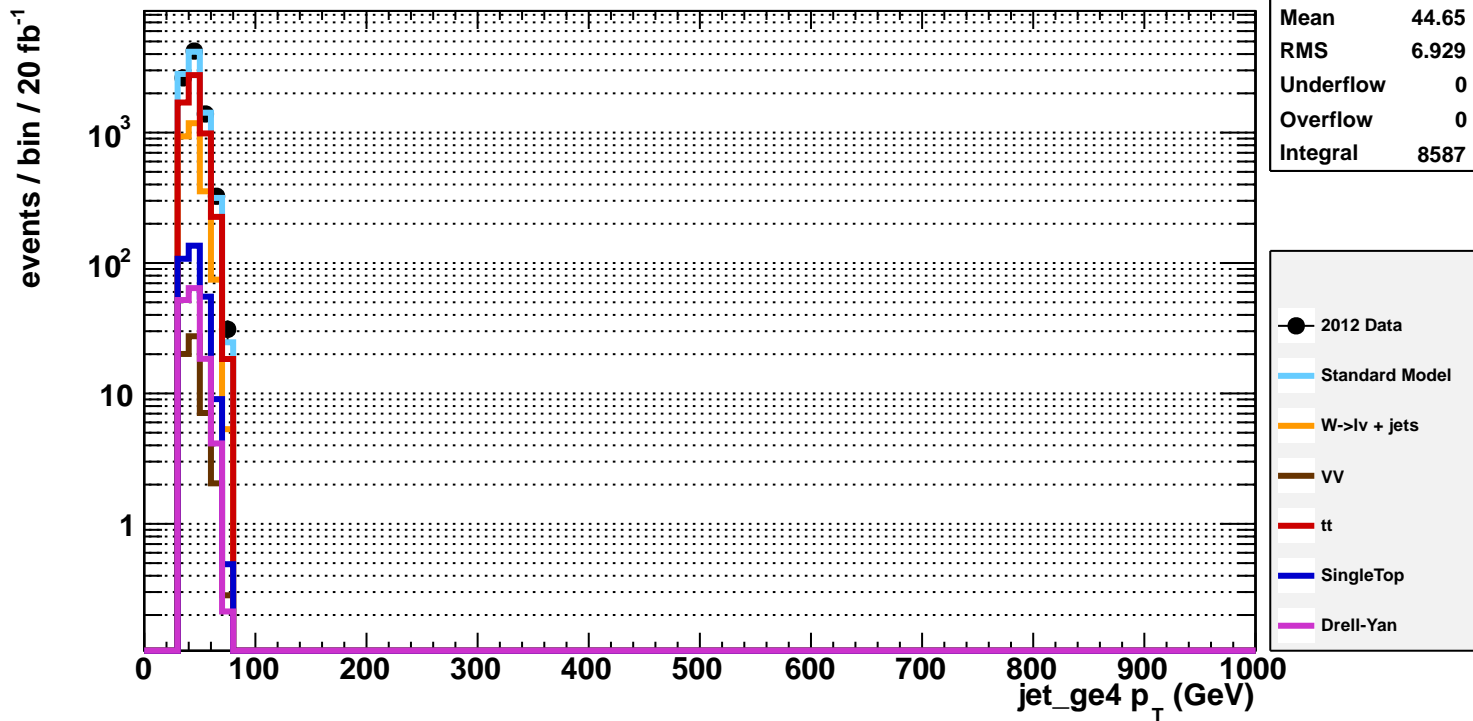


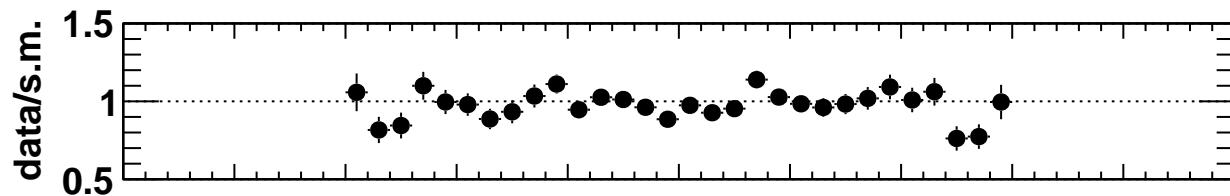
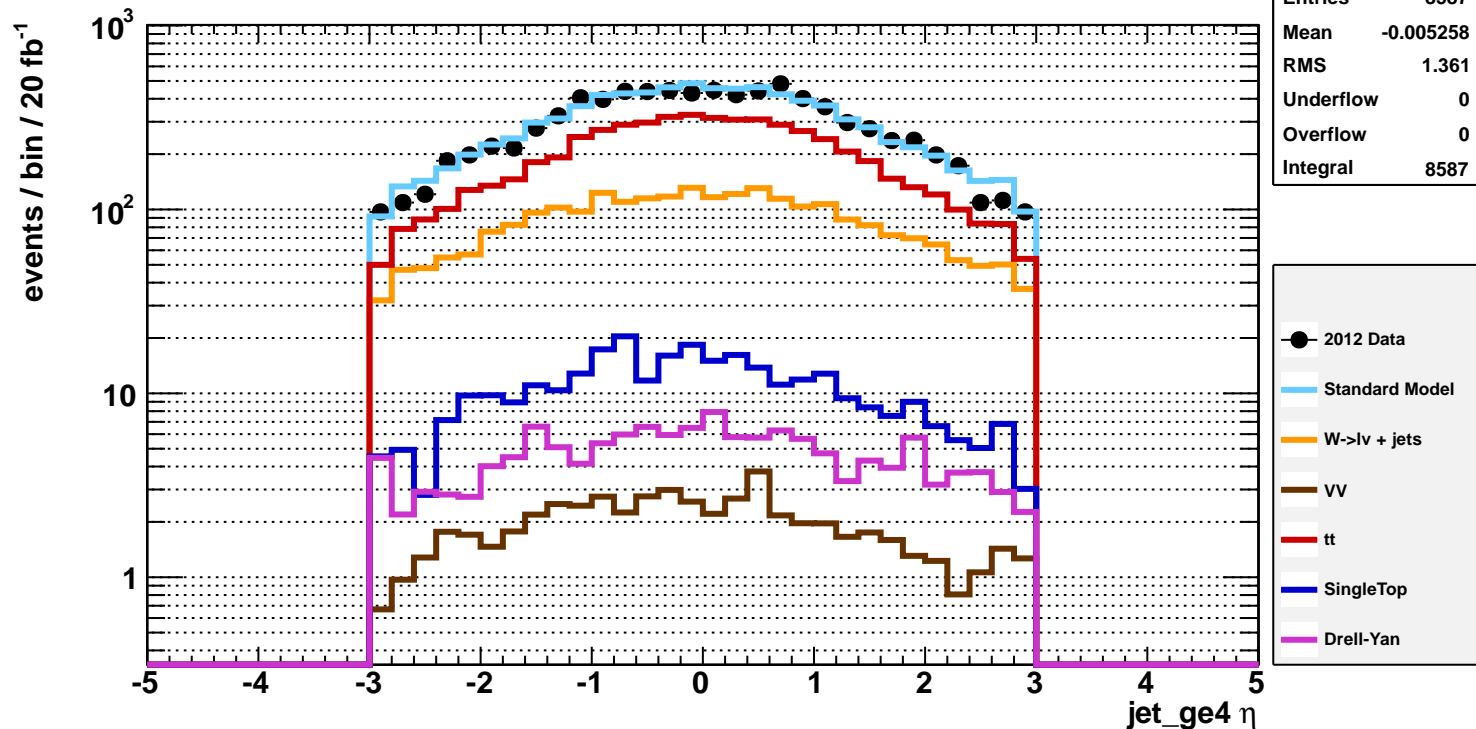
data/s.m.

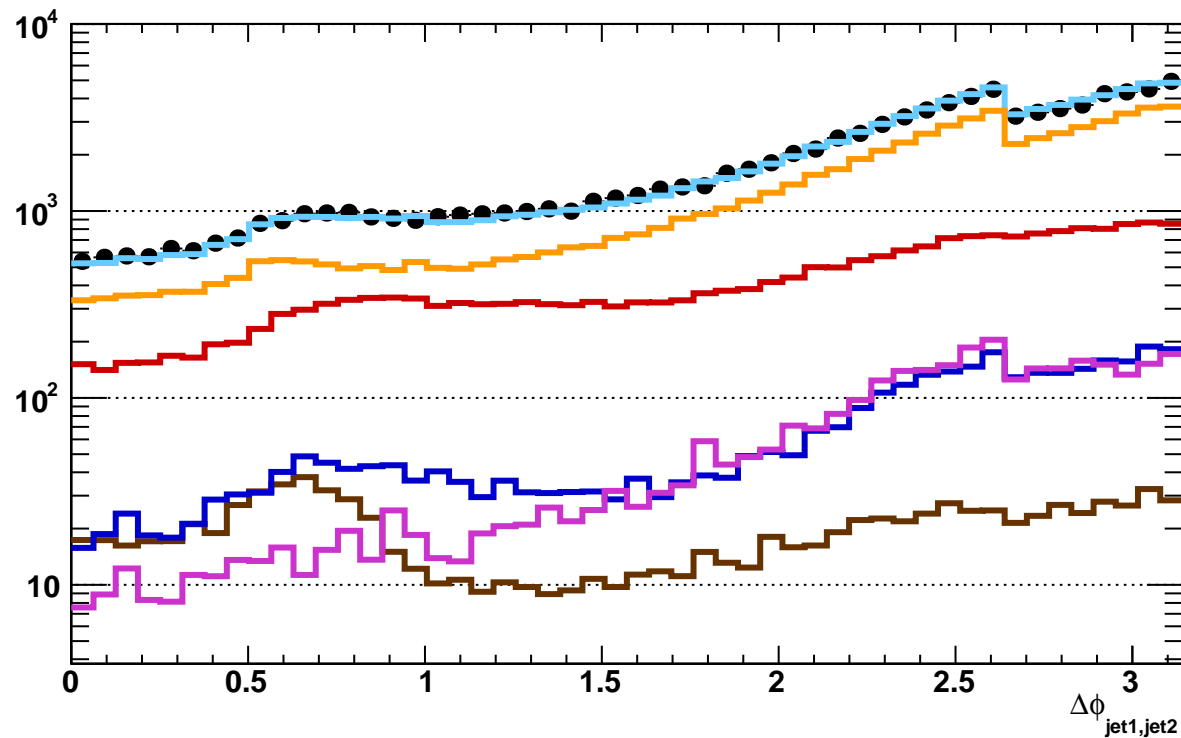






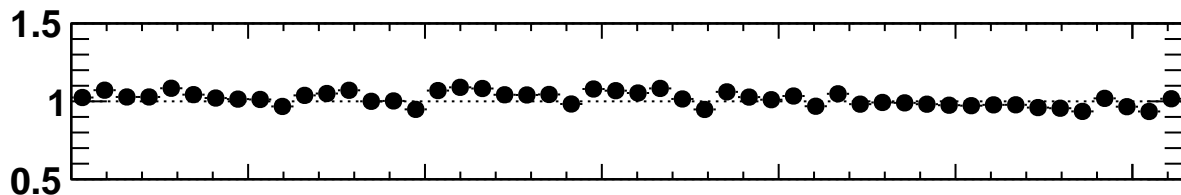


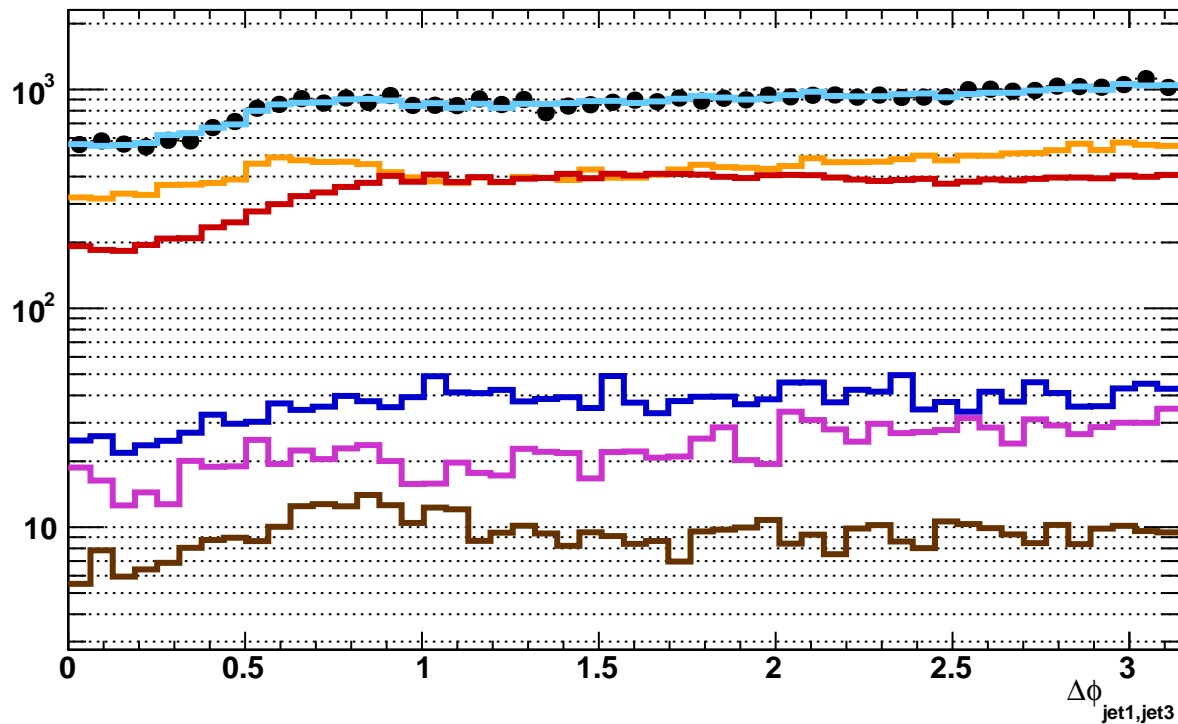


events / bin / 20 fb⁻¹

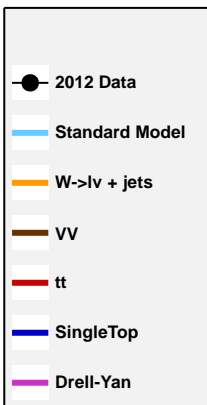
xcak5JetPFPatdphi12	
Entries	94768
Mean	2.153
RMS	0.8079
Underflow	0
Overflow	0
Integral	9.477e+04

data/s.m.

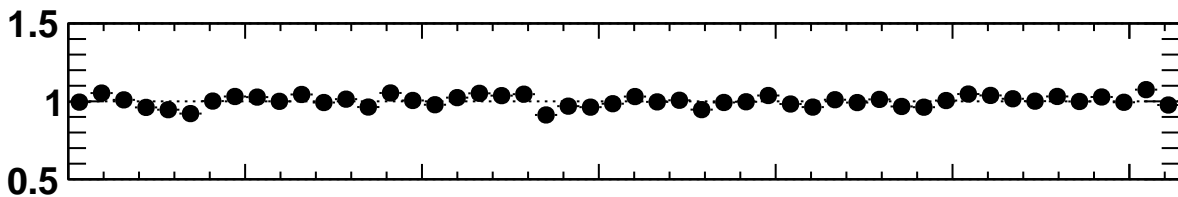


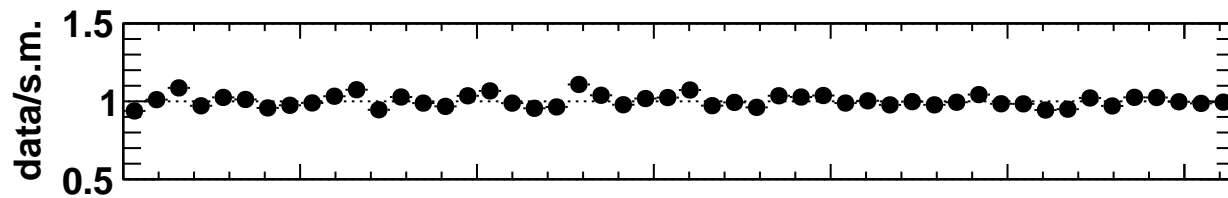
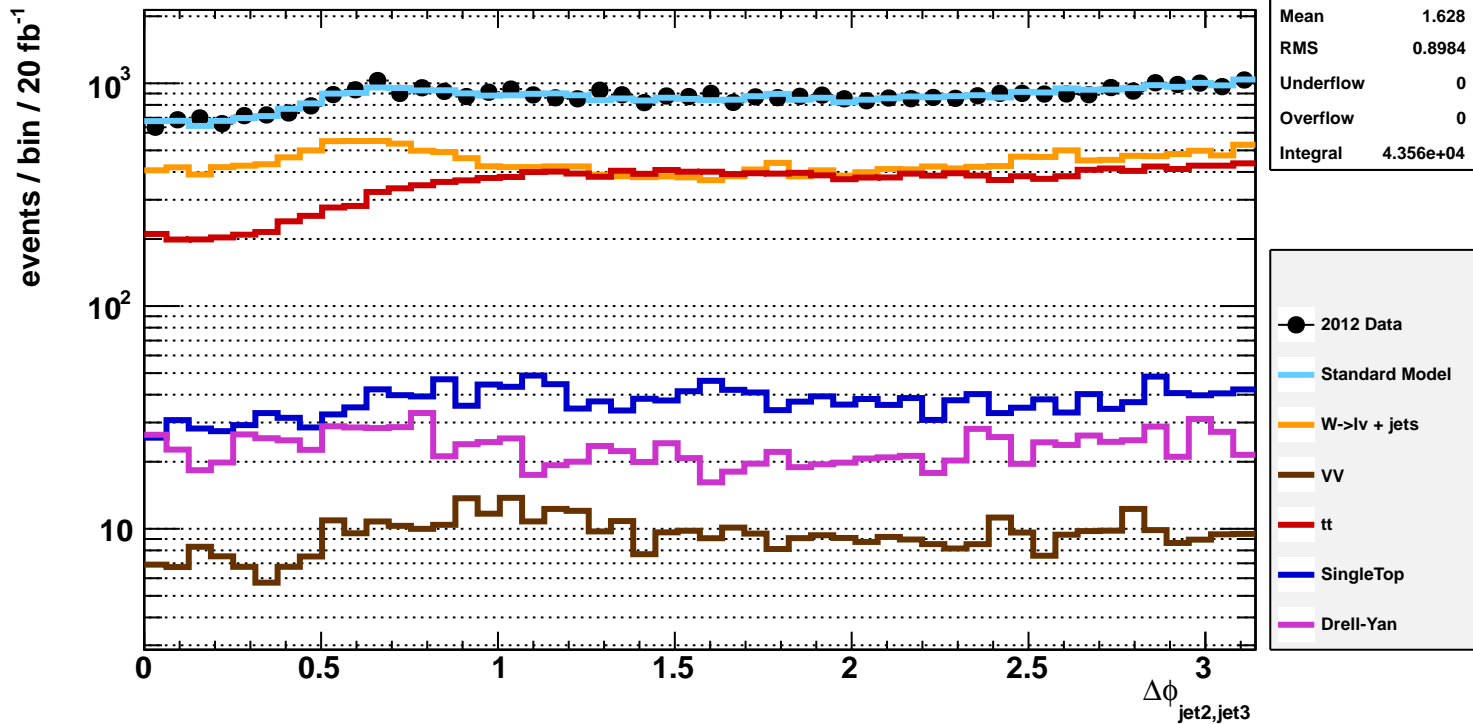
events / bin / 20 fb⁻¹

xcak5JetPFPatdphi13	
Entries	43556
Mean	1.692
RMS	0.8847
Underflow	0
Overflow	0
Integral	4.356e+04



data/s.m.





```

s: value                200.00<=xcak5JetPFSumEtPat
t: value                xcak5JetPFSumEtPat<=325.00

u: multiplicity         2 <= xcak5JetPFIndicesPat
v: multiplicity         0 <= xcak5JetPFIndicesOtherPat <= 0
w: multiplicity         0 <= xcak5JetPFIndicesWithOddMuonPat <= 0
x: uniquelyMatchedNonisoMuons xcak5JetPFPat
y: multiplicity         0 <= electronIndicesPF <= 0

z: multiplicity         0 <= photonIndicesPat <= 0
A: multiplicity         0 <= electronIndicesUnmatchedPF <= 0
B: multiplicity         0 <= photonIndicesUnmatchedPat <= 0
C: deadEcalFilter       xcak5JetPFPat; dR>0.300 when deltaPhiStar<0.500
D: multiplicity         1 <= muonIndicesPF <= 1

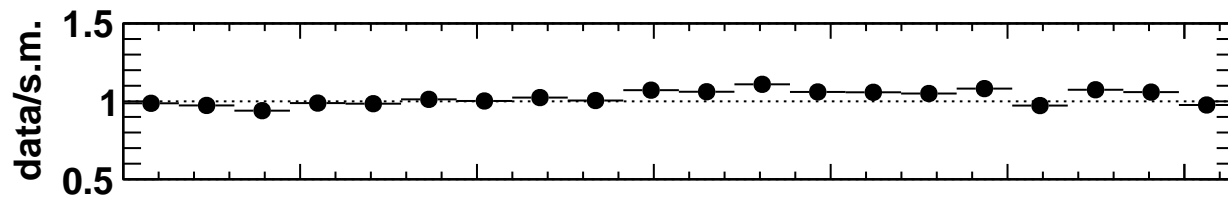
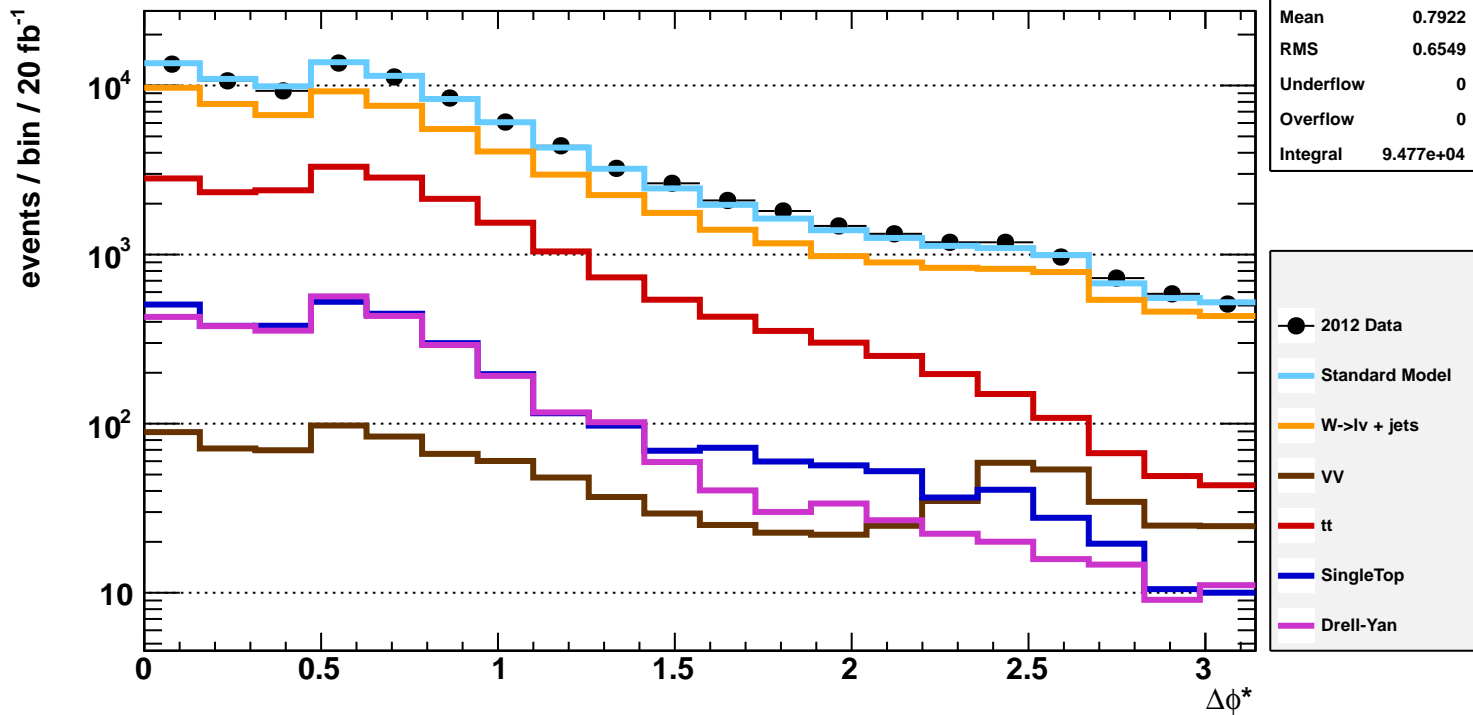
E: pt                  30.00<=muonP4PF[i[0]].pt; muonIndicesPF
F: eta                 -2.10<=muonP4PF[i[0]].eta<=2.10; muonIndicesPF
G: value              30.00<=muonMtPFFmetP4TypeIPF<=125.00
H: value              xcak5JetPFMhthighPtPatOvermetP4TypeIPFPlusmuonIndicesPF<=1.25
I: value              PFRchHitSumPt<=30.00

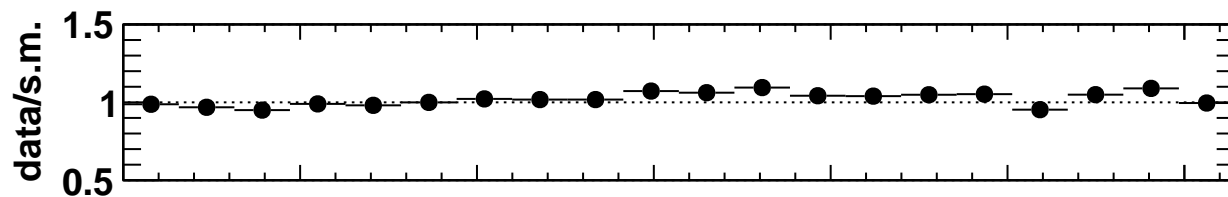
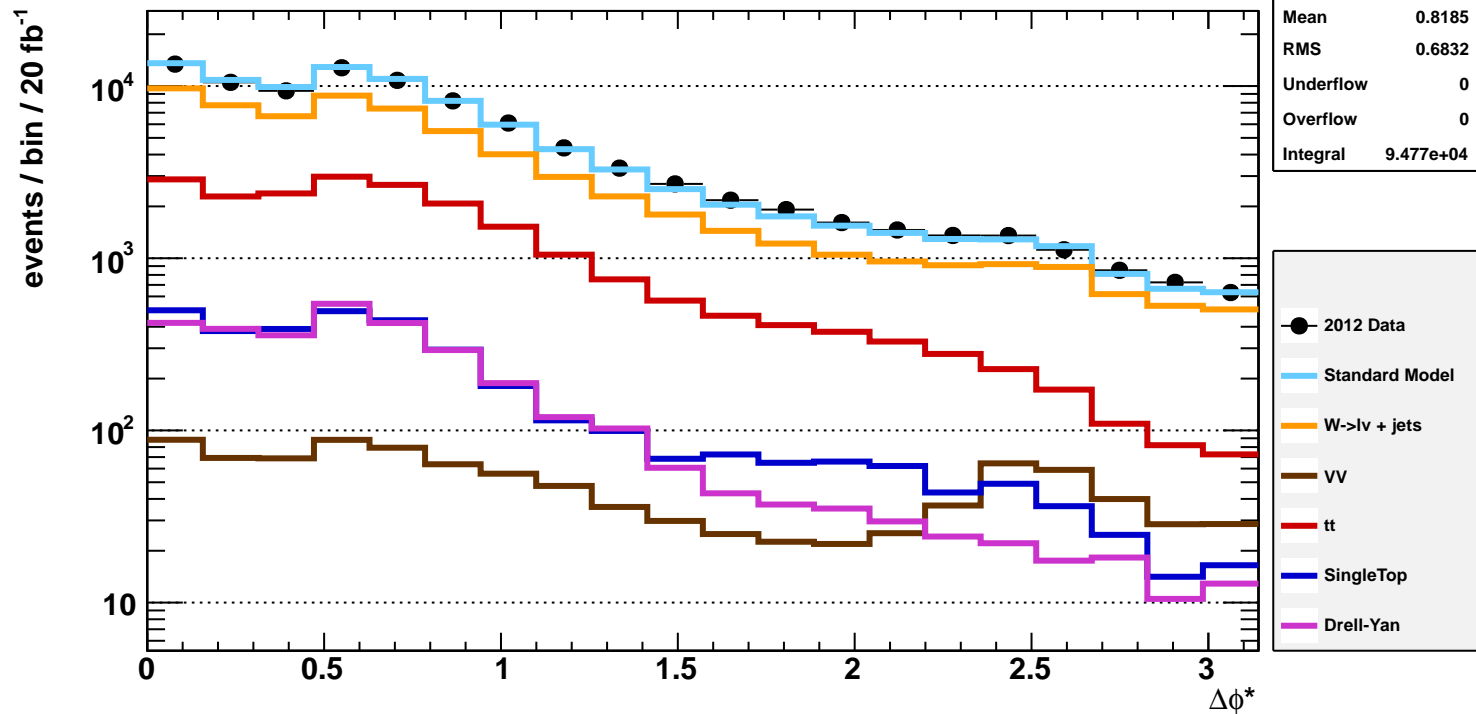
```

[jetSumPlots1]

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
s:	712145	3.939(1)e+6	1.622(1)e+6	1.0936(10)e+5	1.6668(6)e+6	3.457(4)e+5	1.951(3)e+5	0.1808(2)
t:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
u:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
v:	424166	1.885(1)e+6	9.903(10)e+5	6.034(7)e+4	5.478(3)e+5	1.709(2)e+5	1.158(3)e+5	0.2250(4)
w:	384351	1.868(1)e+6	9.824(9)e+5	6.018(7)e+4	5.416(3)e+5	1.698(2)e+5	1.138(3)e+5	0.2058(4)
x:	383246	1.866(1)e+6	9.818(9)e+5	6.017(7)e+4	5.410(3)e+5	1.697(2)e+5	1.137(3)e+5	0.2053(4)
y:	377864	1.487(1)e+6	7.471(9)e+5	5.700(7)e+4	4.503(3)e+5	1.568(2)e+5	7.63(3)e+4	0.2540(4)
z:	376527	1.466(1)e+6	7.314(9)e+5	5.668(7)e+4	4.471(3)e+5	1.562(2)e+5	7.43(3)e+4	0.2569(5)
A:	376458	1.465(1)e+6	7.308(9)e+5	5.667(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2570(5)
B:	376440	1.464(1)e+6	7.306(9)e+5	5.666(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2571(5)
C:	225666	7.492(7)e+5	4.182(6)e+5	2.220(4)e+4	2.069(2)e+5	6.23(1)e+4	3.96(2)e+4	0.3012(7)
D:	190980	2.299(3)e+5	1.549(2)e+5	2.10(1)e+3	5.42(1)e+4	8.29(6)e+3	1.040(7)e+4	0.831(2)
E:	168996	1.721(2)e+5	1.162(2)e+5	1.70(1)e+3	4.061(9)e+4	5.89(5)e+3	7.71(6)e+3	0.982(3)
F:	168968	1.593(2)e+5	1.060(2)e+5	1.59(1)e+3	3.930(9)e+4	5.71(5)e+3	6.69(6)e+3	1.061(3)
G:	126657	1.218(2)e+5	8.21(2)e+4	1.17(1)e+3	2.998(8)e+4	4.44(4)e+3	4.10(4)e+3	1.040(3)
H:	97966	9.53(2)e+4	6.61(1)e+4	9.8(1)e+2	2.173(6)e+4	3.41(4)e+3	3.15(4)e+3	1.028(4)
I:	94768	9.51(2)e+4	6.59(1)e+4	9.8(1)e+2	2.166(6)e+4	3.40(4)e+3	3.15(4)e+3	0.997(4)

[jetSumPlots1]





```

t:  value                                     xcak5JetPFFSumEtPat<=325.00
u:  multiplicity                             2 <= xcak5JetPFFIndicesPat
v:  multiplicity                             0 <= xcak5JetPFFIndicesOtherPat <= 0
w:  multiplicity                             0 <= xcak5JetPFFIndicesWithOddMuonPat <= 0
x:  uniquelyMatchedNonisoMuons              xcak5JetPFFPat
y:  multiplicity                             0 <= electronIndicesPF <= 0

z:  multiplicity                             0 <= photonIndicesPat <= 0
A:  multiplicity                             0 <= electronIndicesUnmatchedPF <= 0
B:  multiplicity                             0 <= photonIndicesUnmatchedPat <= 0
C:  deadEcalFilter                          xcak5JetPFFPat; dR>0.300 when deltaPhiStar<0.500
D:  multiplicity                             1 <= muonIndicesPF <= 1

E:  pt                                     30.00<=muonP4PF[i[0]].pt; muonIndicesPF
F:  eta                                   -2.10<=muonP4PF[i[0]].eta<=2.10; muonIndicesPF
G:  value                                 30.00<=muonMtPFFmetP4TypeIPF<=125.00
H:  value                                xcak5JetPFFMhthighPtPatOvermetP4TypeIPFPlusmuonIndicesPF<=1.25
I:  value                                PFRchHitSumPt<=30.00

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[ jetSumPlots1 ]
[ kinematicPlots1 ]

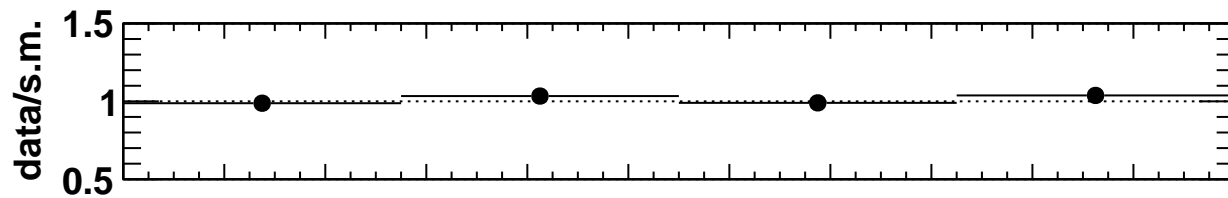
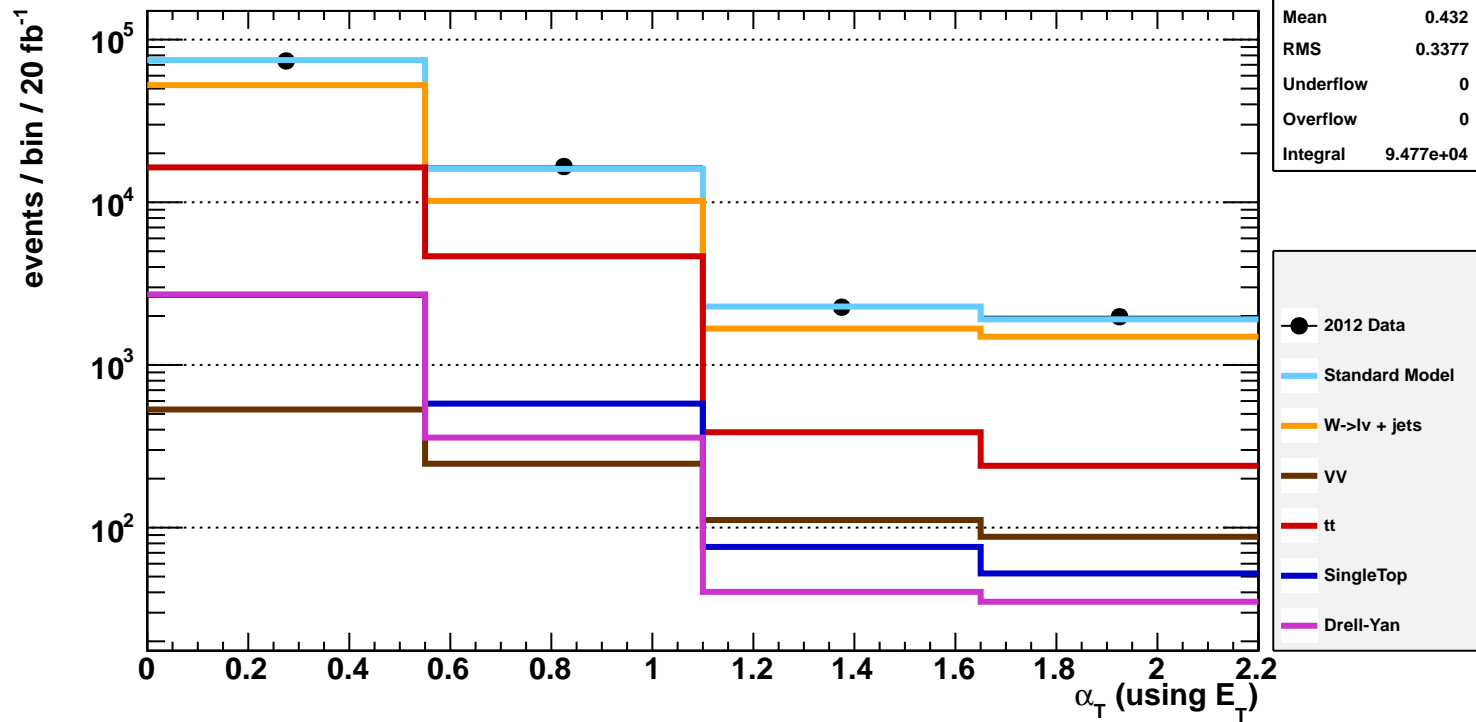
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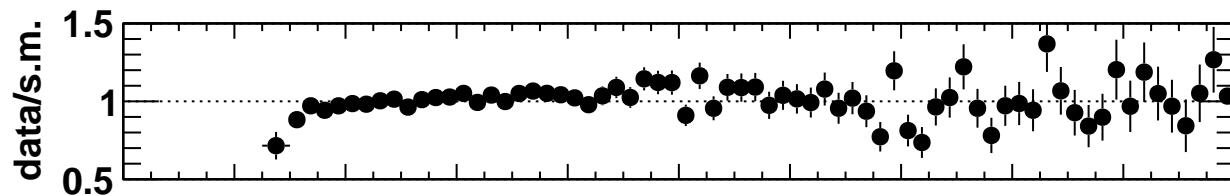
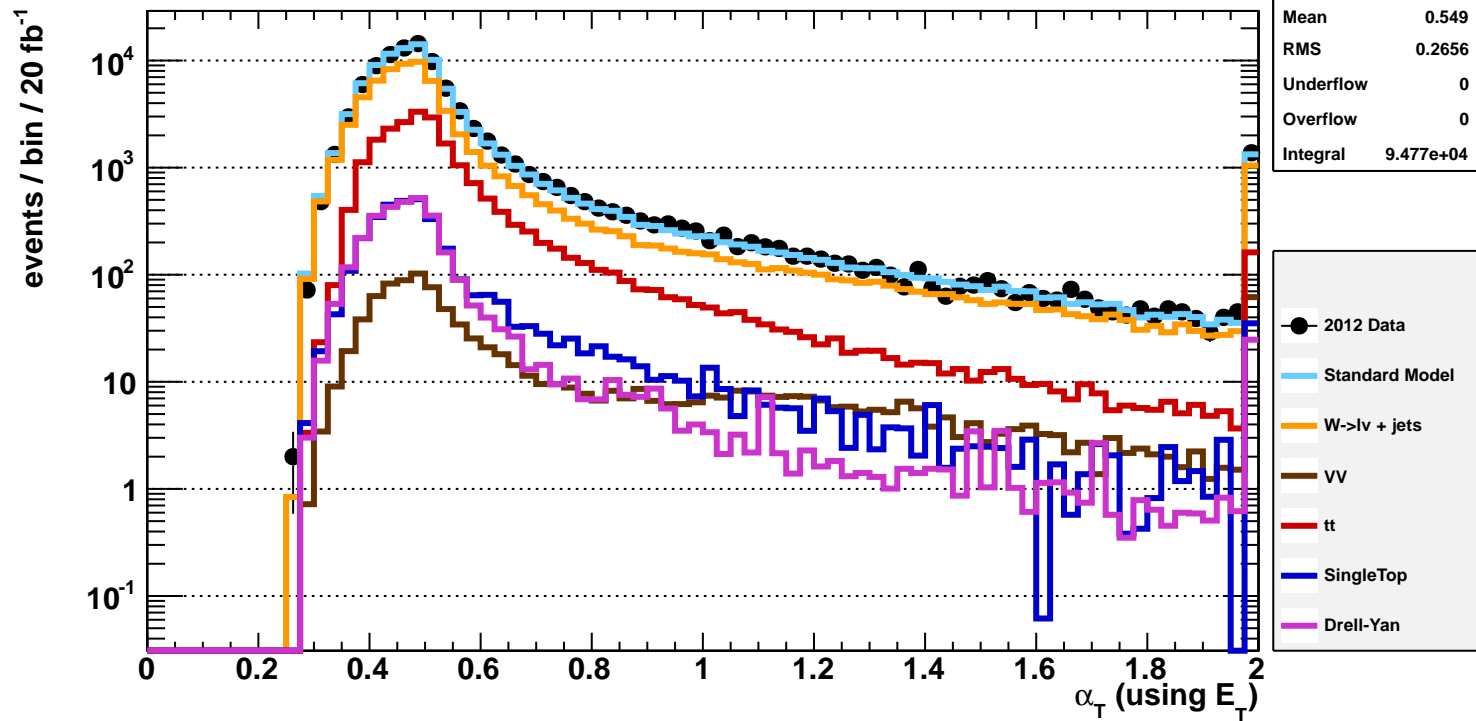
	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
t:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
u:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
v:	424166	1.885(1)e+6	9.903(10)e+5	6.034(7)e+4	5.478(3)e+5	1.709(2)e+5	1.158(3)e+5	0.2250(4)
w:	384351	1.868(1)e+6	9.824(9)e+5	6.018(7)e+4	5.416(3)e+5	1.698(2)e+5	1.138(3)e+5	0.2058(4)
x:	383246	1.866(1)e+6	9.818(9)e+5	6.017(7)e+4	5.410(3)e+5	1.697(2)e+5	1.137(3)e+5	0.2053(4)
y:	377864	1.487(1)e+6	7.471(9)e+5	5.700(7)e+4	4.503(3)e+5	1.568(2)e+5	7.63(3)e+4	0.2540(4)
z:	376527	1.466(1)e+6	7.314(9)e+5	5.668(7)e+4	4.471(3)e+5	1.562(2)e+5	7.43(3)e+4	0.2569(5)
A:	376458	1.465(1)e+6	7.308(9)e+5	5.667(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2570(5)
B:	376440	1.464(1)e+6	7.306(9)e+5	5.666(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2571(5)
C:	225666	7.492(7)e+5	4.182(6)e+5	2.220(4)e+4	2.069(2)e+5	6.23(1)e+4	3.96(2)e+4	0.3012(7)
D:	190980	2.299(3)e+5	1.549(2)e+5	2.10(1)e+3	5.42(1)e+4	8.29(6)e+3	1.040(7)e+4	0.831(2)
E:	168996	1.721(2)e+5	1.162(2)e+5	1.70(1)e+3	4.061(9)e+4	5.89(5)e+3	7.71(6)e+3	0.982(3)
F:	168968	1.593(2)e+5	1.060(2)e+5	1.59(1)e+3	3.930(9)e+4	5.71(5)e+3	6.69(6)e+3	1.061(3)
G:	126657	1.218(2)e+5	8.21(2)e+4	1.17(1)e+3	2.998(8)e+4	4.44(4)e+3	4.10(4)e+3	1.040(3)
H:	97966	9.53(2)e+4	6.61(1)e+4	9.8(1)e+2	2.173(6)e+4	3.41(4)e+3	3.15(4)e+3	1.028(4)
I:	94768	9.51(2)e+4	6.59(1)e+4	9.8(1)e+2	2.166(6)e+4	3.40(4)e+3	3.15(4)e+3	0.997(4)

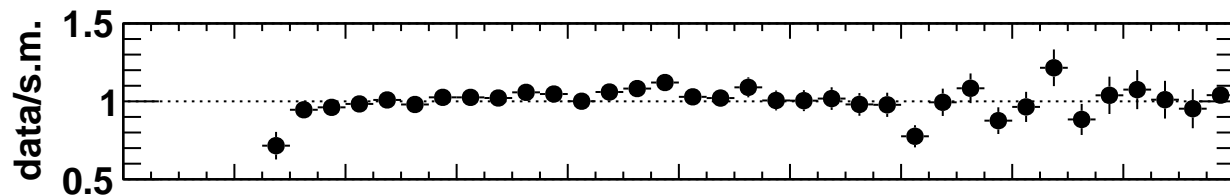
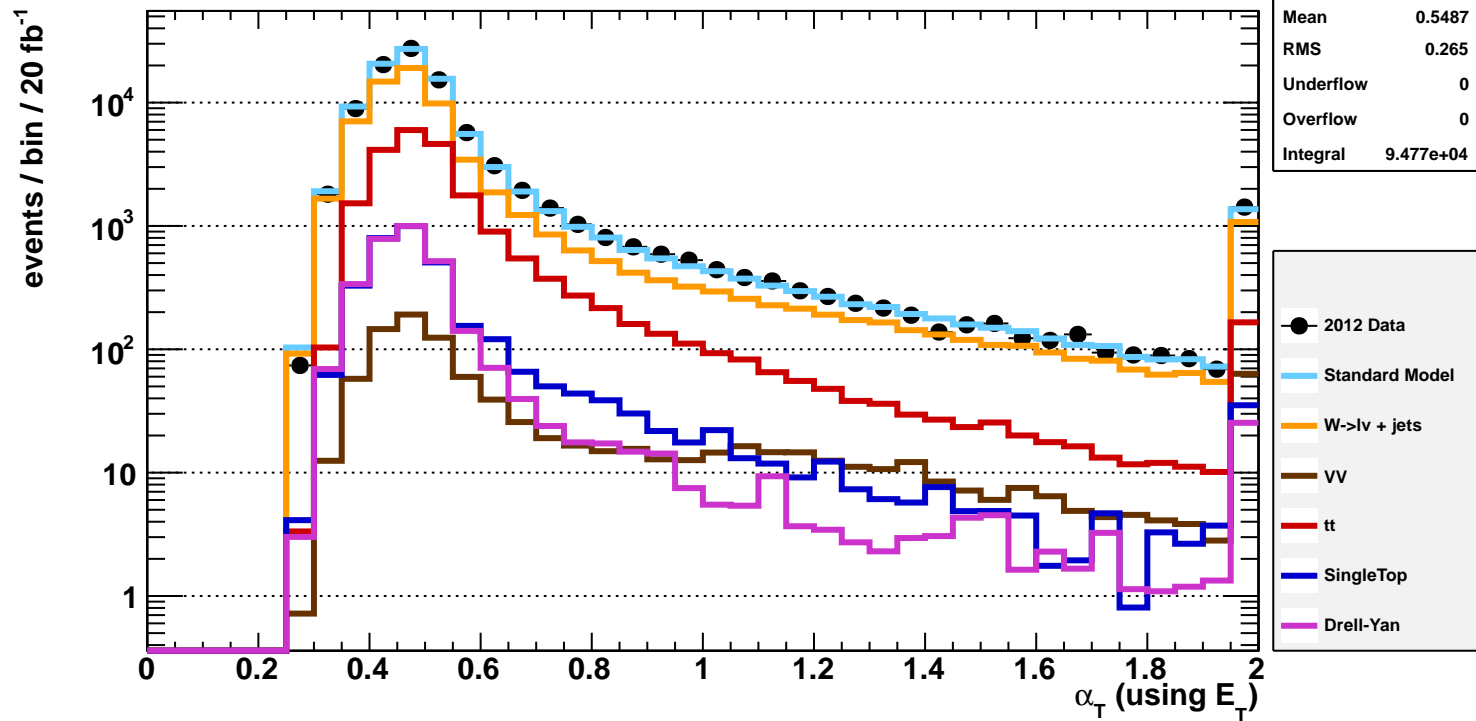
```

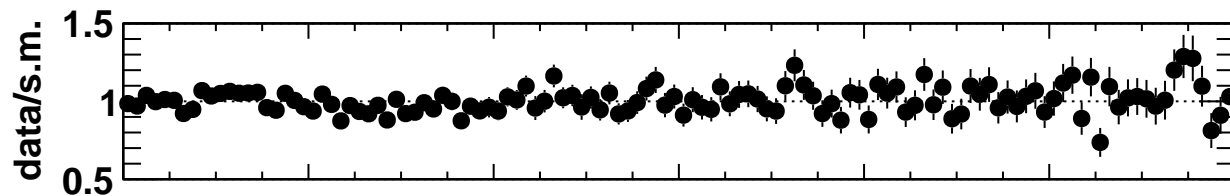
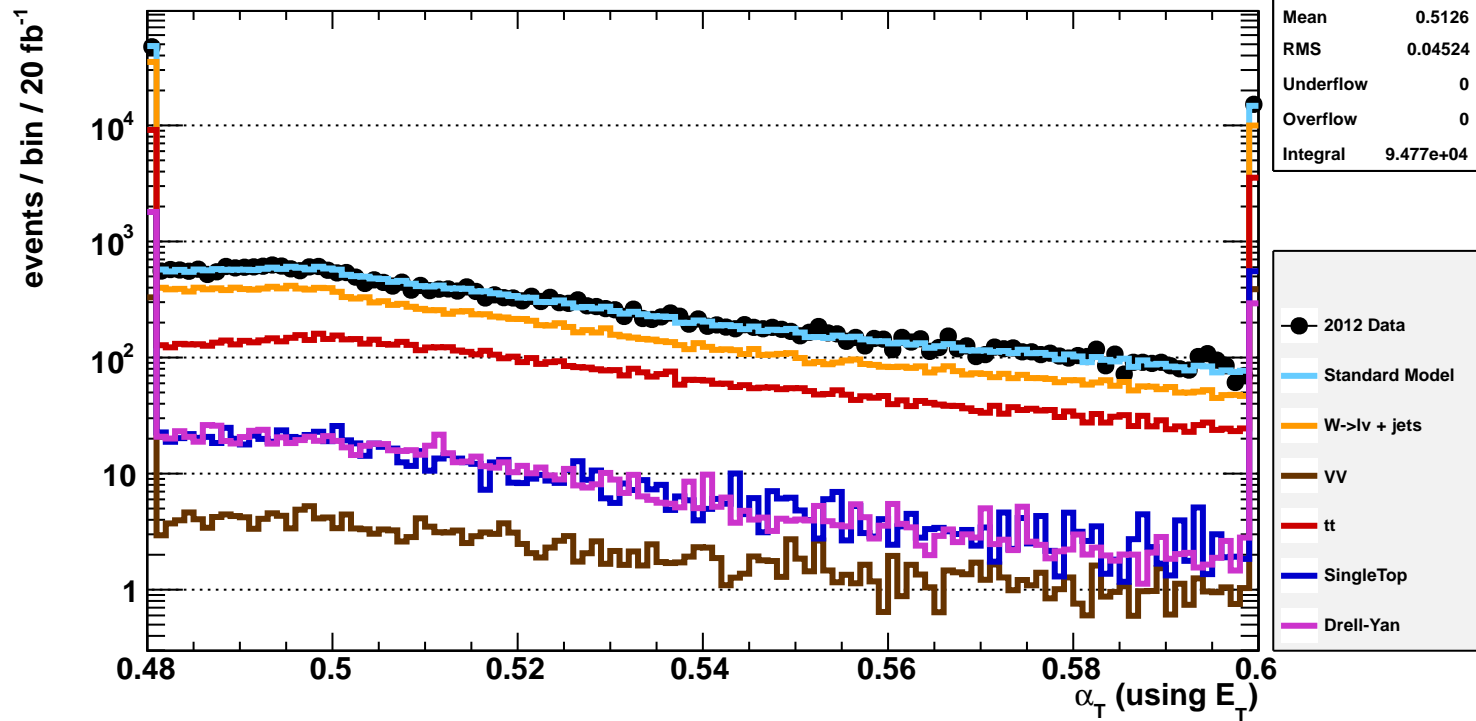
[ jetSumPlots1 ]
[ kinematicPlots1 ]

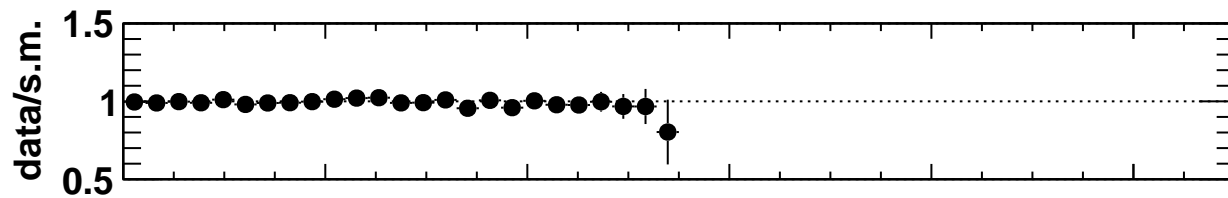
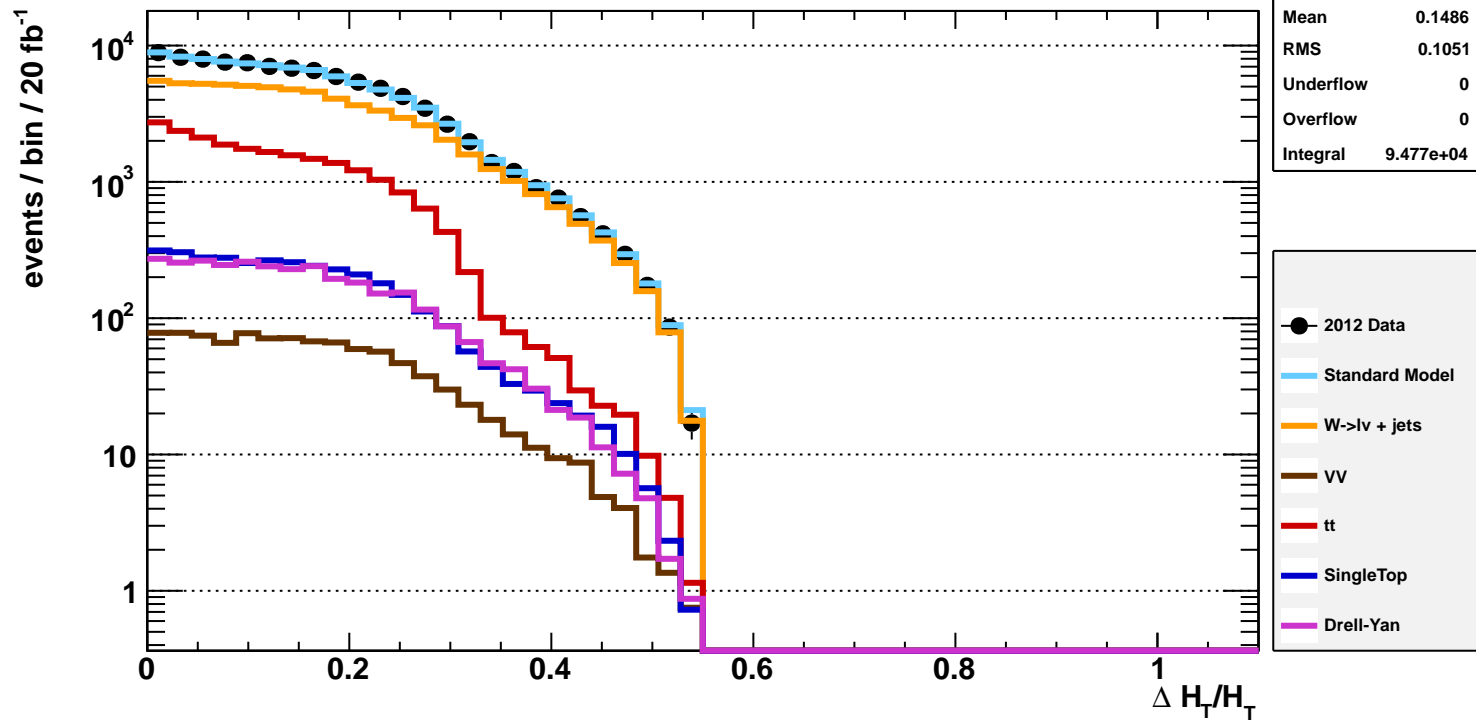
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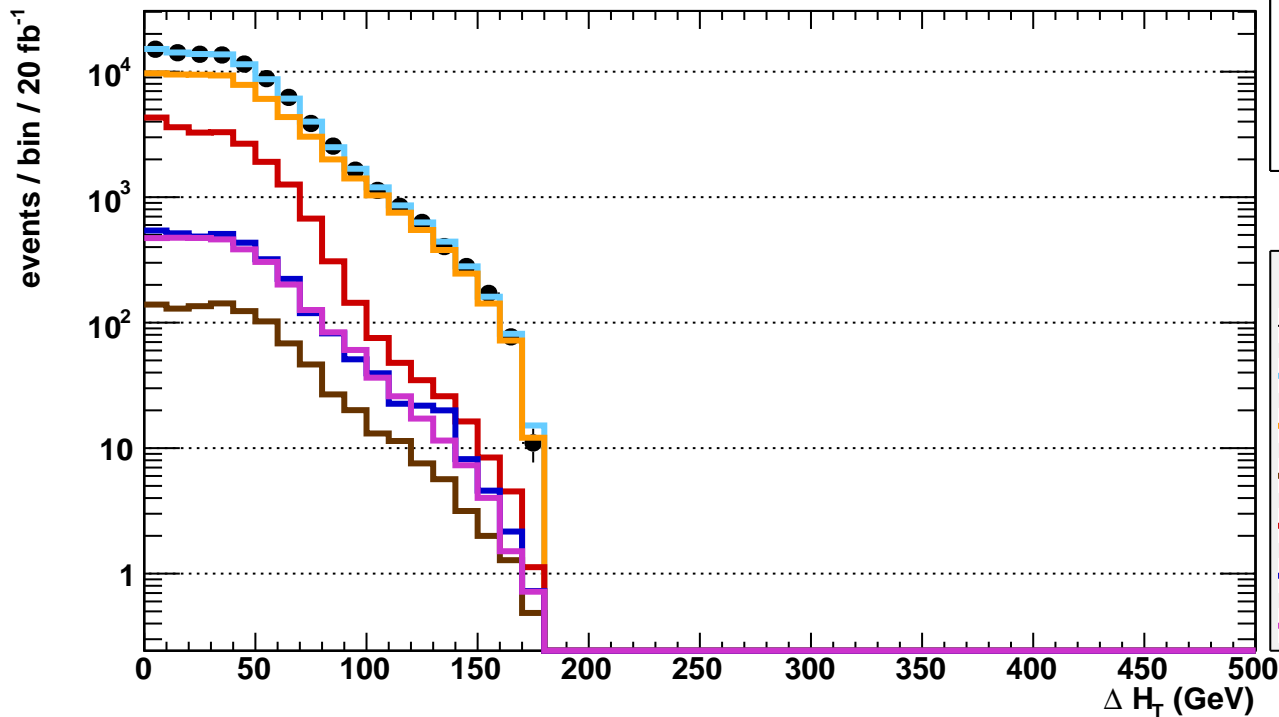




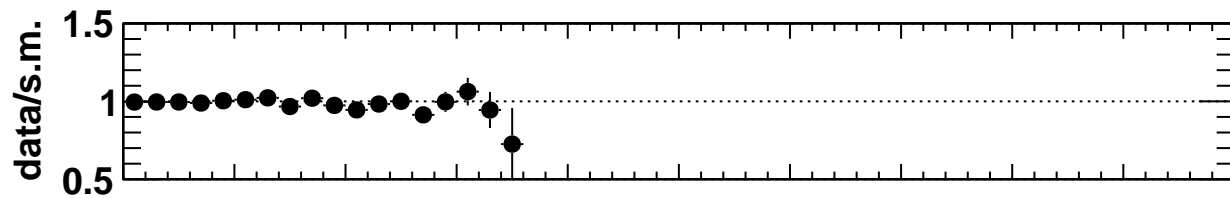
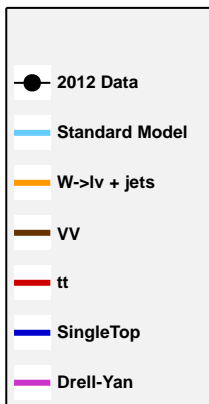


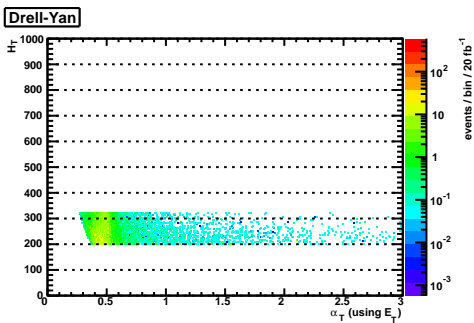
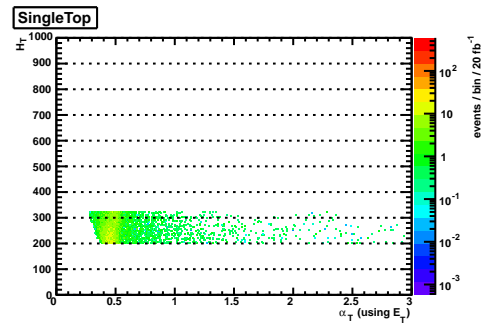
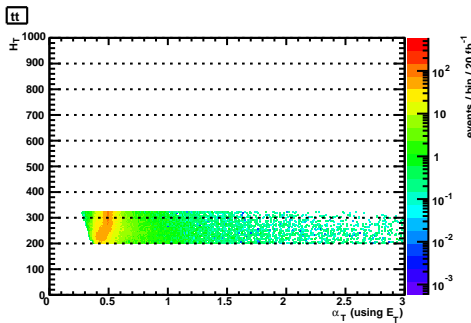
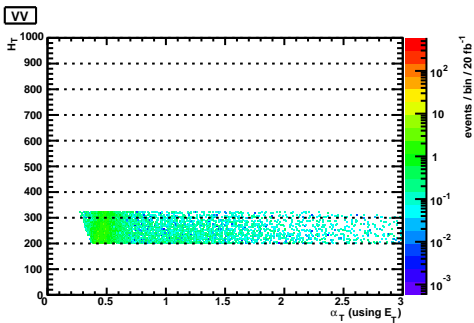
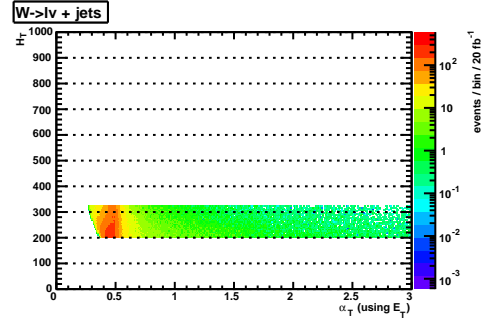
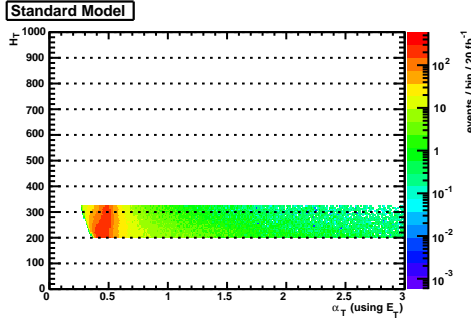
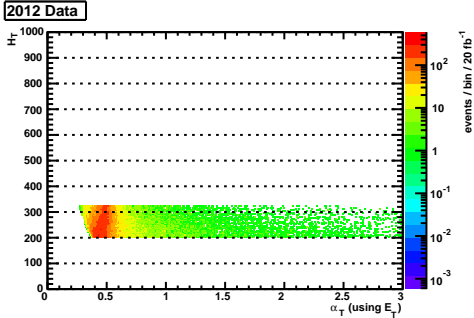


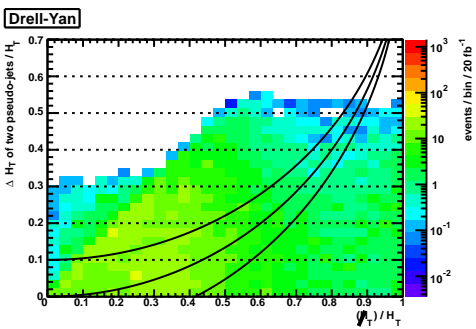
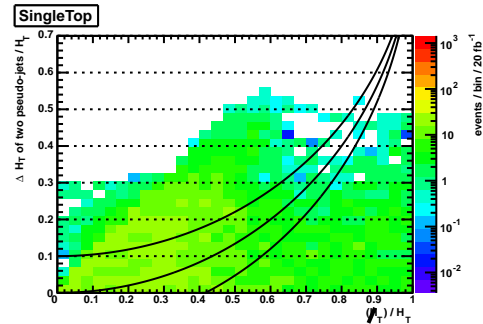
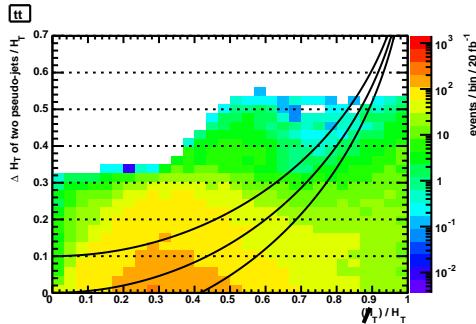
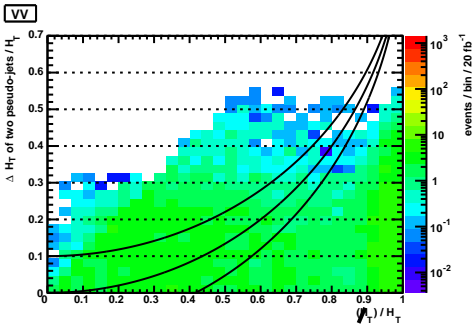
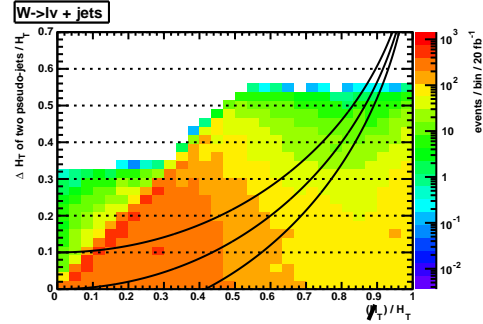
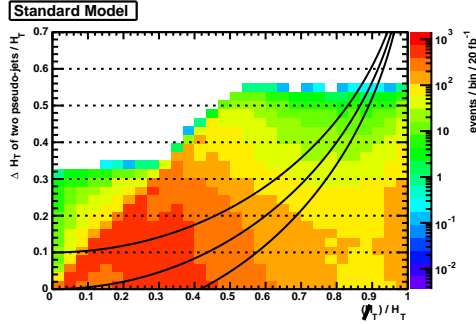
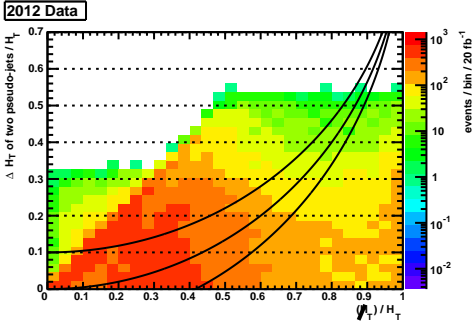


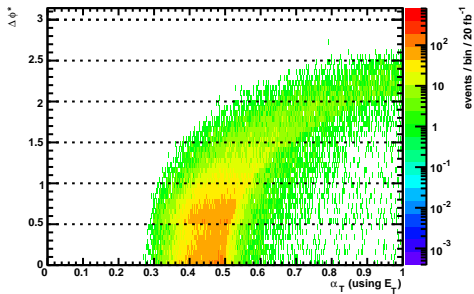
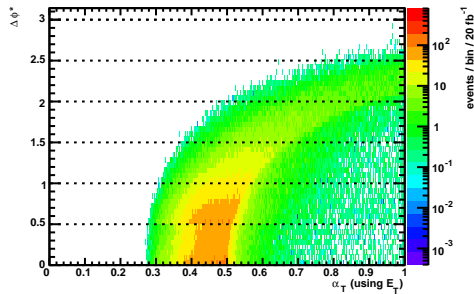
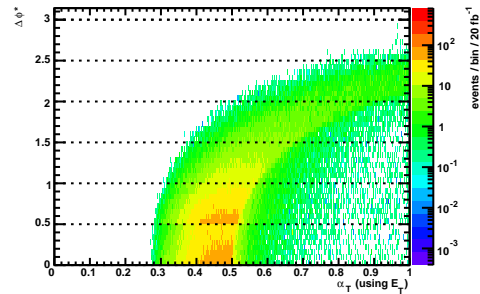
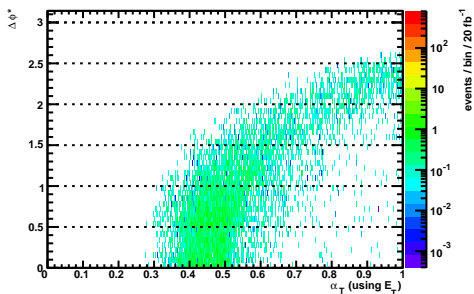
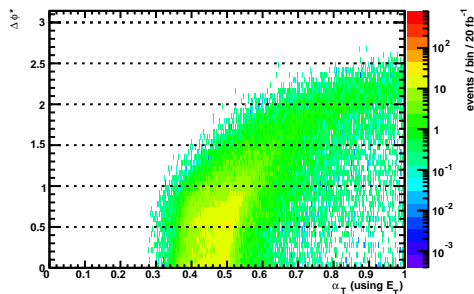
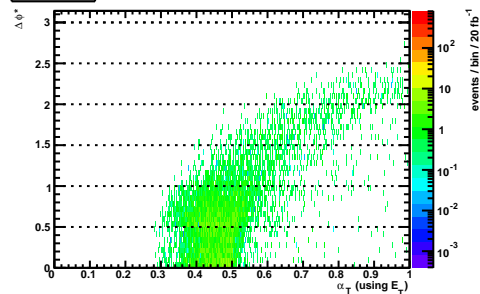
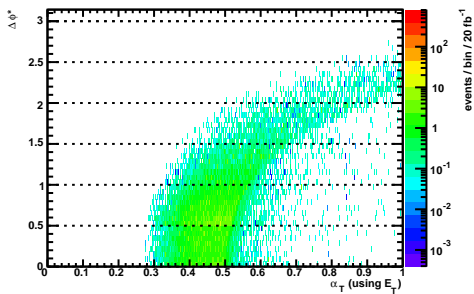


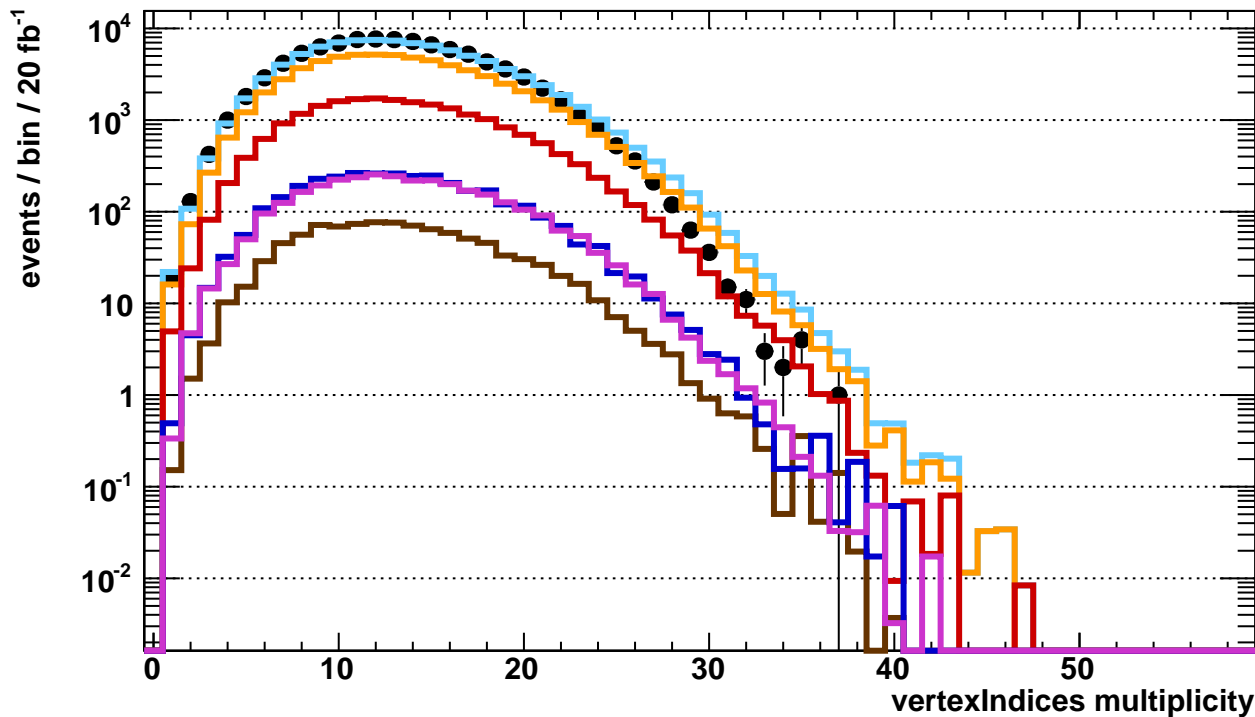
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Entries	94768
Mean	37.94
RMS	28.35
Underflow	0
Overflow	0
Integral	9.477e+04



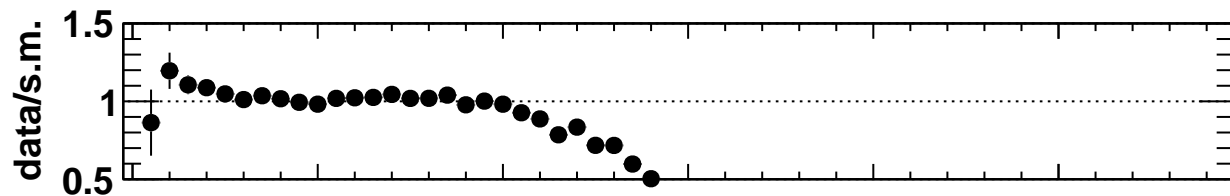
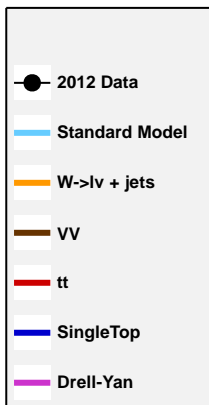


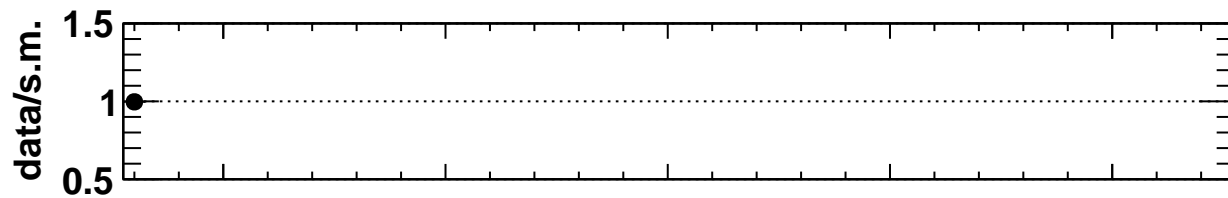
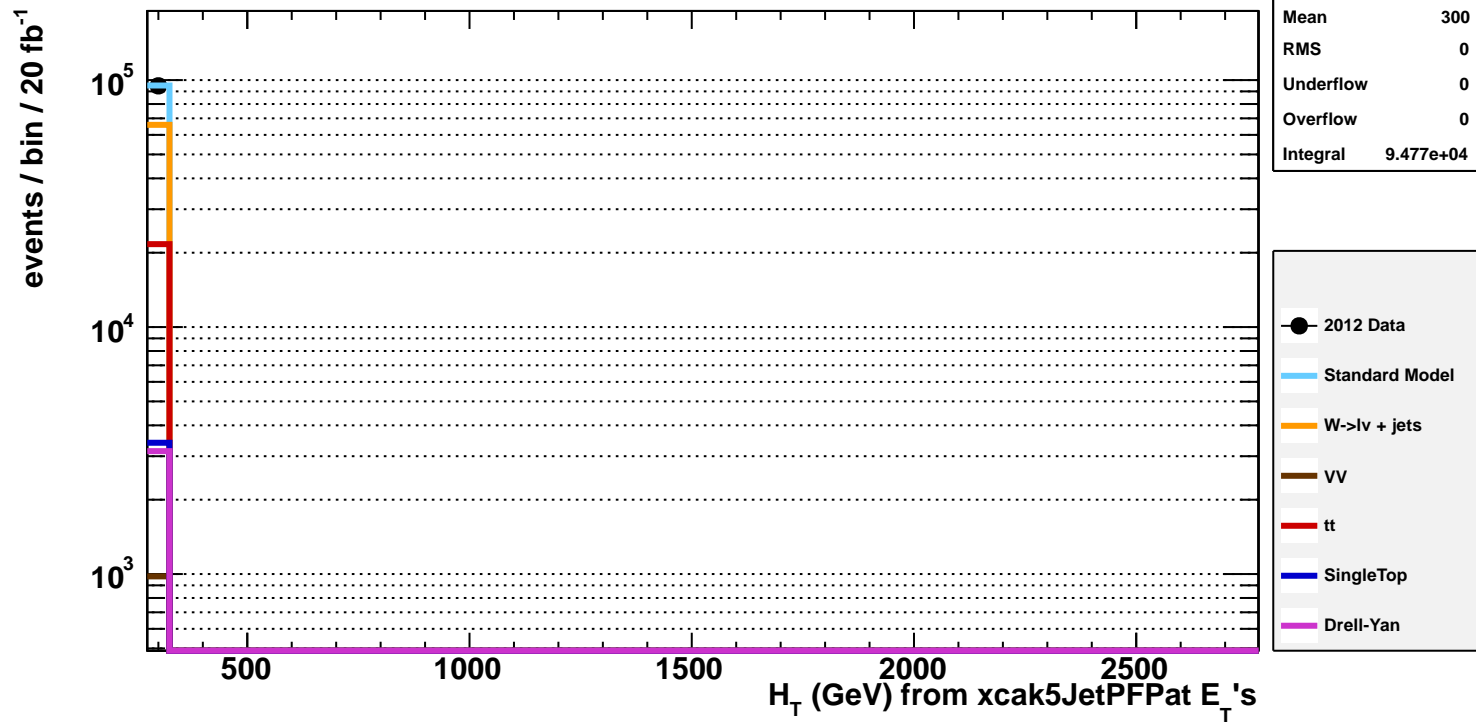


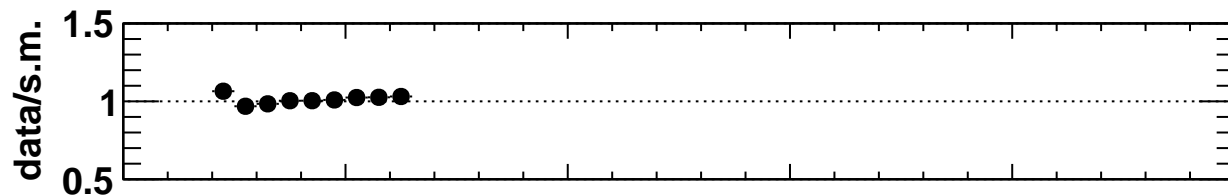
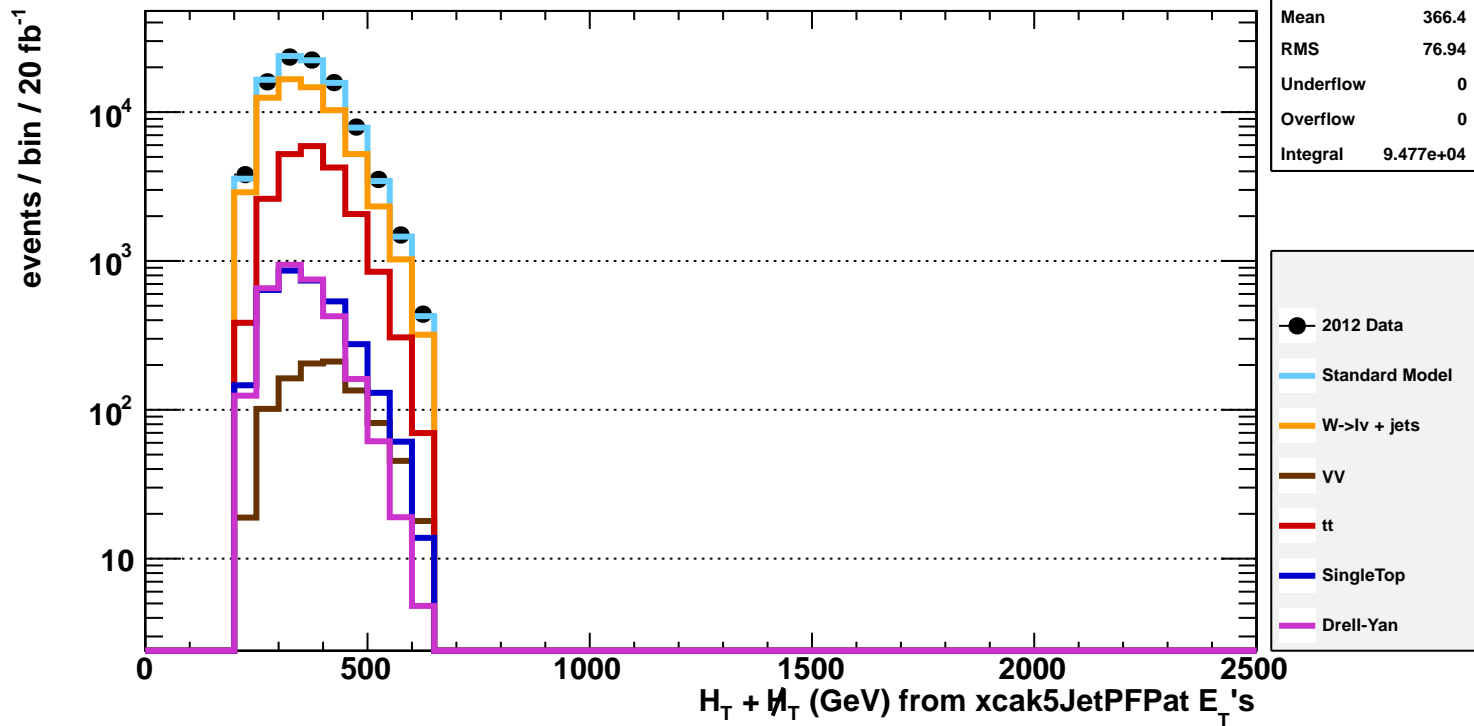
2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**

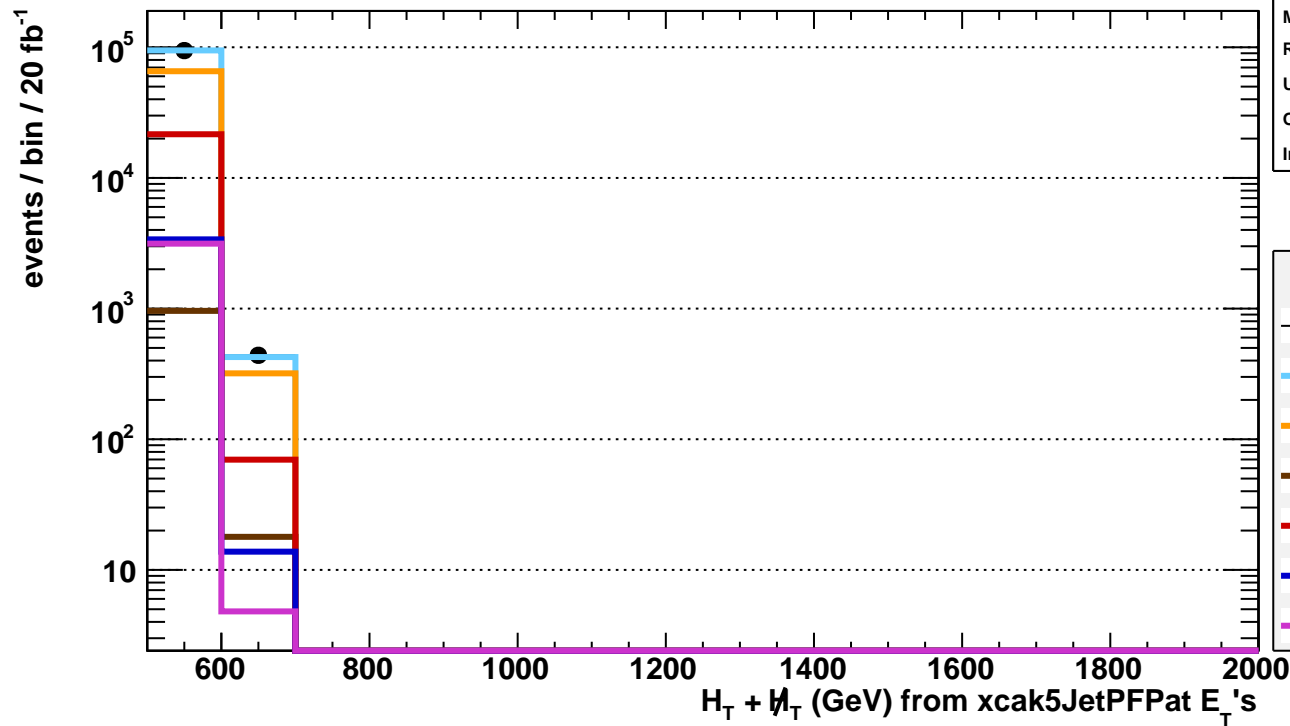


vertexIndicesMultiplicity	
Entries	94768
Mean	13.25
RMS	4.778
Underflow	0
Overflow	0
Integral	9.477e+04

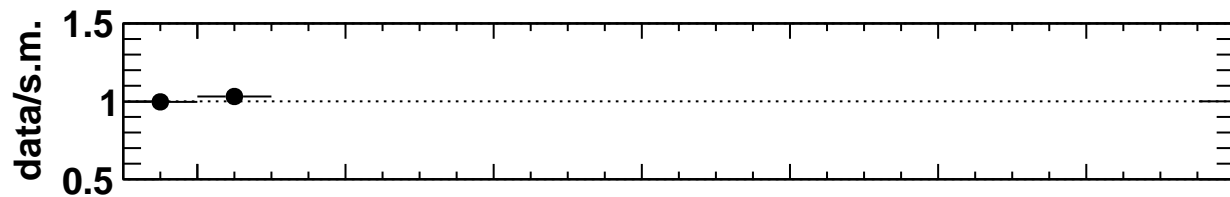
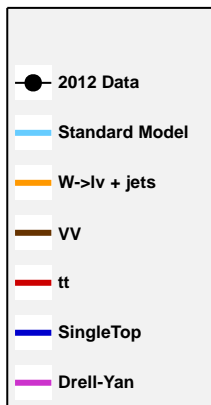


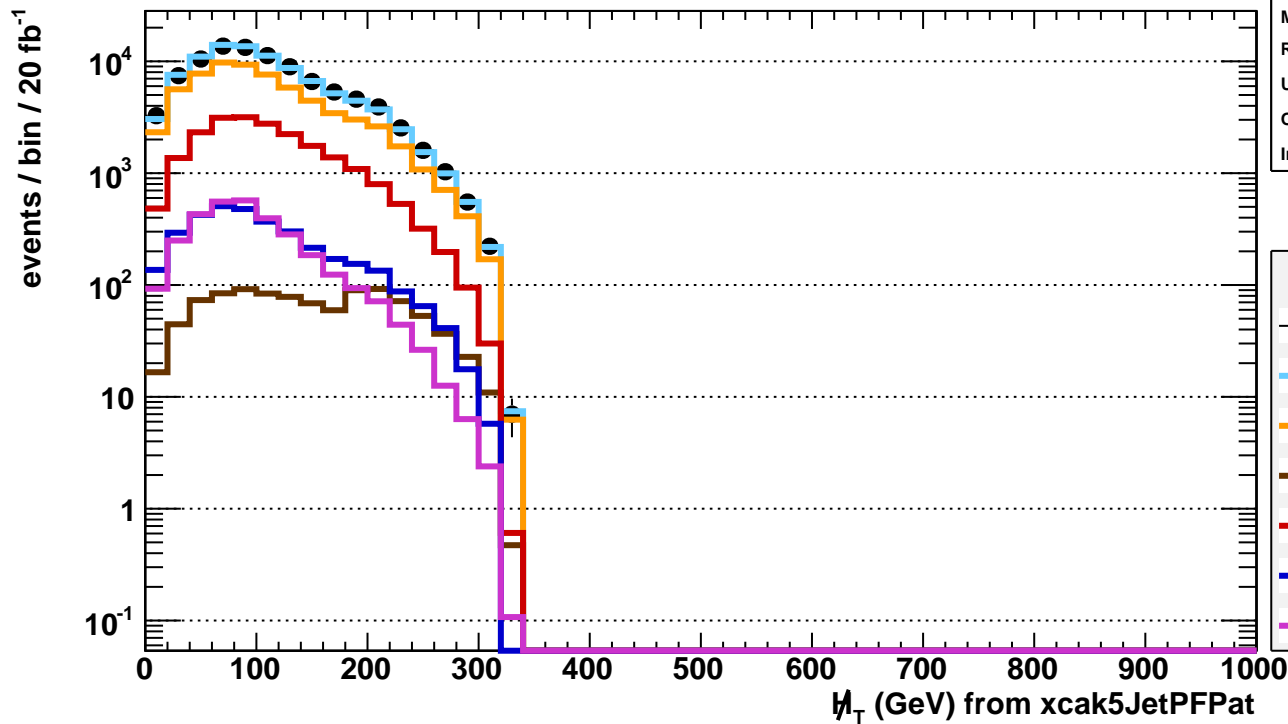




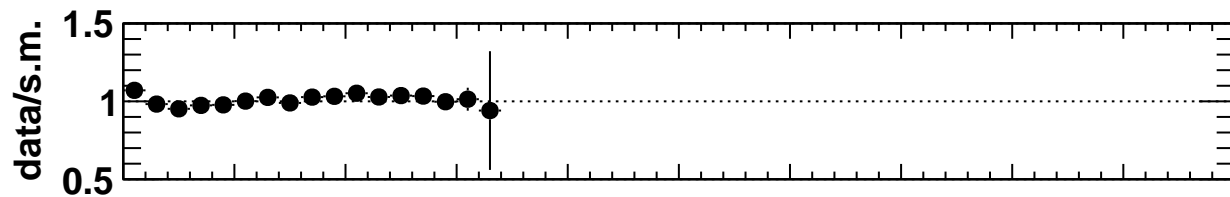


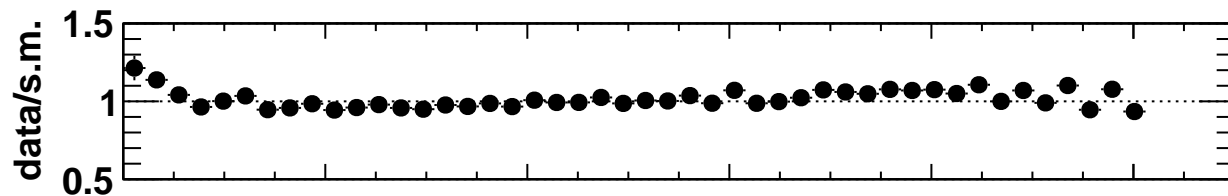
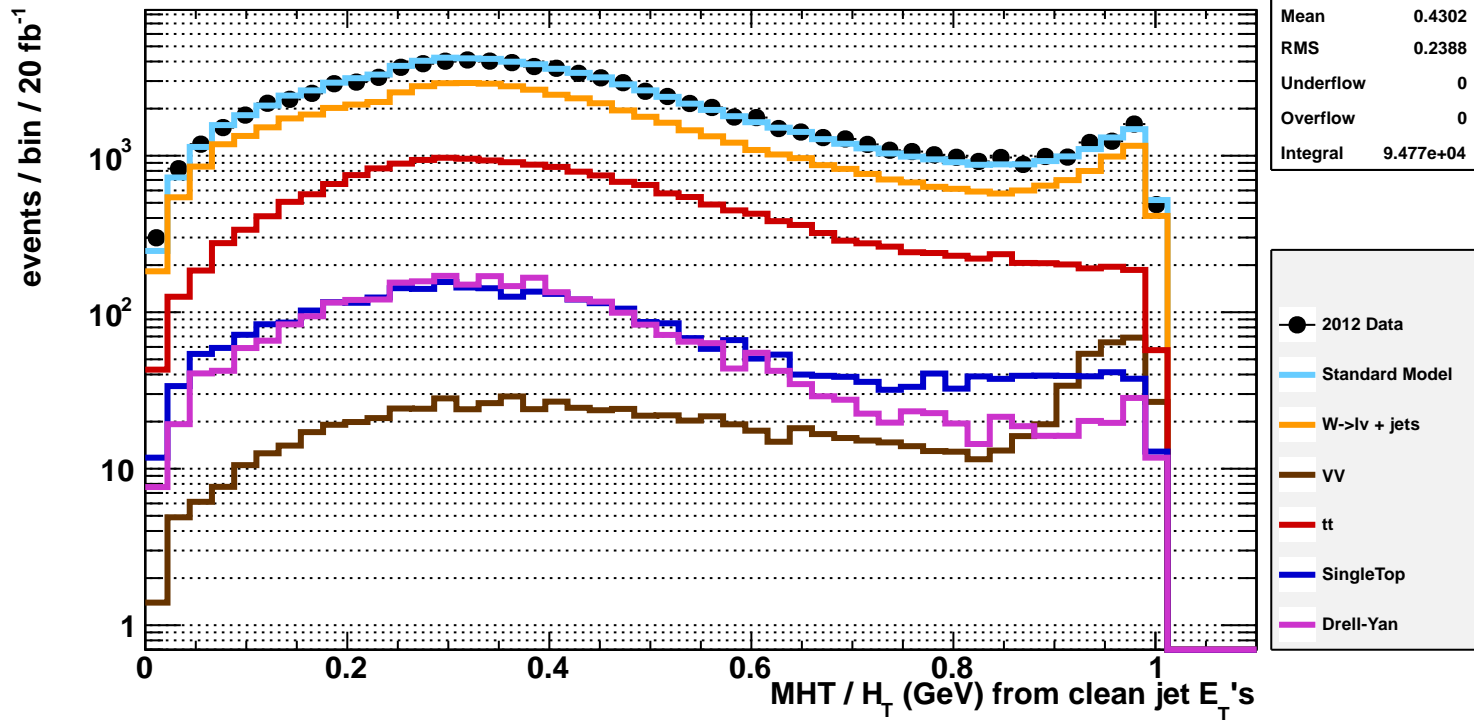
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Mean	550.5
RMS	6.79
Underflow	0
Overflow	0
Integral	9.477e+04

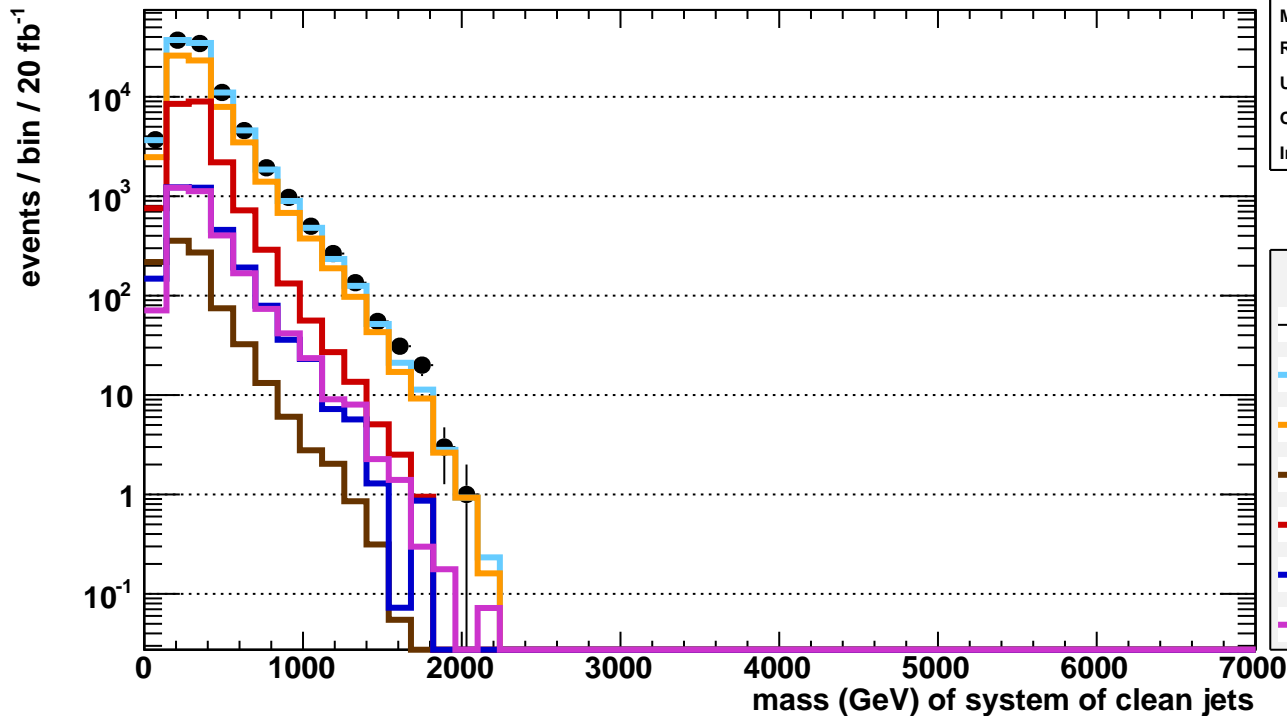




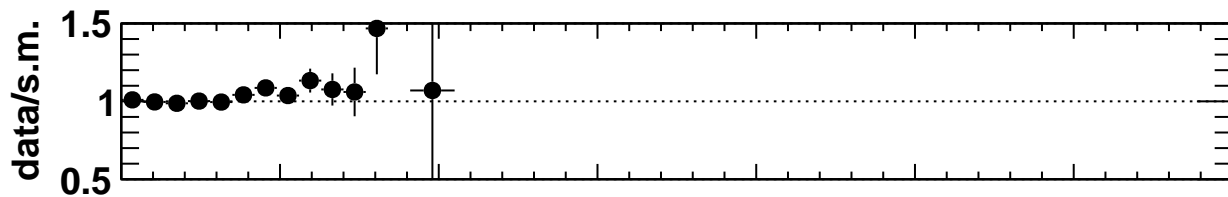
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Mean	109.9
RMS	62.13
Underflow	0
Overflow	0
Integral	9.477e+04

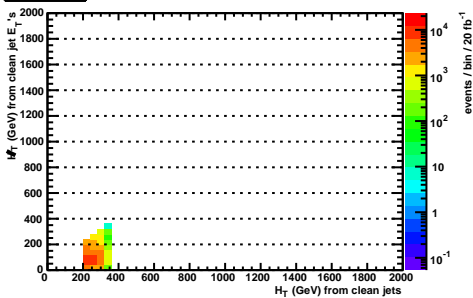
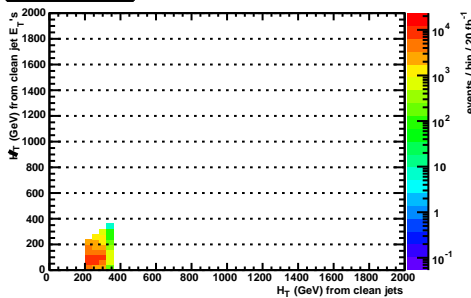
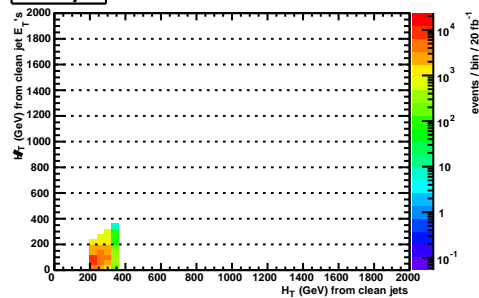
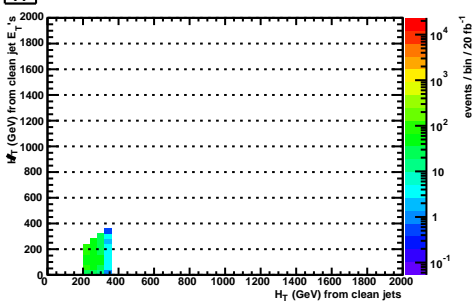
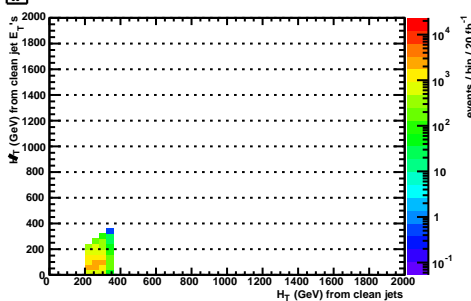
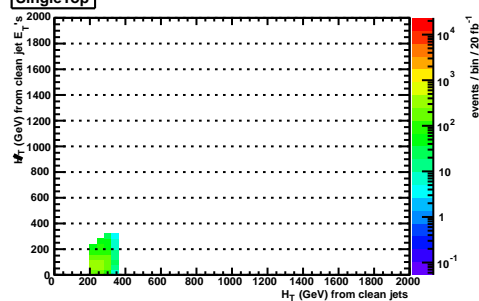
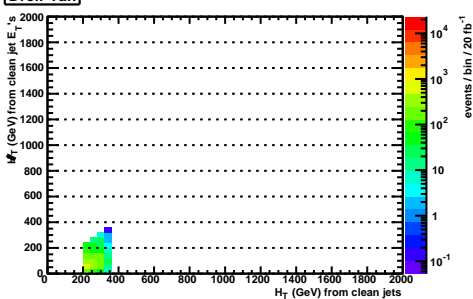


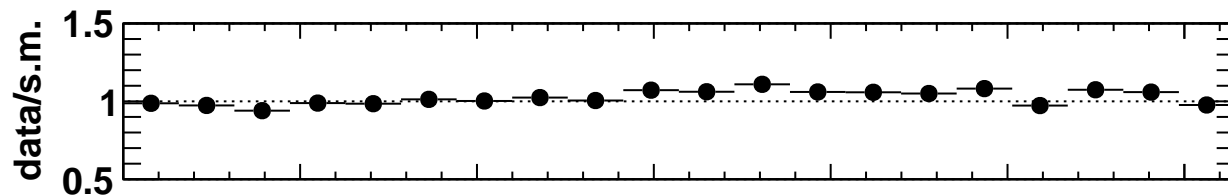
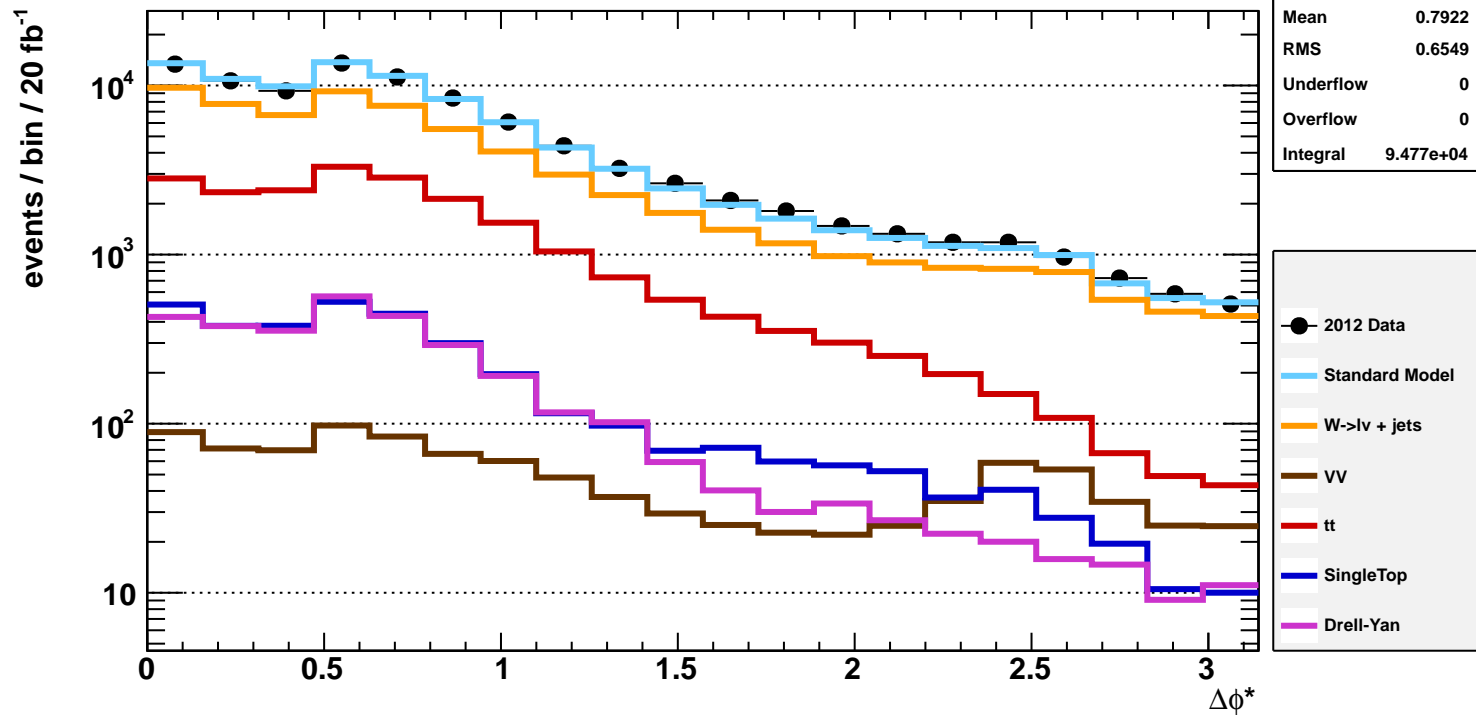


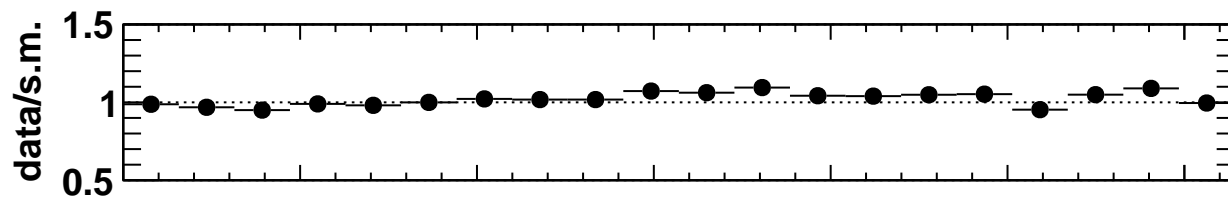
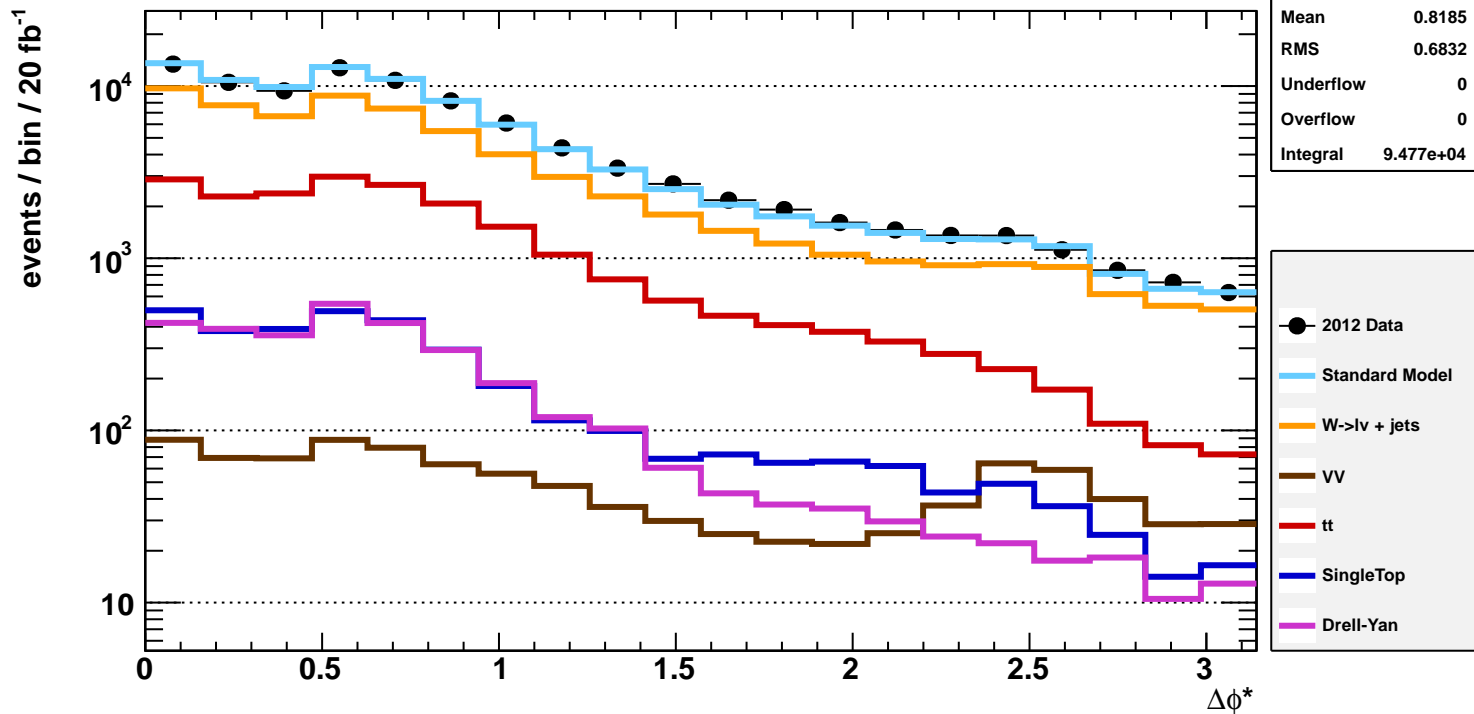


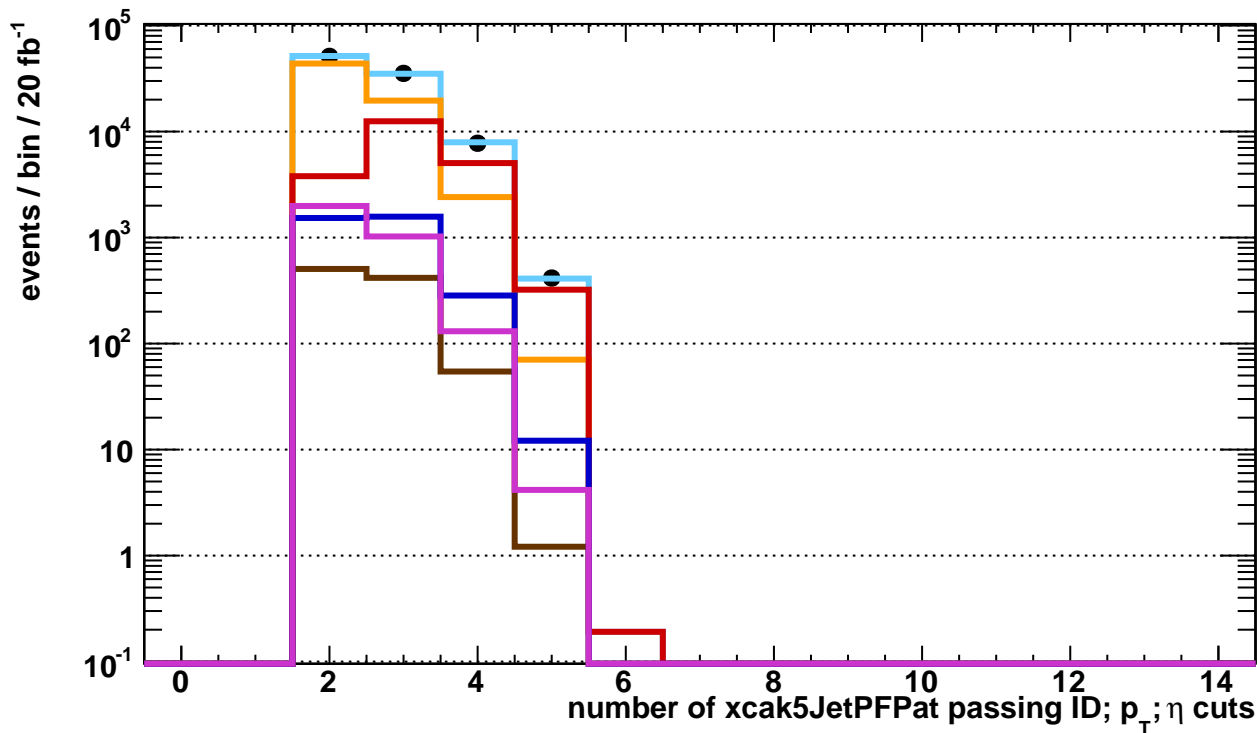
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Mean	339.1
RMS	169.8
Underflow	0
Overflow	0
Integral	9.477e+04



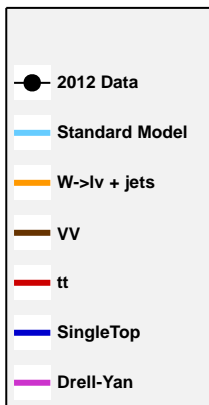
2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**

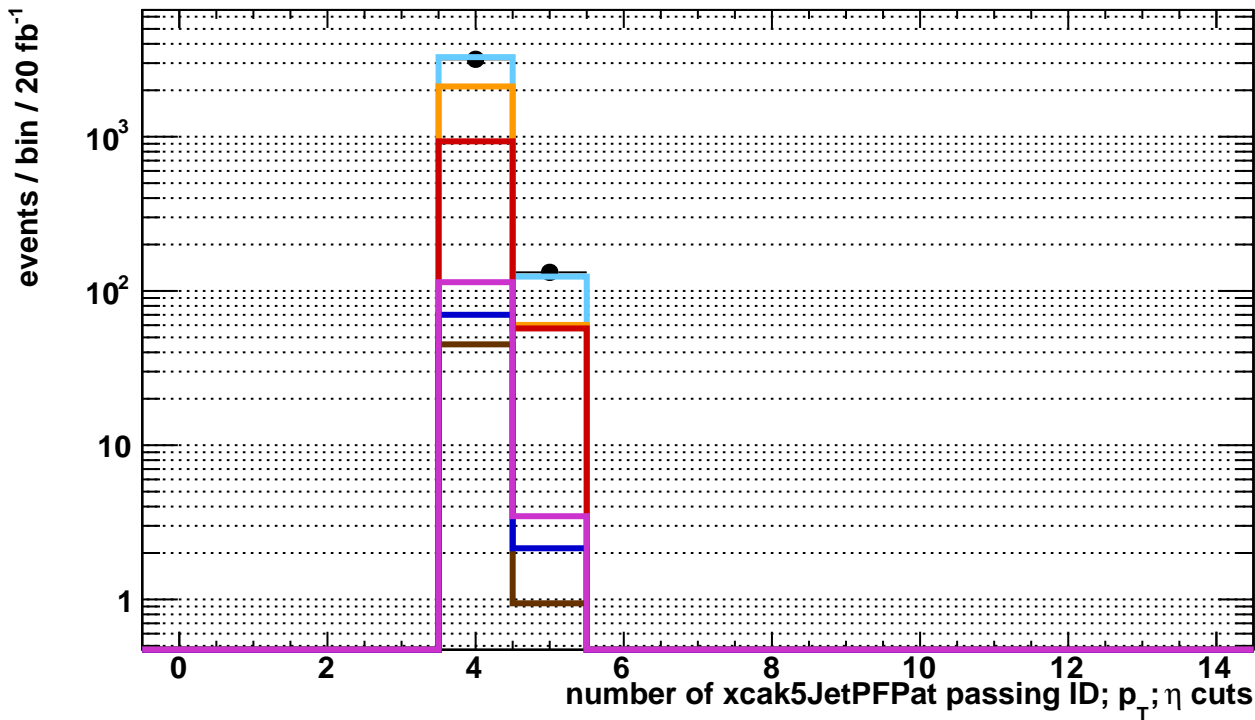




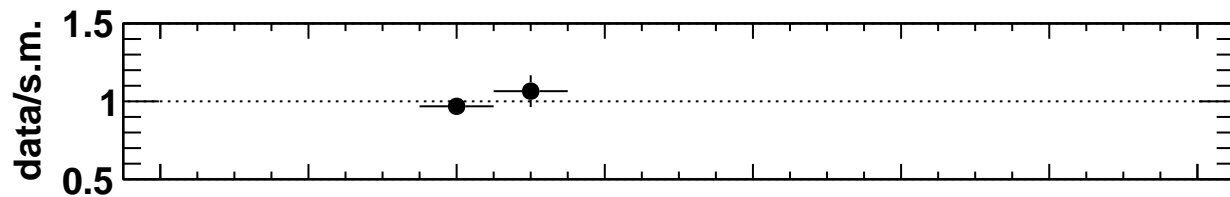
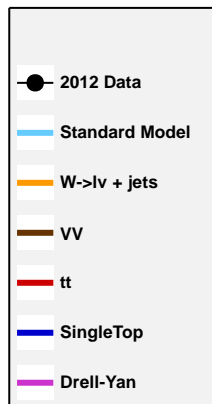


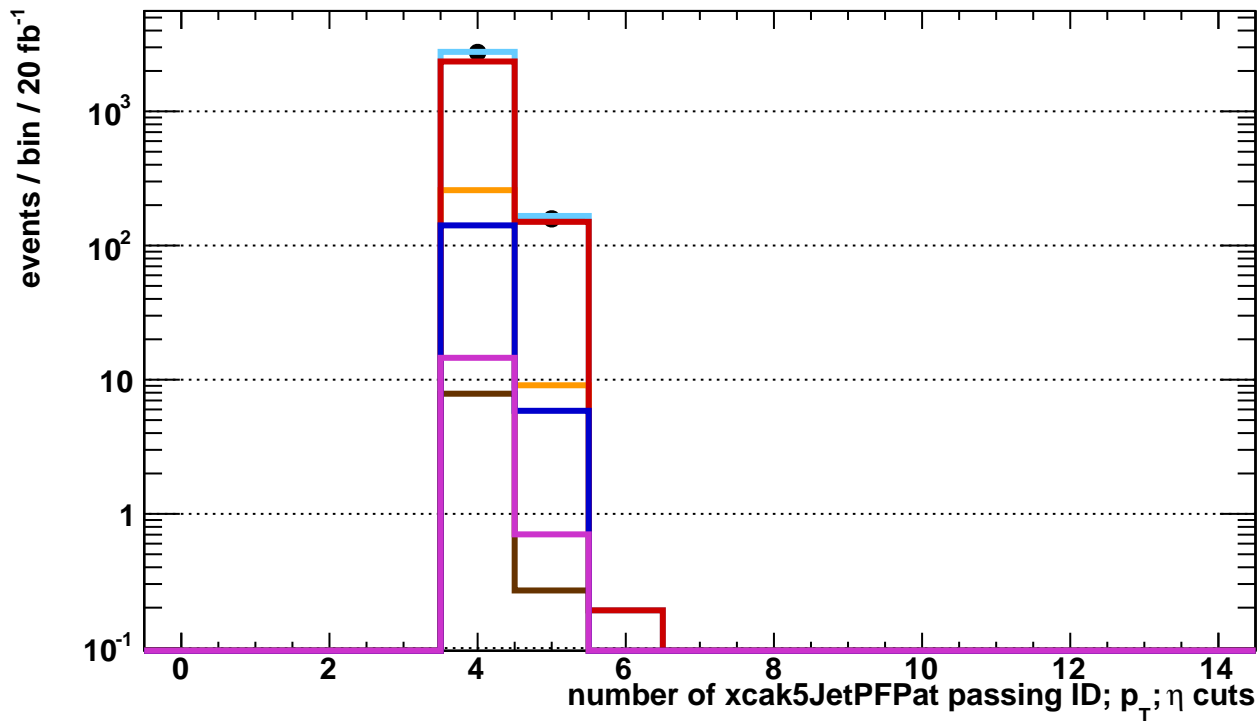
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Mean	2.55
RMS	0.6614
Underflow	0
Overflow	0
Integral	9.477e+04



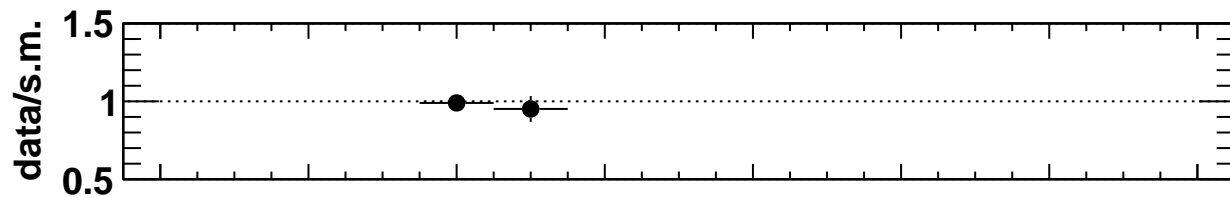


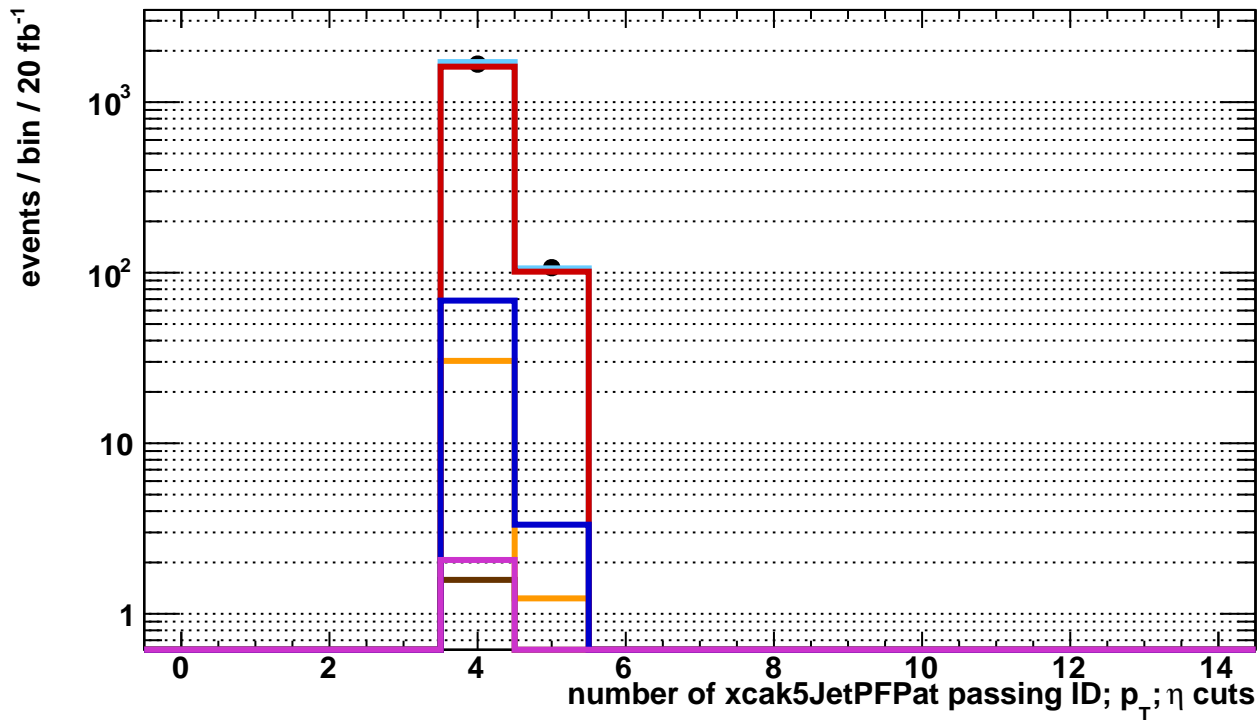
xcak5JetPFPIndicesPat_ge4j_eq0b	
Entries	3308
Mean	4.04
RMS	0.1957
Underflow	0
Overflow	0
Integral	3308



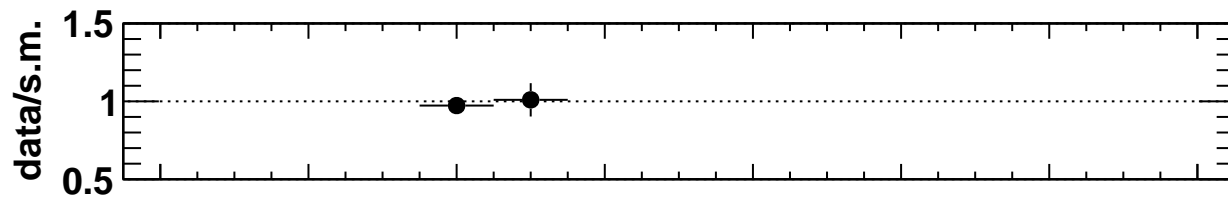
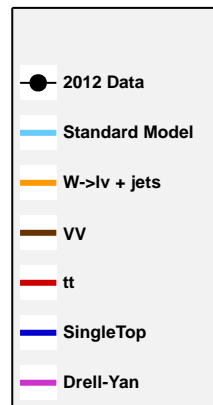


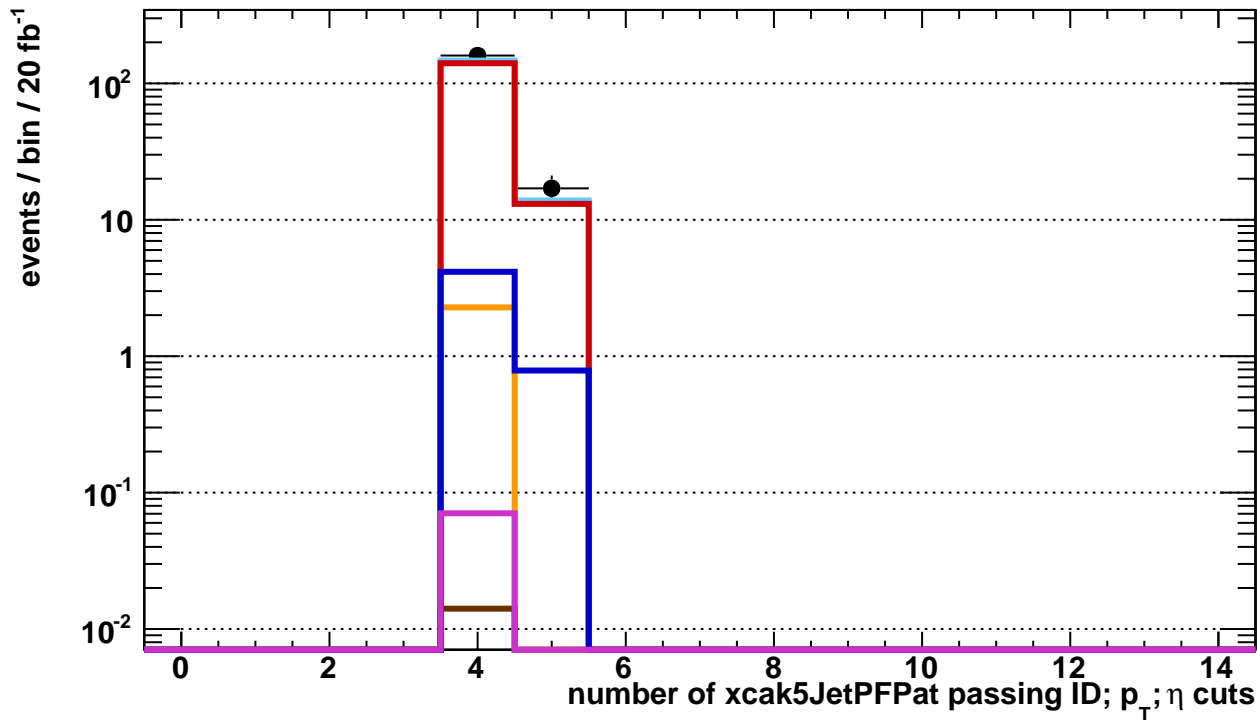
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Entries	2905
Mean	4.054
RMS	0.2268
Underflow	0
Overflow	0
Integral	2905



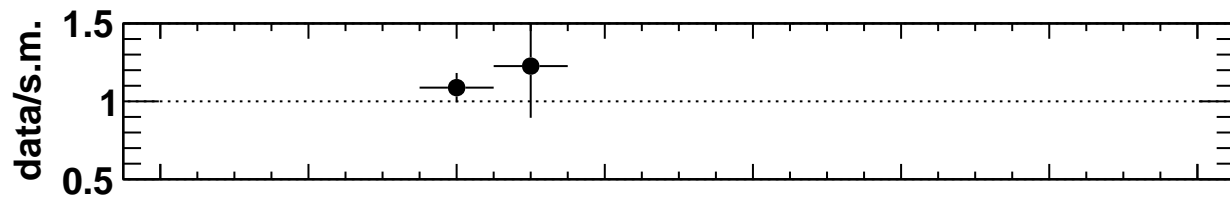


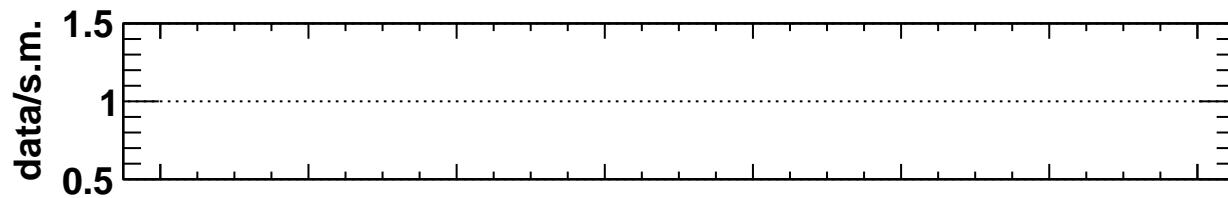
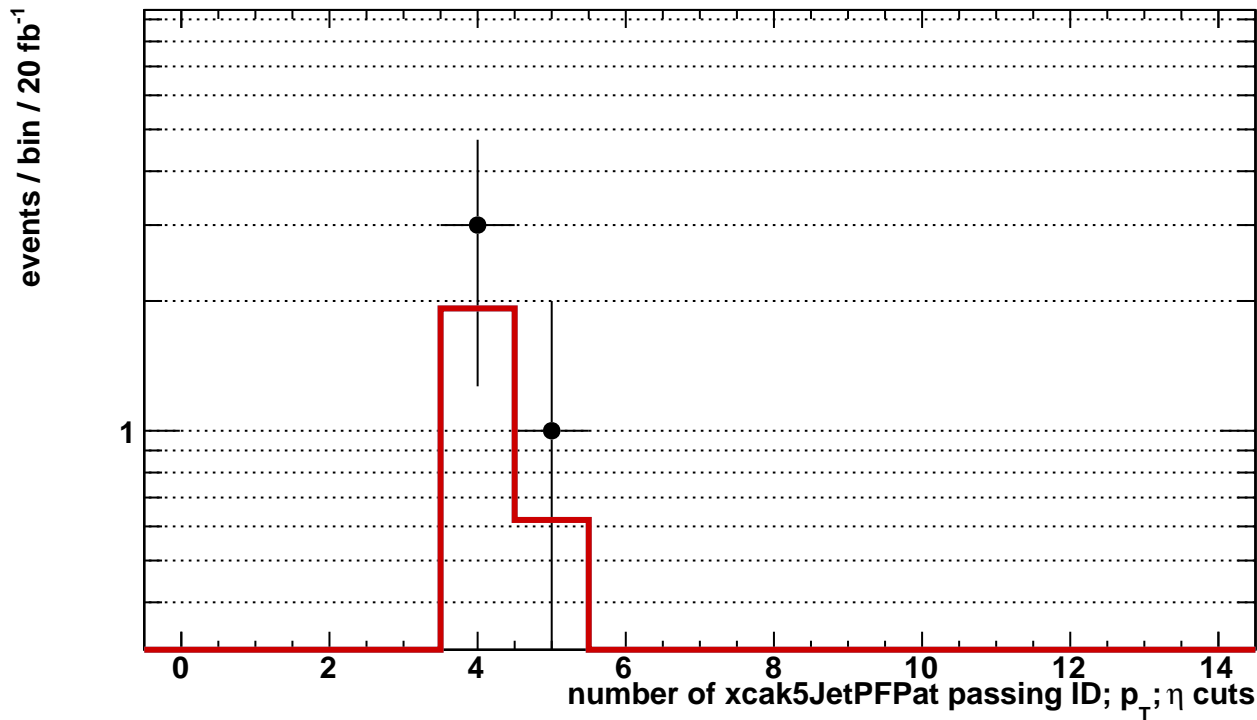
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Entries	1778
Mean	4.06
RMS	0.2378
Underflow	0
Overflow	0
Integral	1778

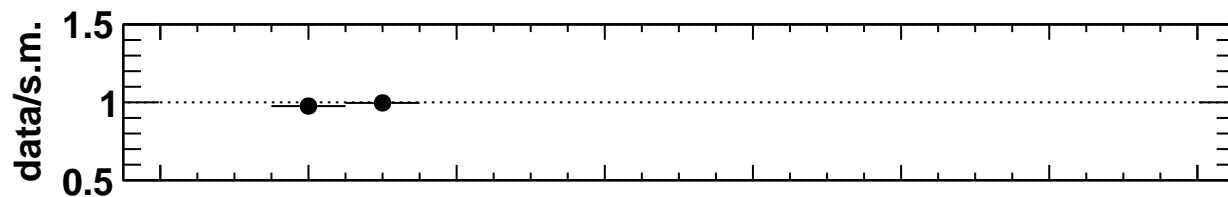
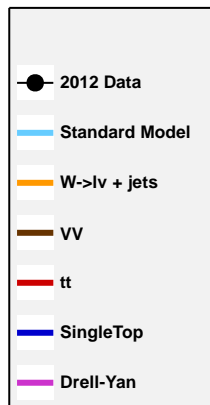
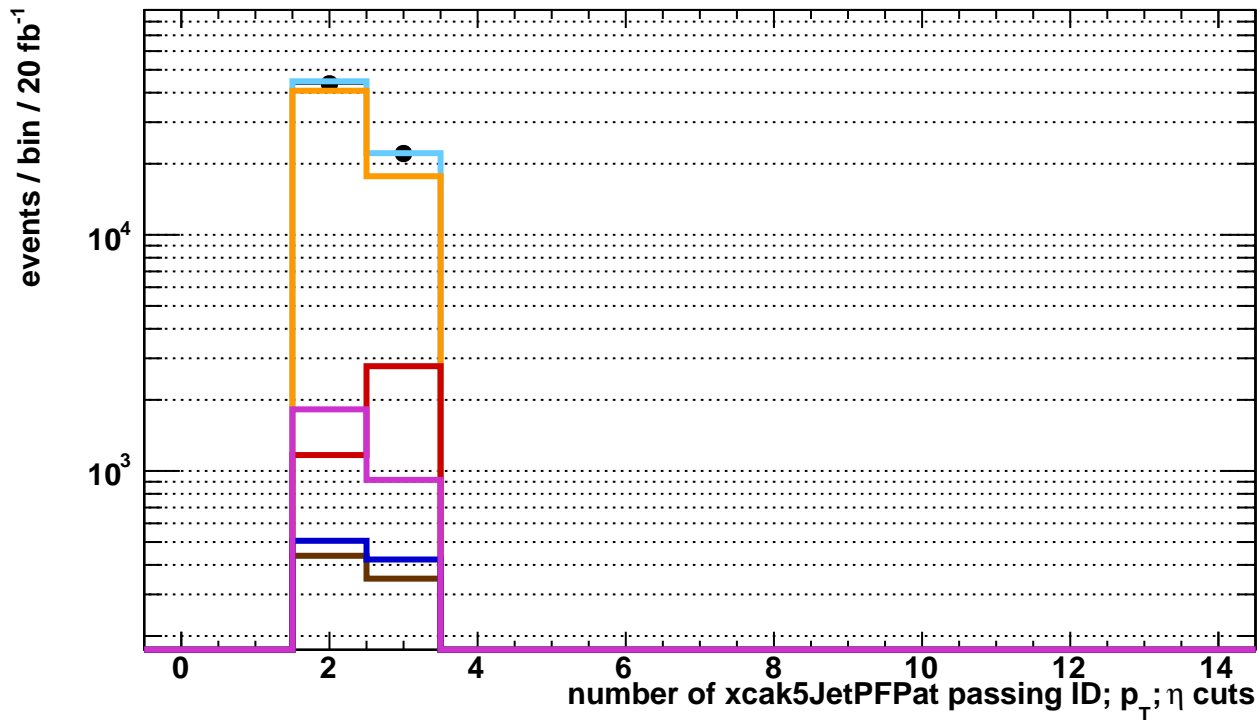


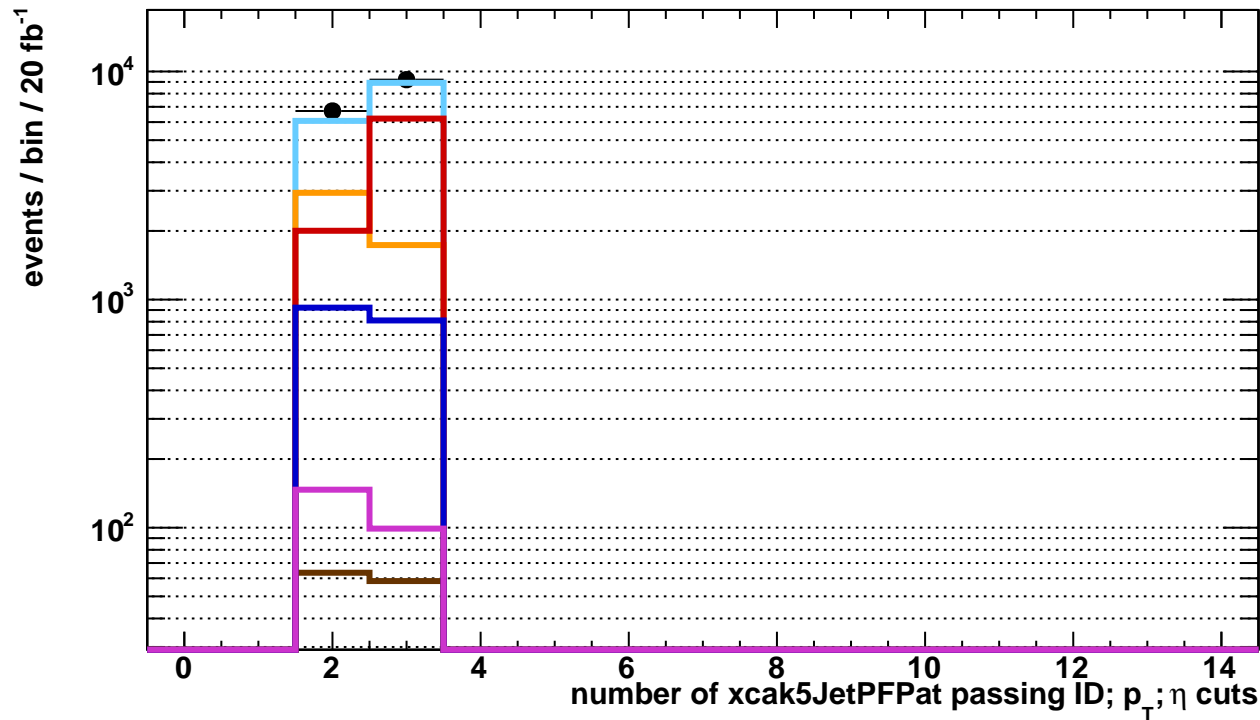


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Entries	177
Mean	4.096
RMS	0.2947
Underflow	0
Overflow	0
Integral	177

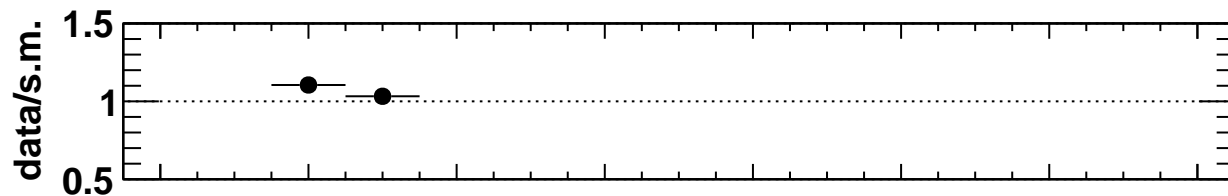
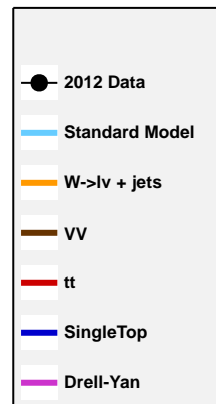




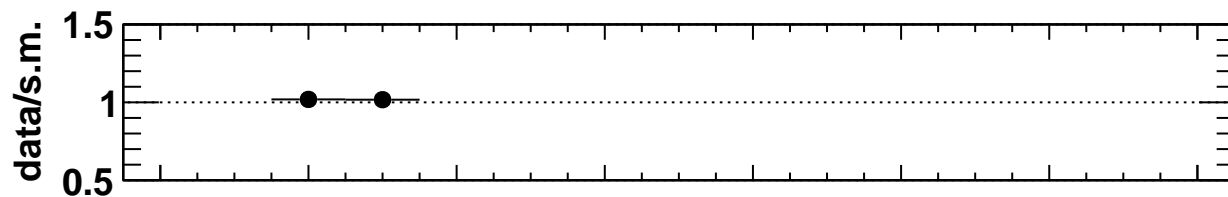
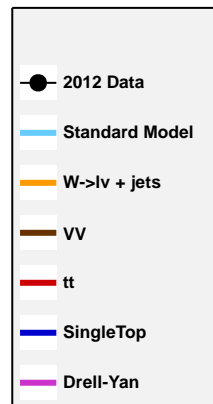
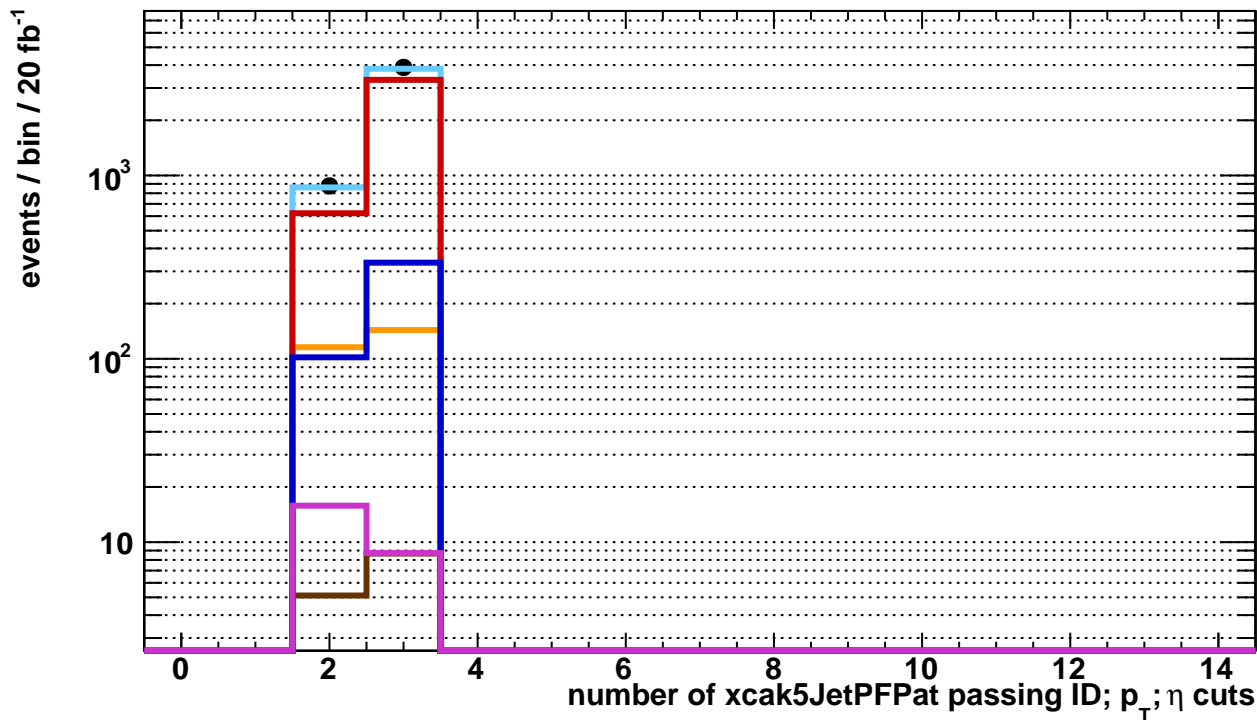




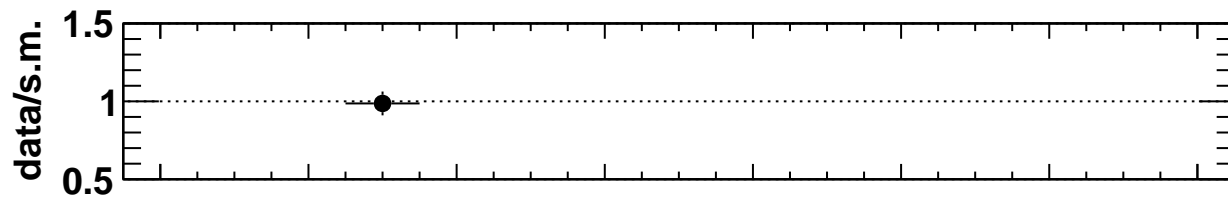
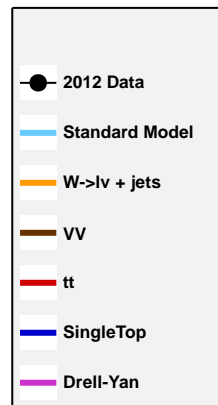
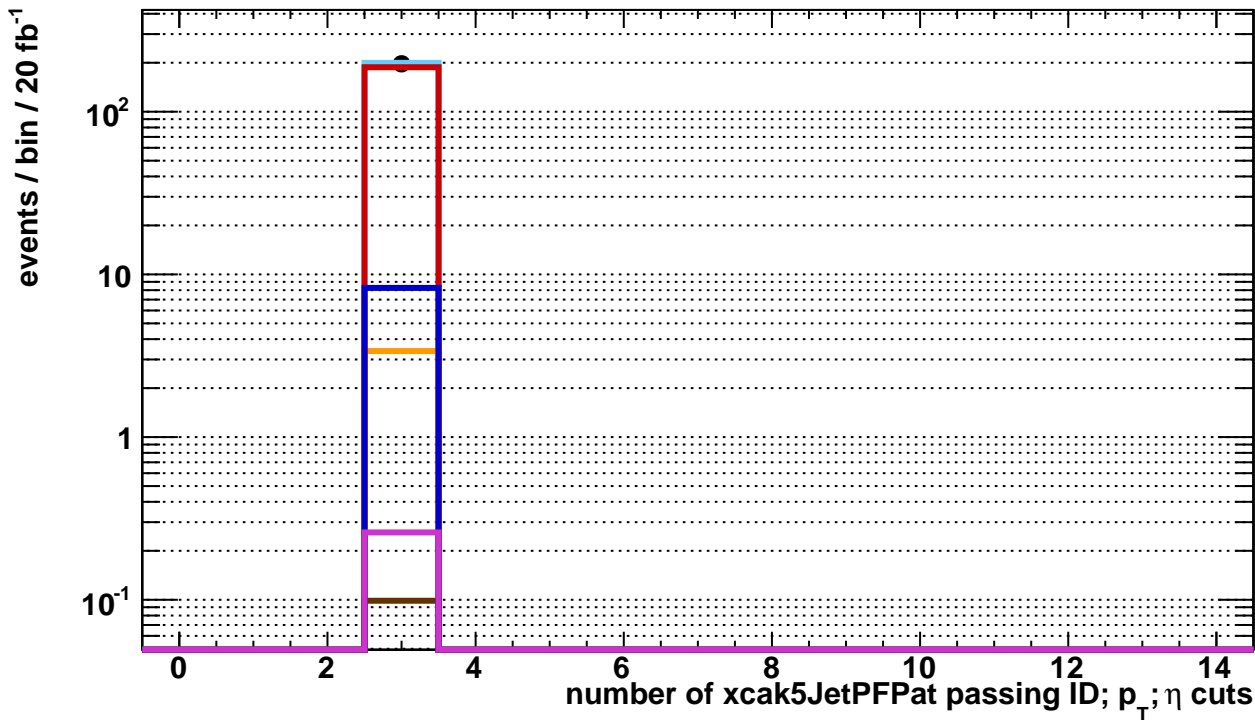
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Entries	15919
Mean	2.578
RMS	0.4938
Underflow	0
Overflow	0
Integral	1.592e+04

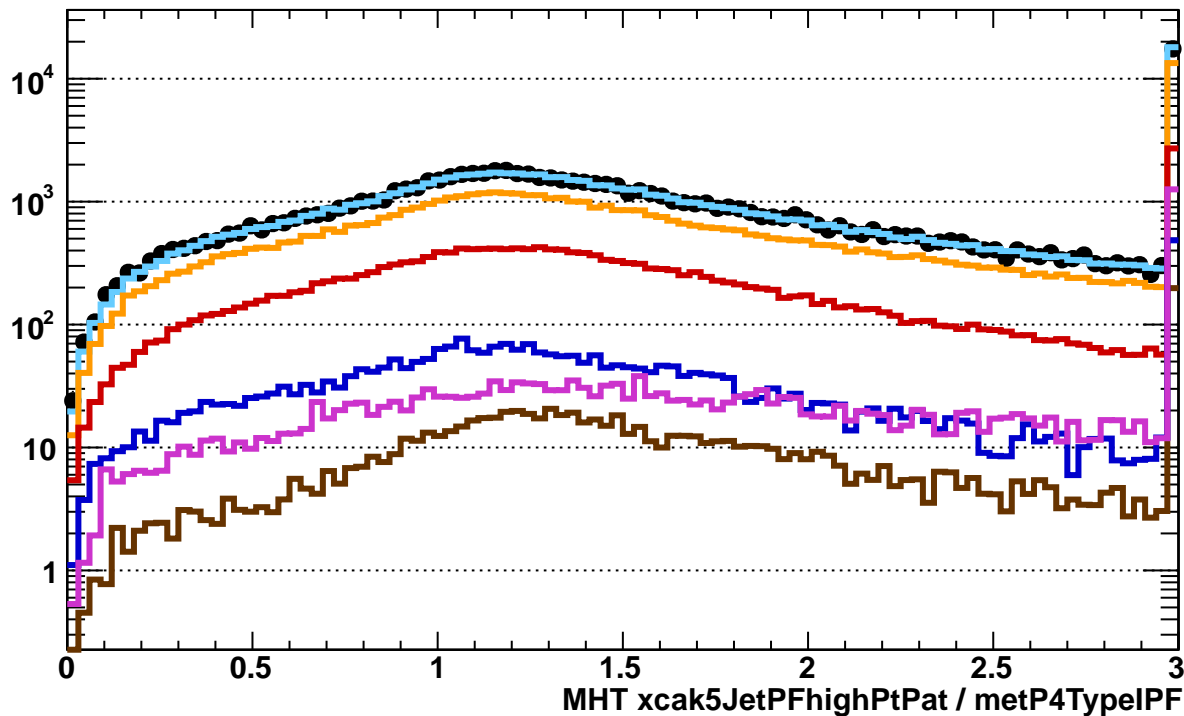


xcak5JetPFPIndicesPat_le3j_eq2b	
Entries	4761
Mean	2.816
RMS	0.3877
Underflow	0
Overflow	0
Integral	4761

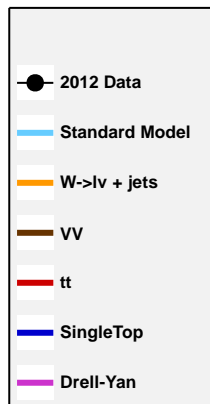


xcak5JetPFIIndicesPat_le3j_eq3b	
Entries	197
Mean	3
RMS	0
Underflow	0
Overflow	0
Integral	197

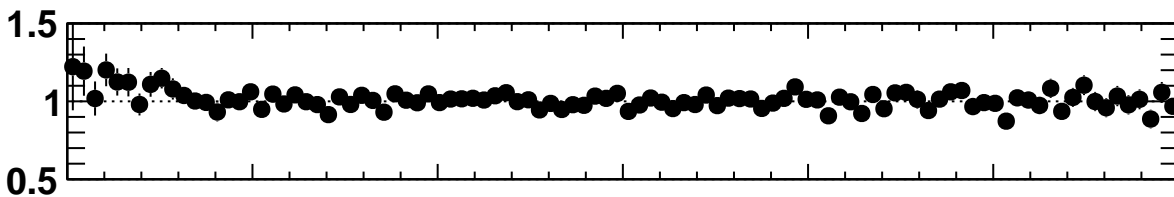


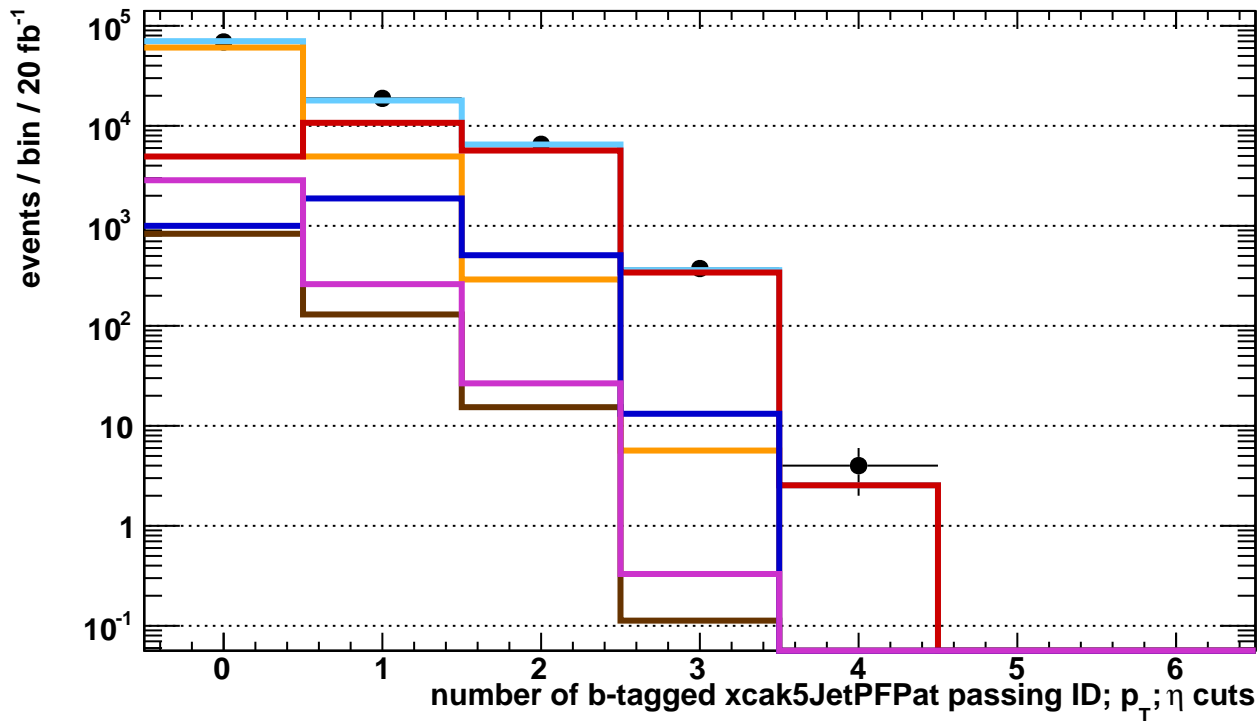
events / bin / 20 fb⁻¹

xcak5JetPFhighPtPatOvermetP4TypeIPF	
Entries	94768
Mean	1.687
RMS	0.8445
Underflow	0
Overflow	0
Integral	9.477e+04

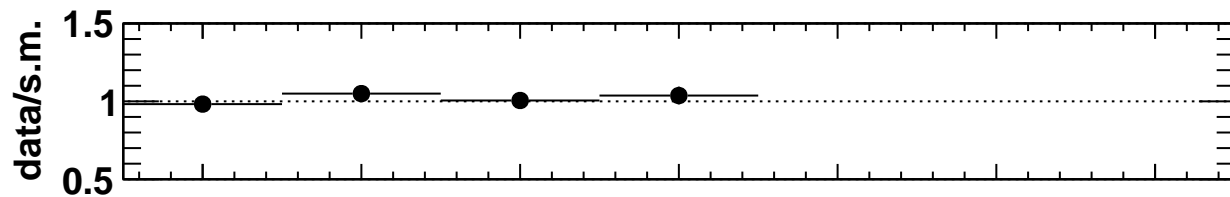
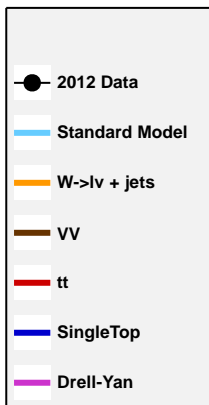


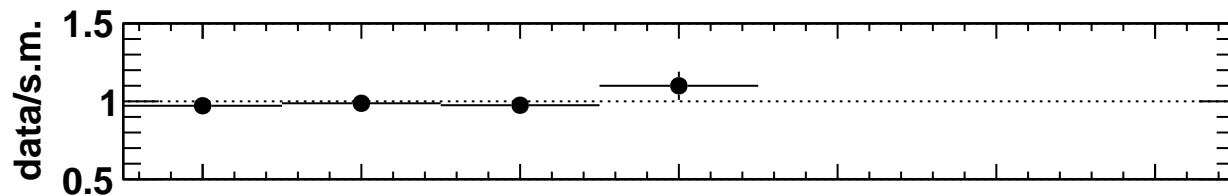
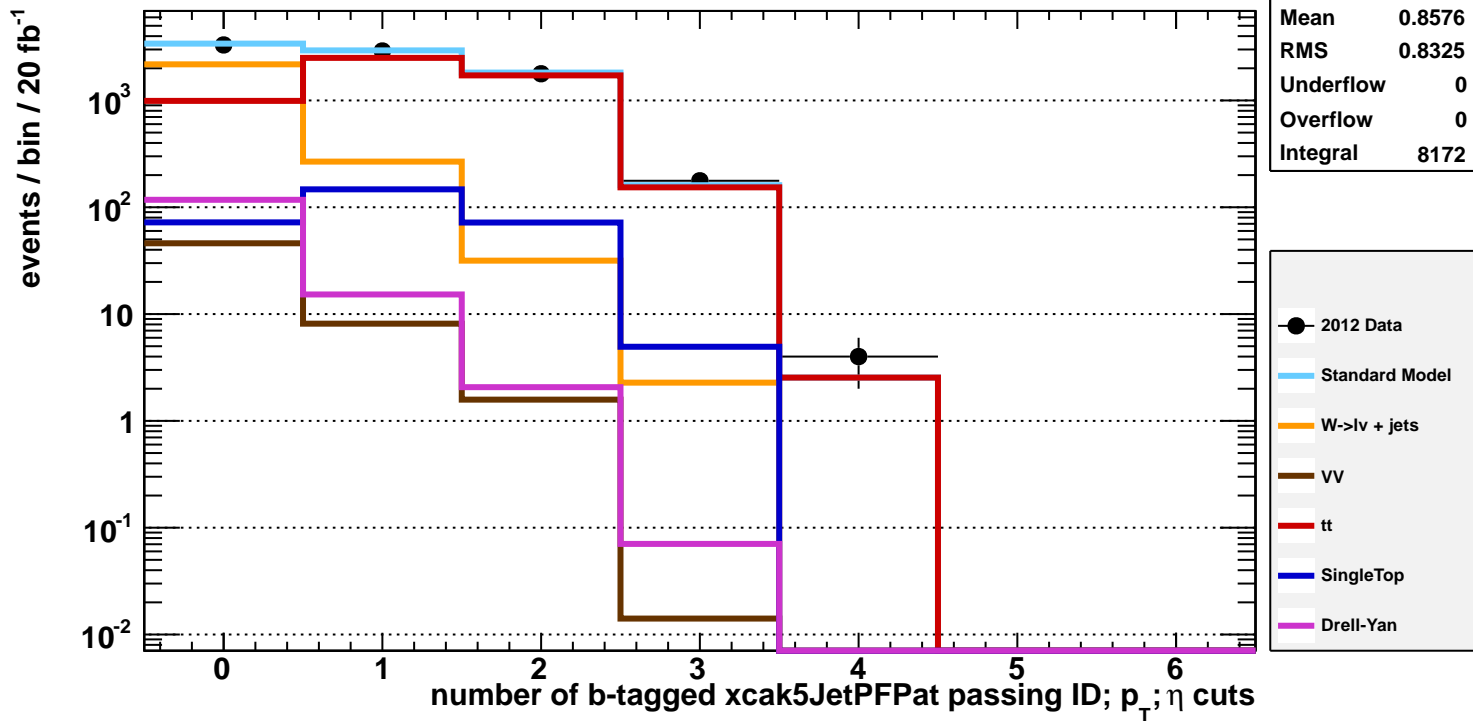
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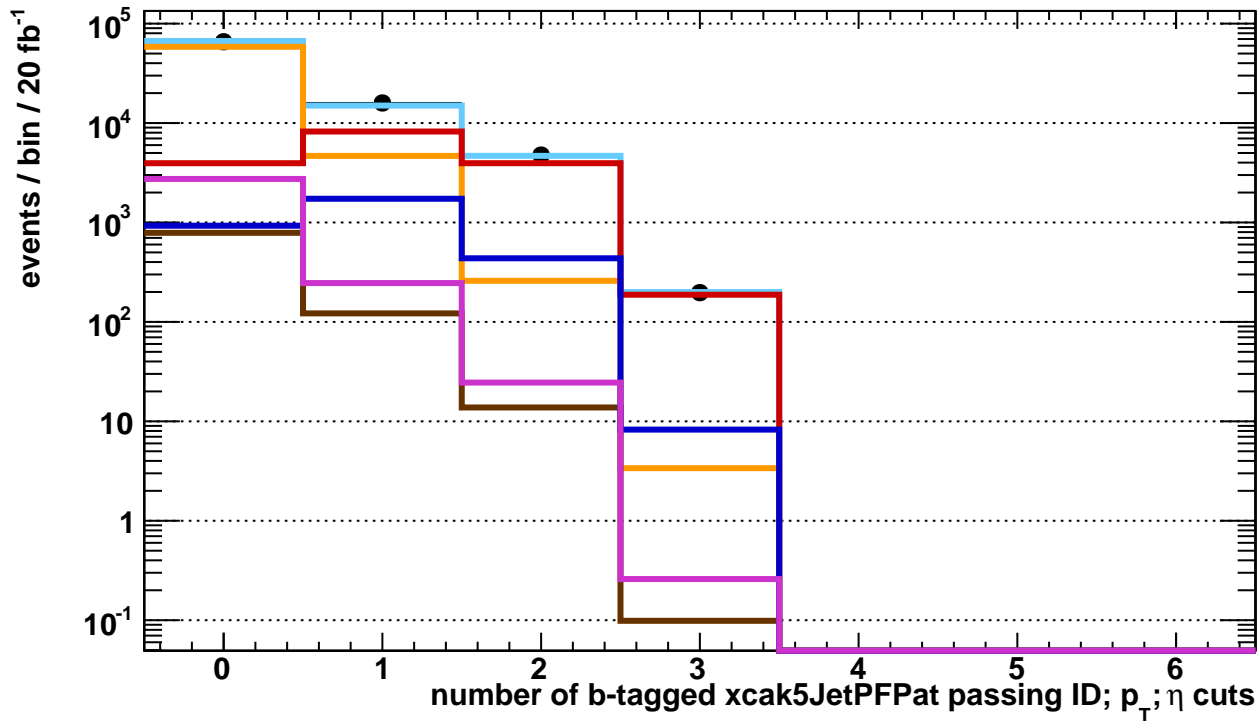




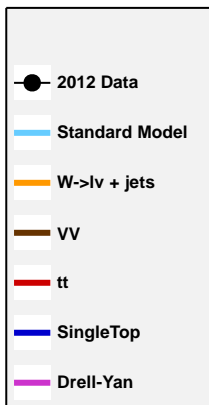
xcak5JetPFPIndicesBtagged2Pat	
Entries	94768
Mean	0.3486
RMS	0.6239
Underflow	0
Overflow	0
Integral	9.477e+04

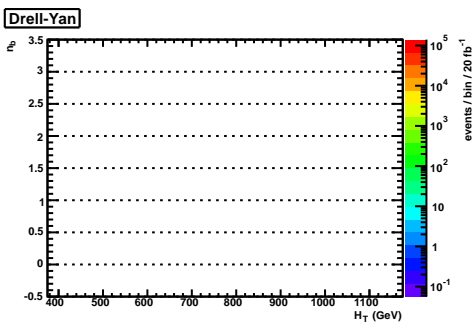
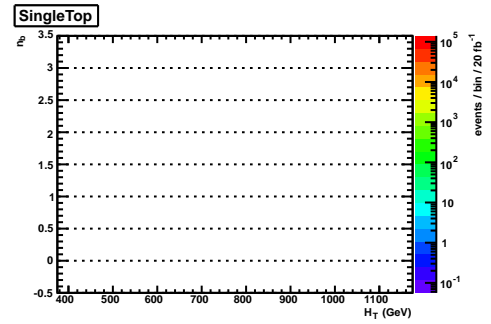
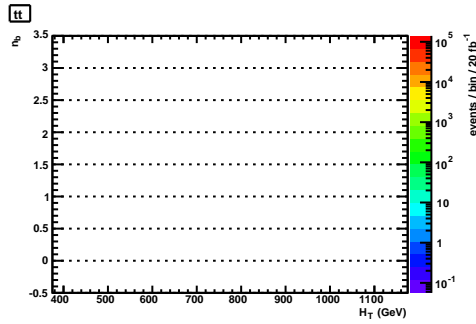
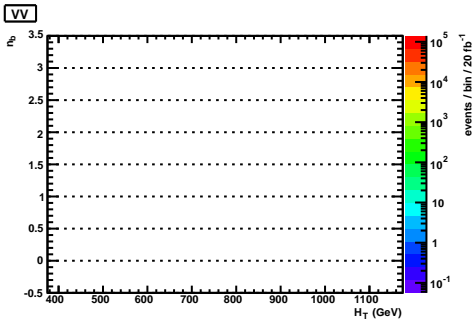
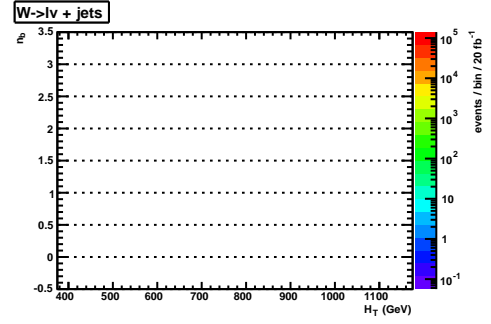
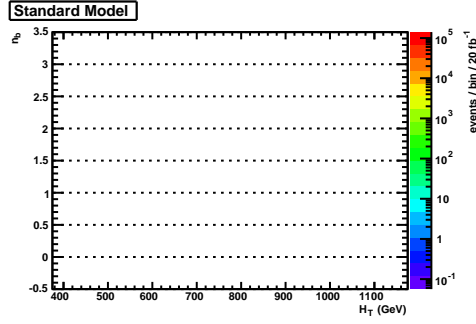
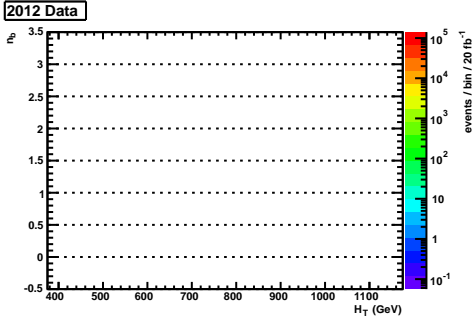


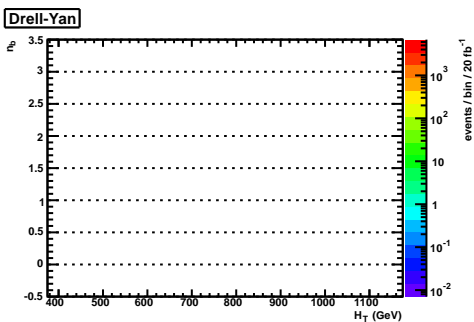
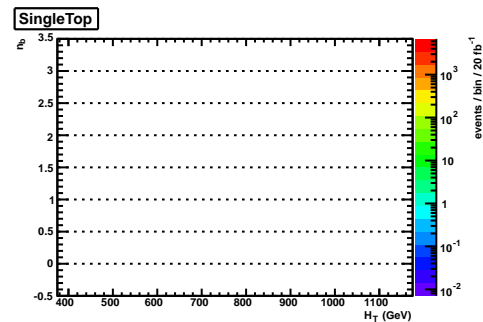
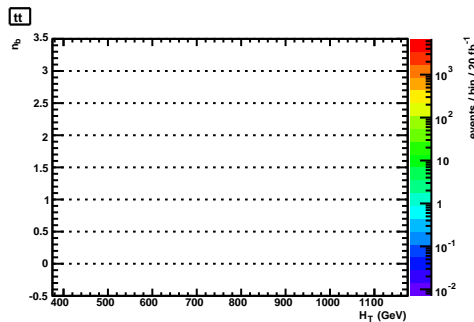
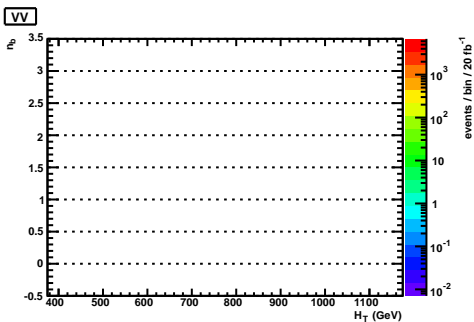
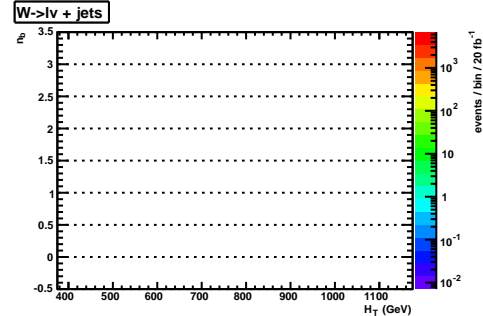
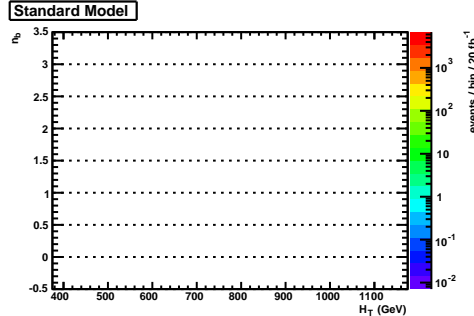
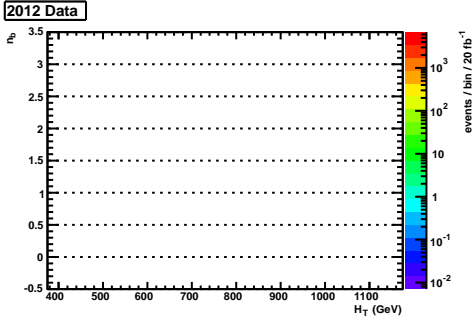


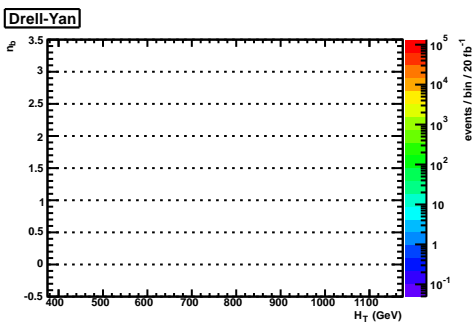
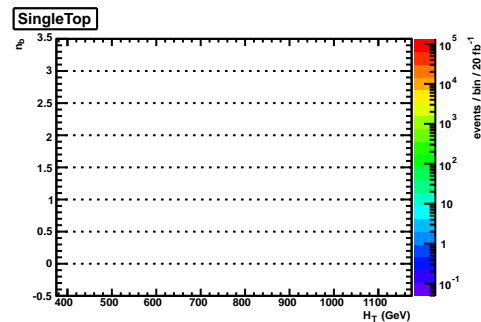
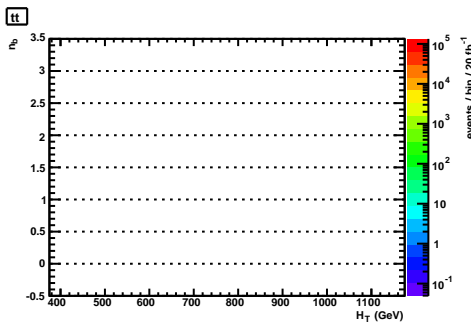
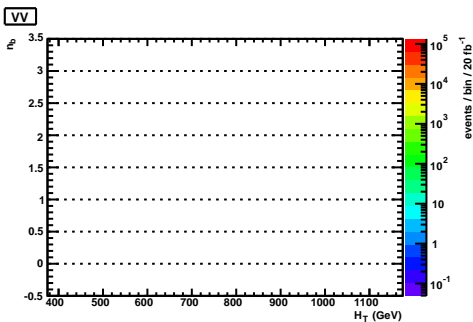
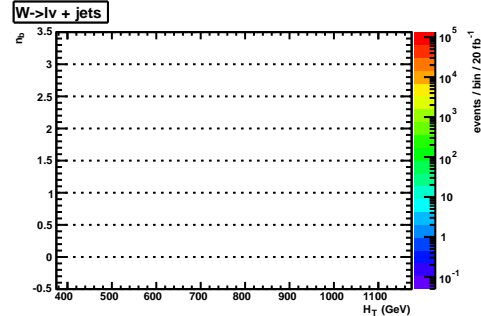
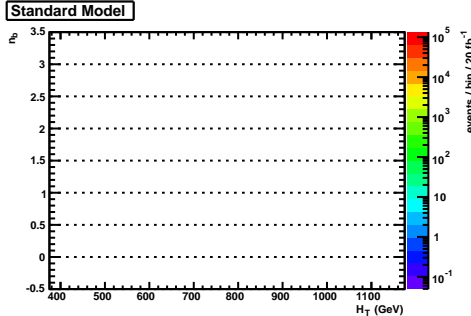
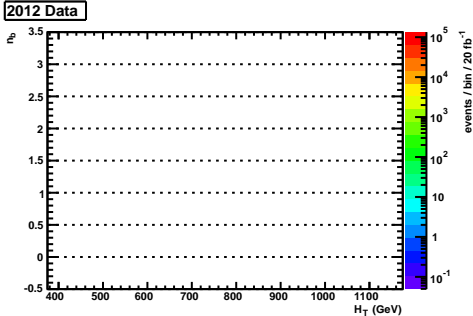


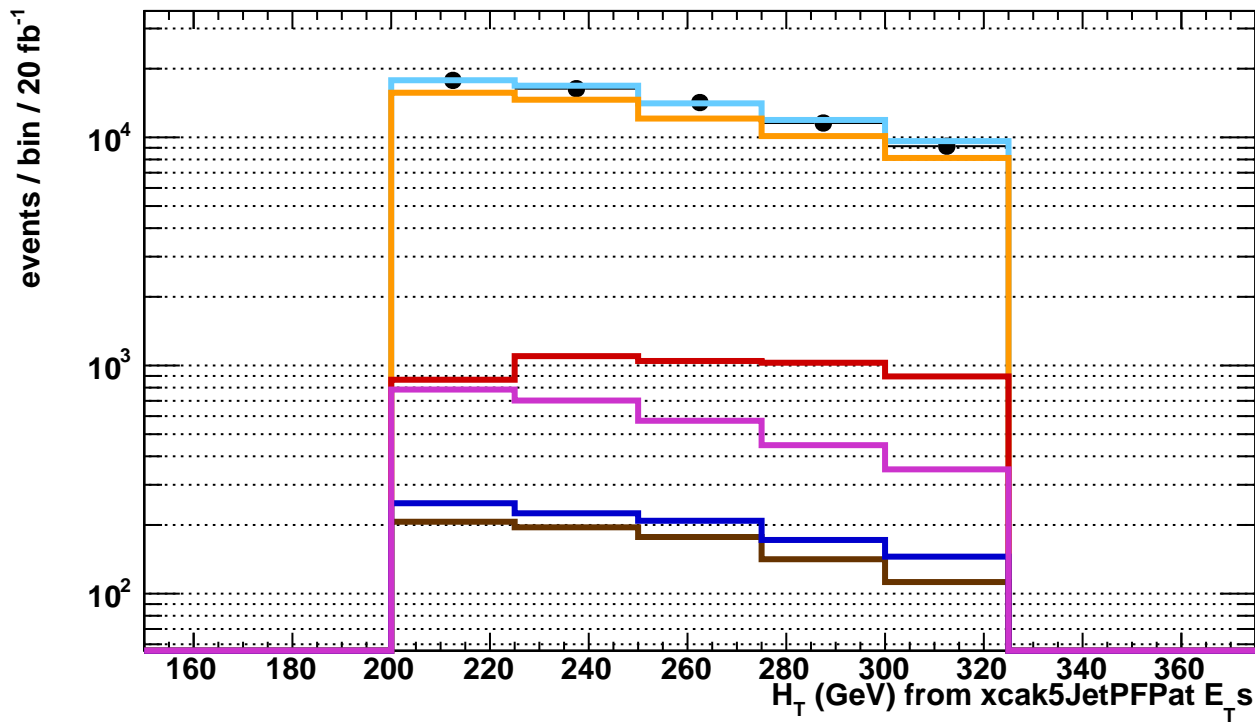
xcak5JetPFPIndicesBtagged2Pat_le3j	
Entries	86596
Mean	0.3006
RMS	0.5778
Underflow	0
Overflow	0
Integral	8.66e+04



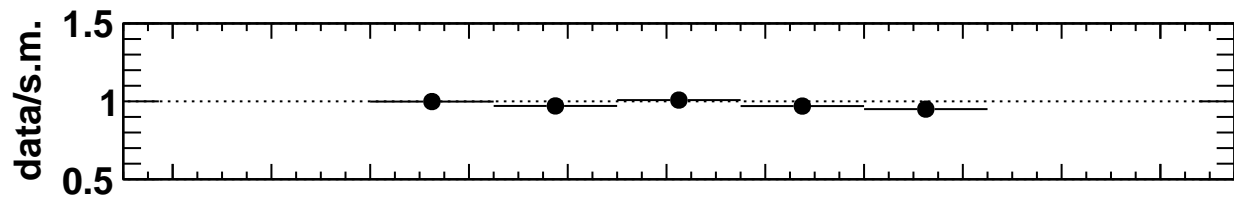
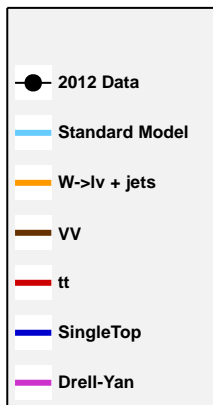


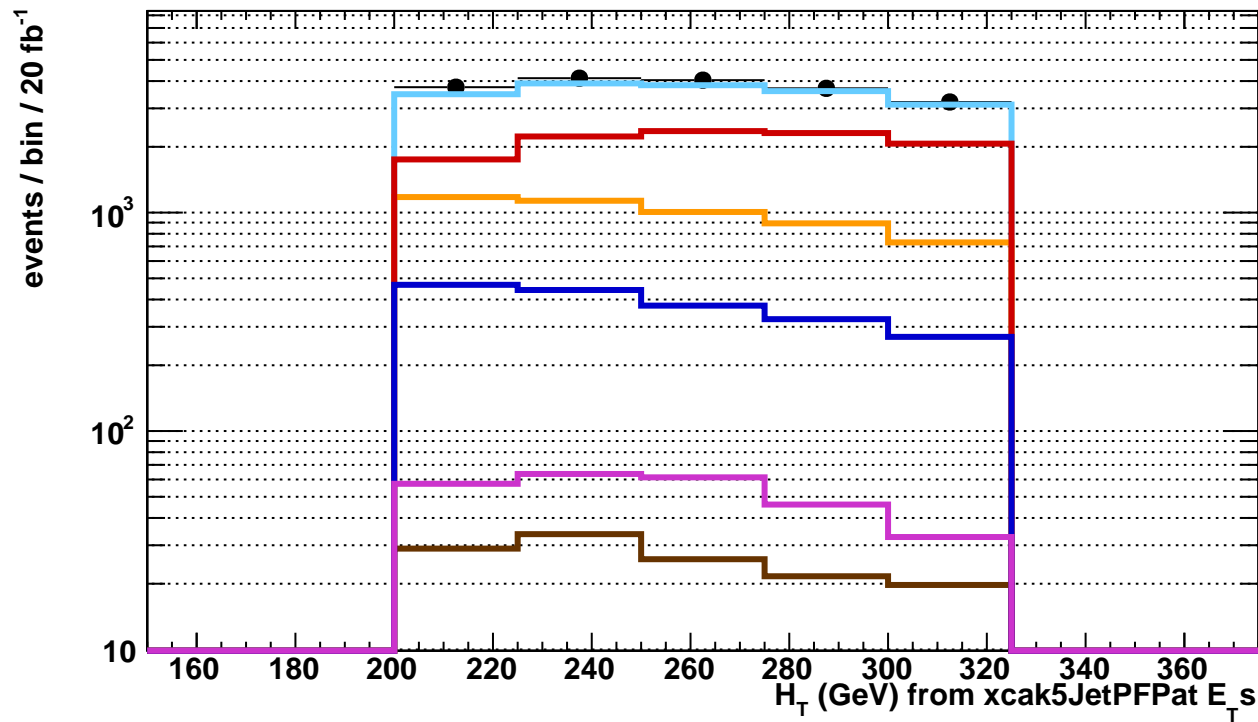




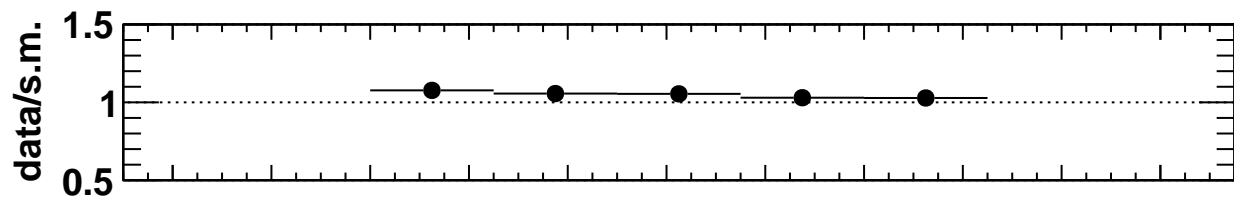
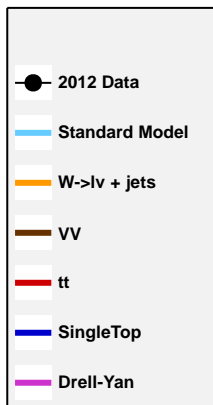


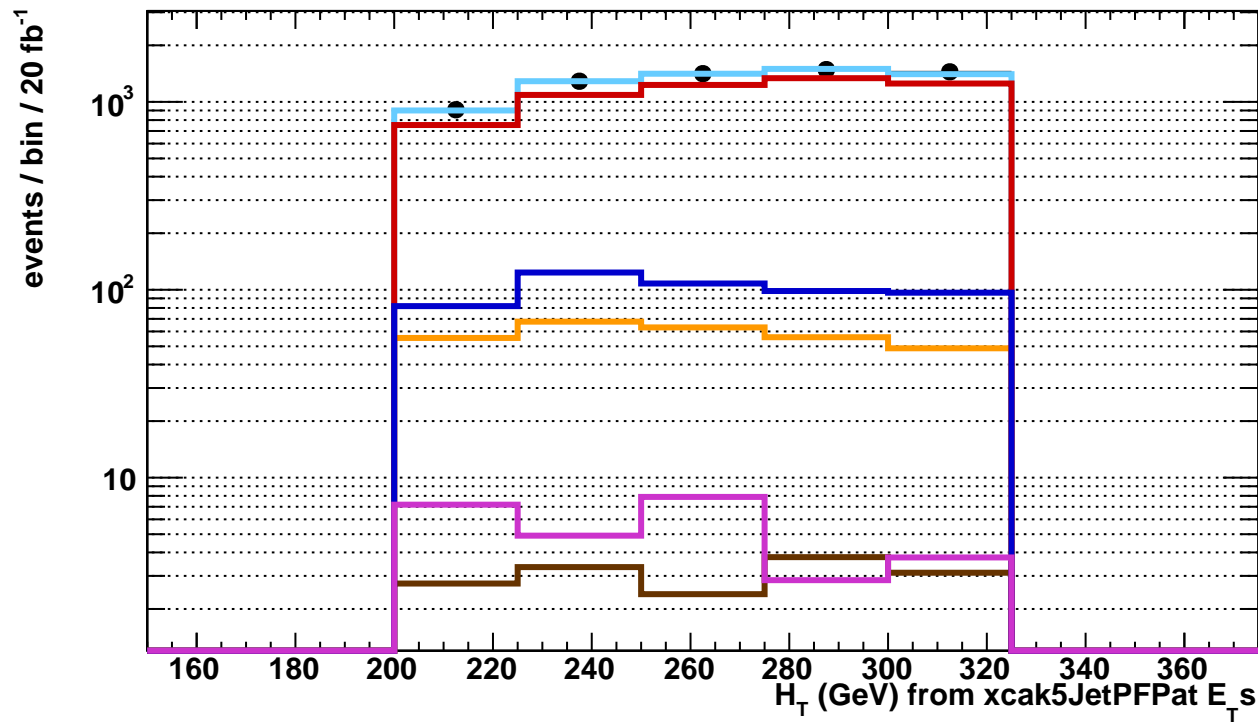
xcak5JetPFSumETPat_eq0b	
Entries	69027
Mean	254.2
RMS	34.75
Underflow	0
Overflow	0
Integral	6.903e+04



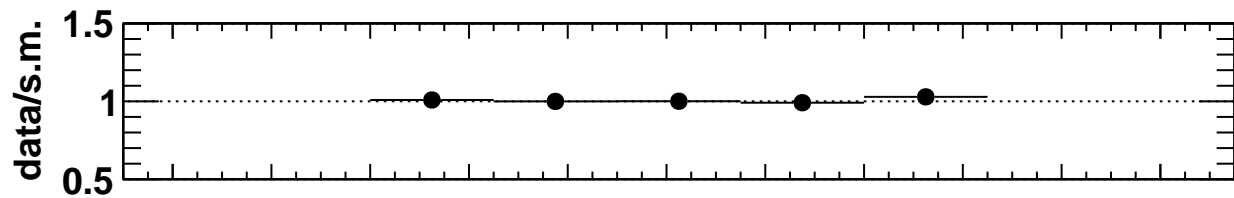
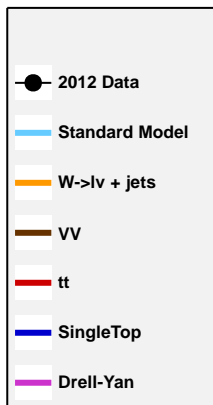


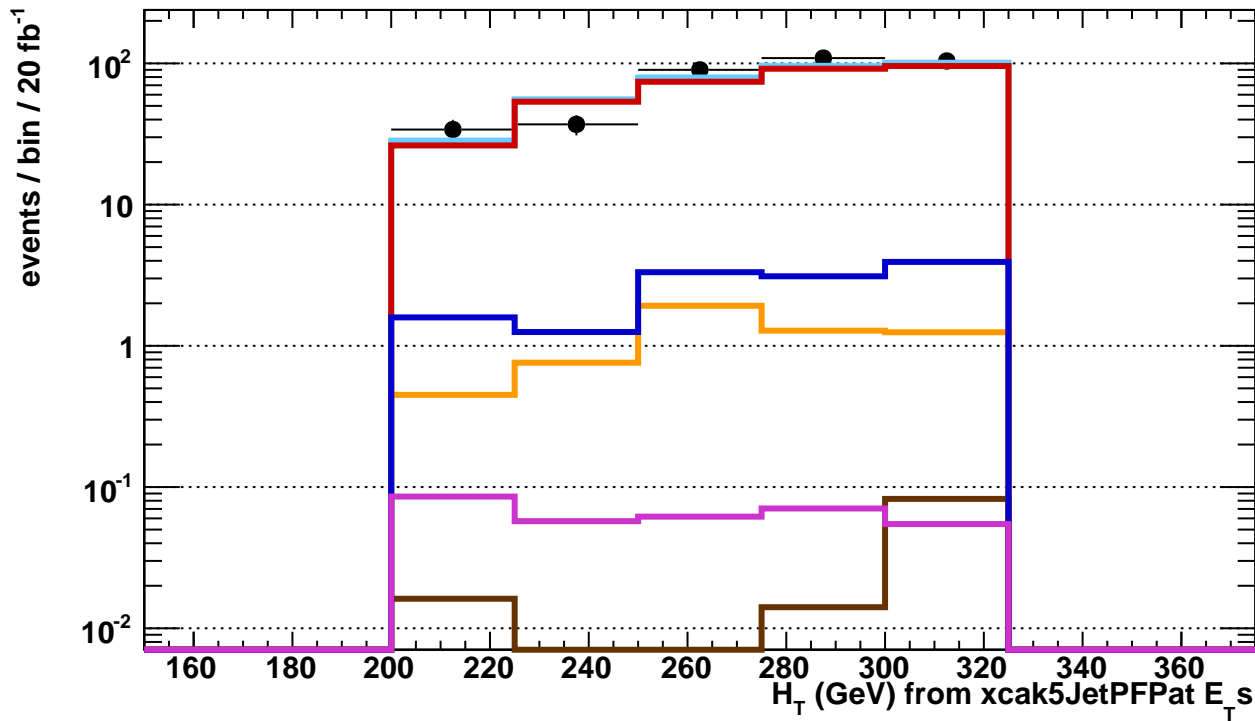
xcak5JetPFSumETPat_eq1b	
Entries	18824
Mean	260.5
RMS	34.89
Underflow	0
Overflow	0
Integral	1.882e+04



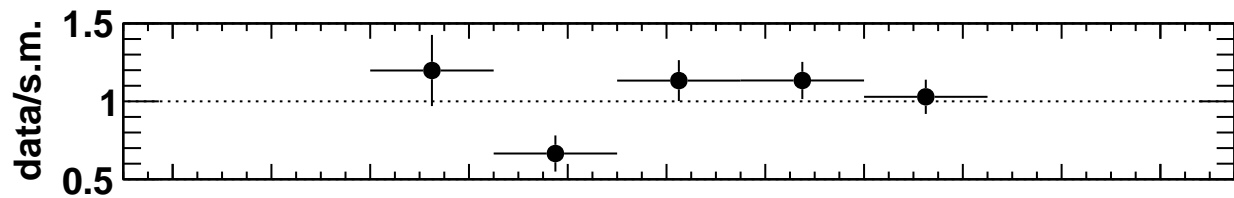
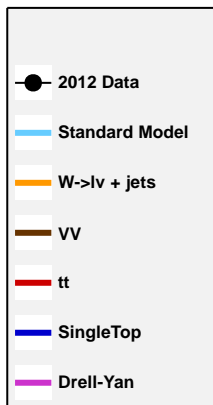


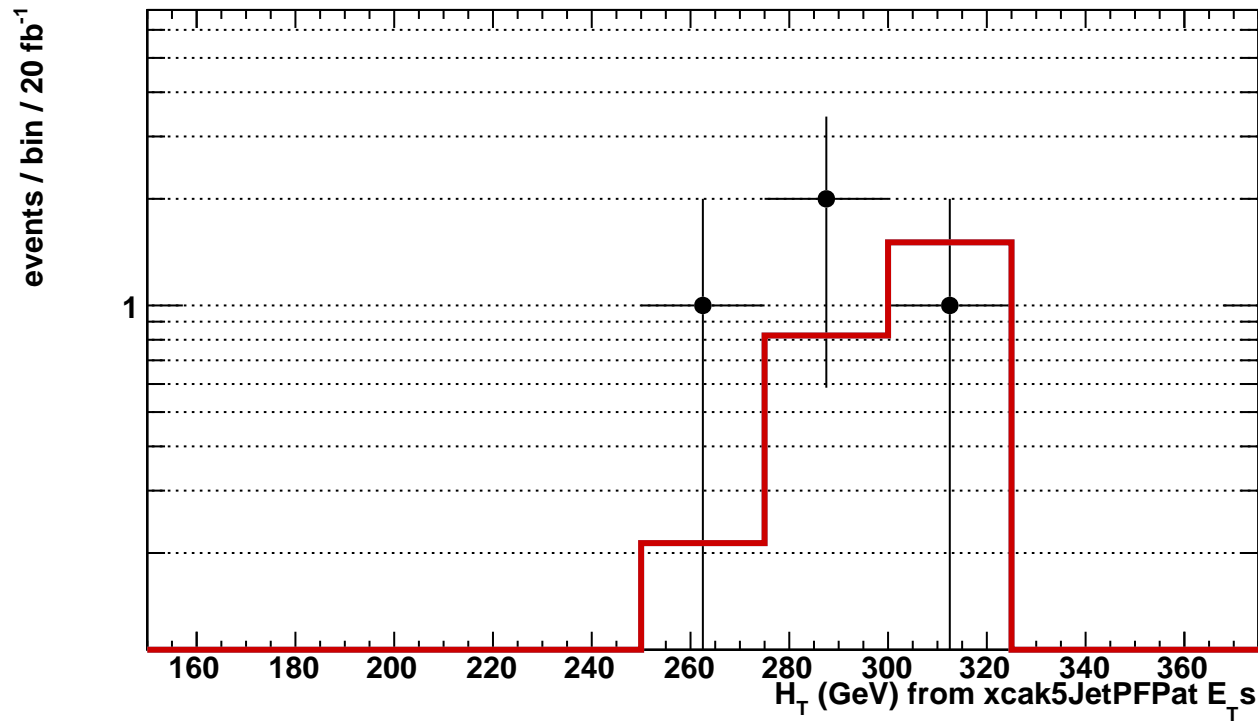
xcak5JetPFSumETPat_eq2b	
Entries	6539
Mean	267.6
RMS	34.11
Underflow	0
Overflow	0
Integral	6539



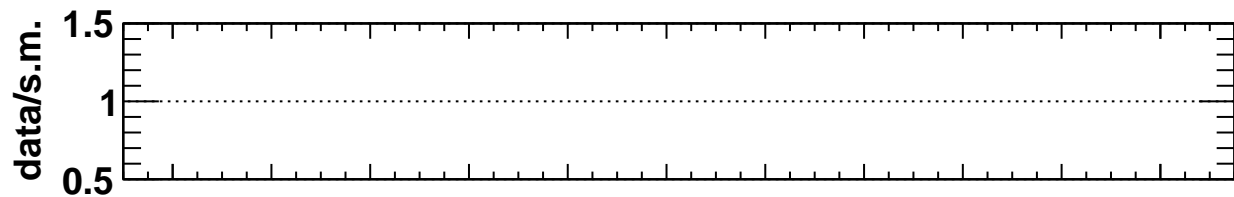
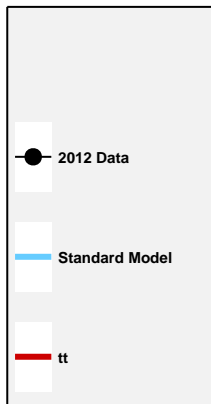


xcak5JetPFSumETPat_eq3b	
Entries	374
Mean	277.3
RMS	31.1
Underflow	0
Overflow	0
Integral	374



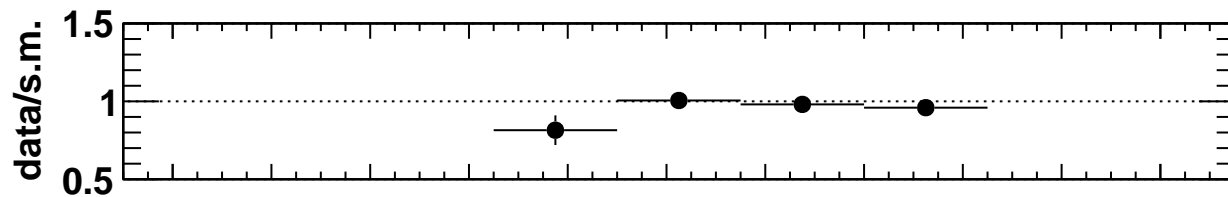
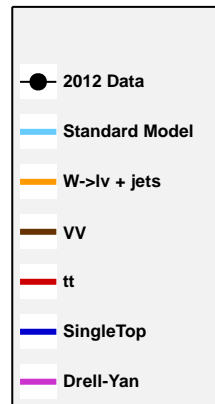
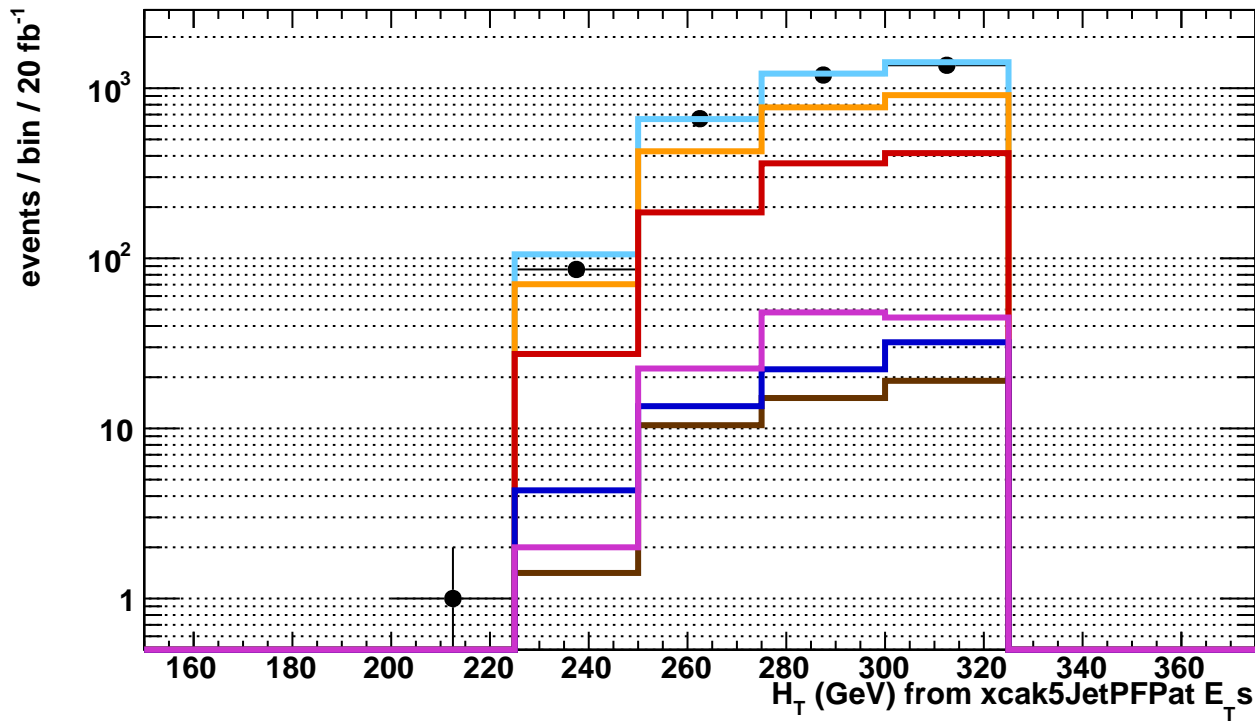


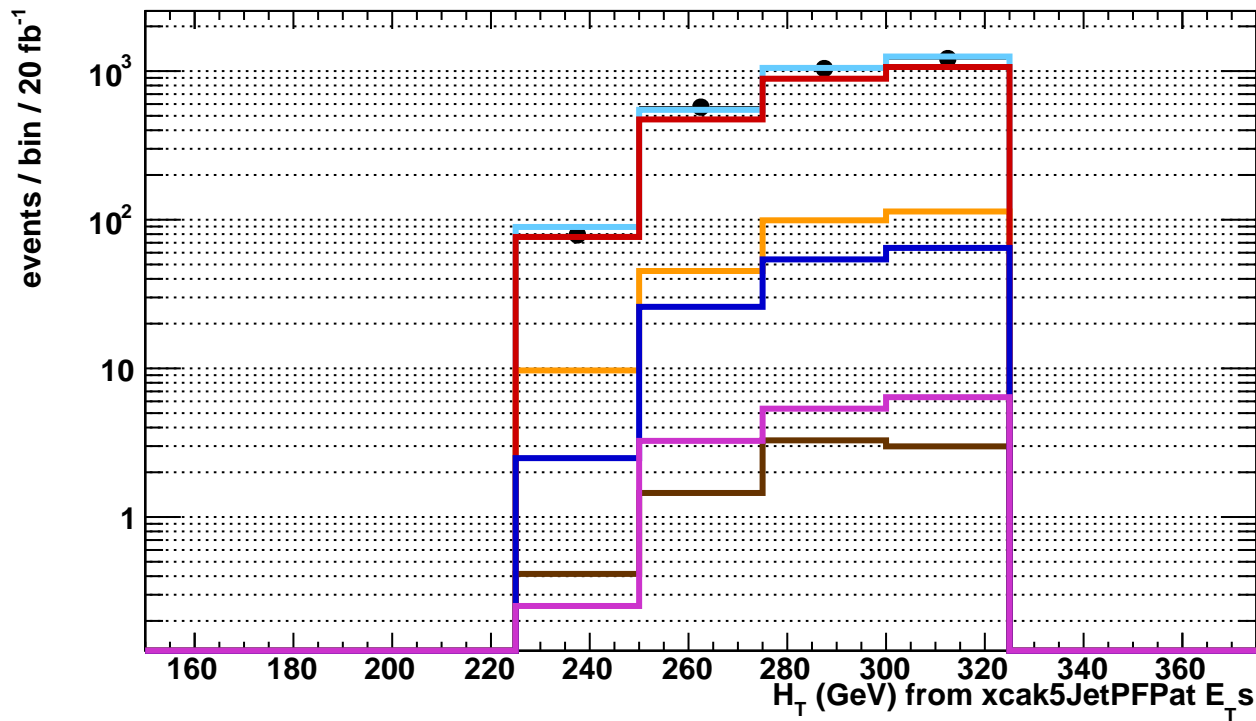
xcak5JetPFSumEtPat_ge4b	
Entries	4
Mean	285.3
RMS	17.92
Underflow	0
Overflow	0
Integral	4



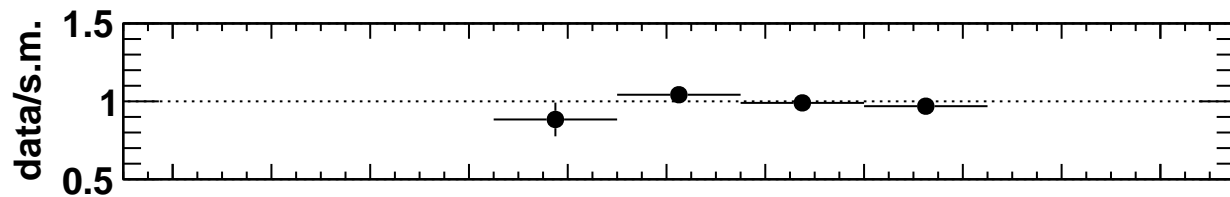
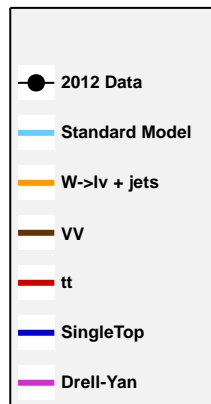
xcak5JetPFSumEtPat_ge4j_eq0b

Entries	3308
Mean	292.3
RMS	21.08
Underflow	0
Overflow	0
Integral	3308



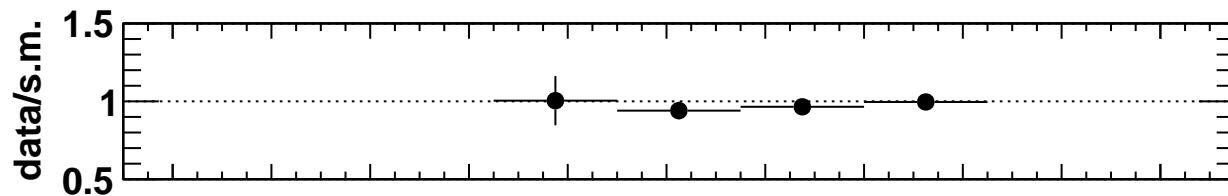
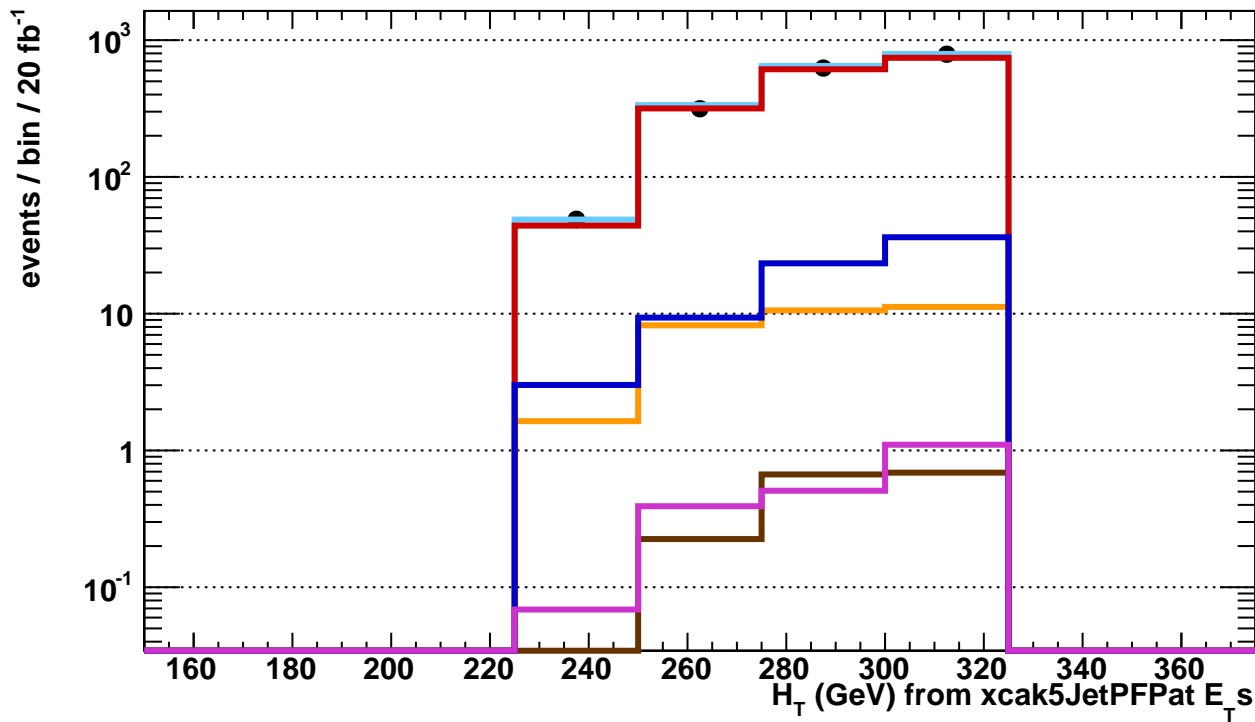


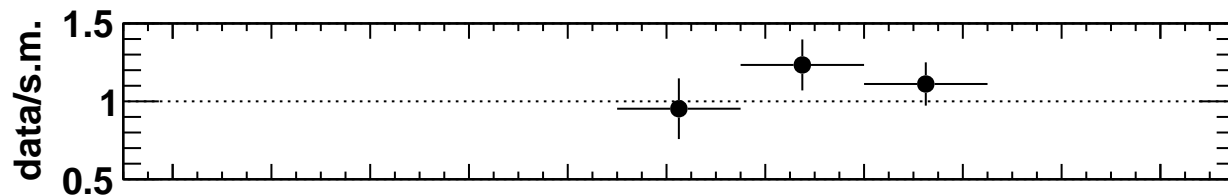
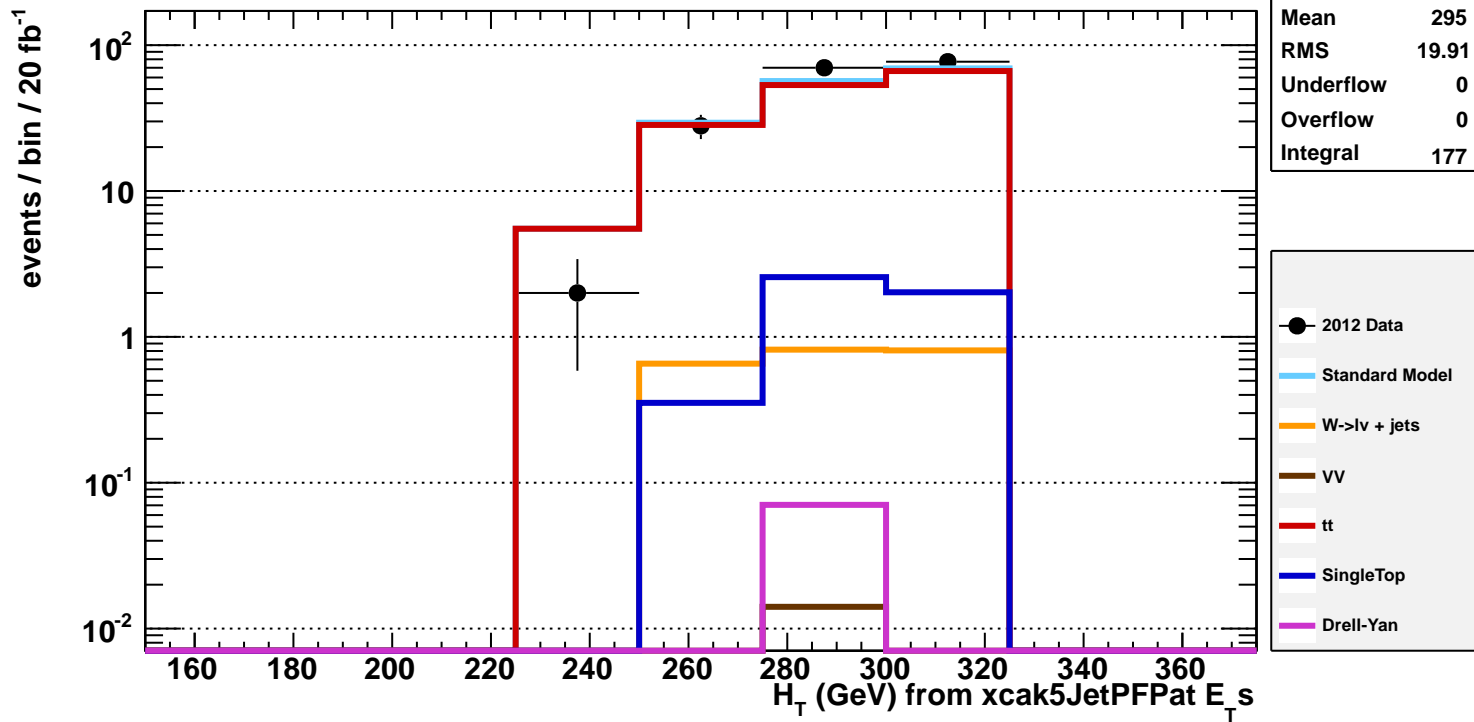
xcak5JetPFPatSumEtPat_ge4j_eq1b	
Entries	2905
Mean	292.9
RMS	20.91
Underflow	0
Overflow	0
Integral	2905

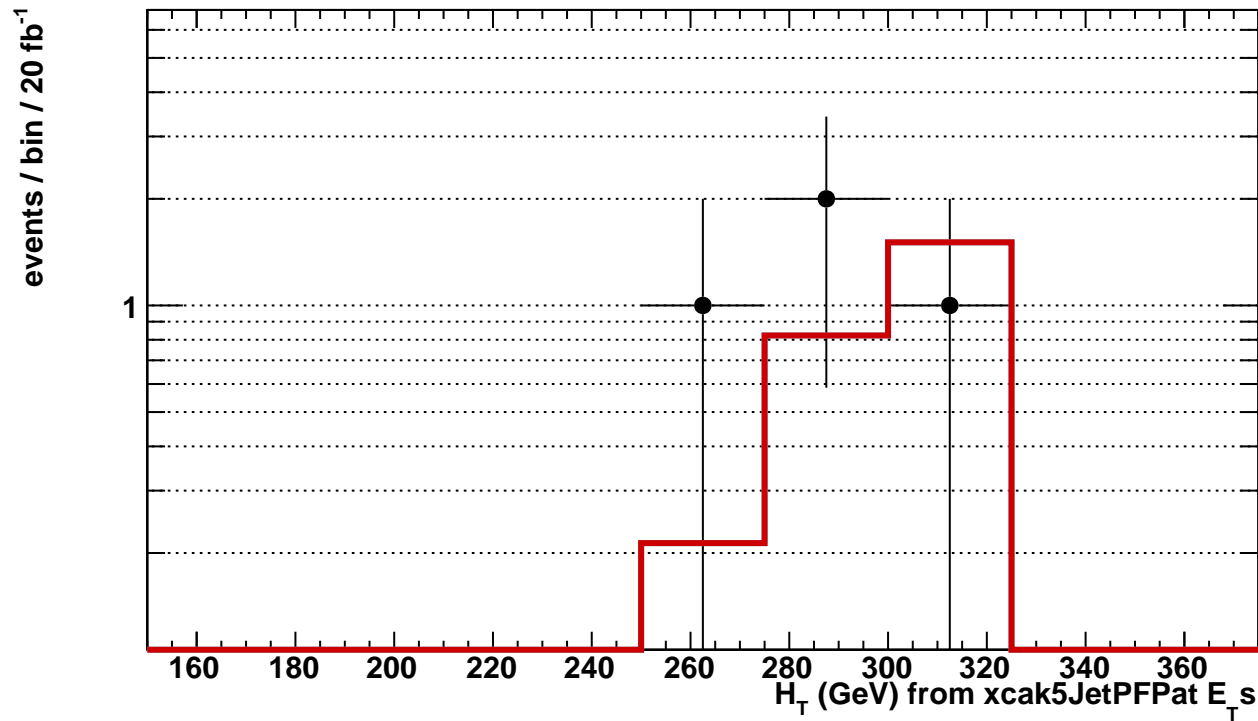


xcak5JetPFSumEtPat_ge4j_eq2b

Entries	1778
Mean	293.7
RMS	20.82
Underflow	0
Overflow	0
Integral	1778

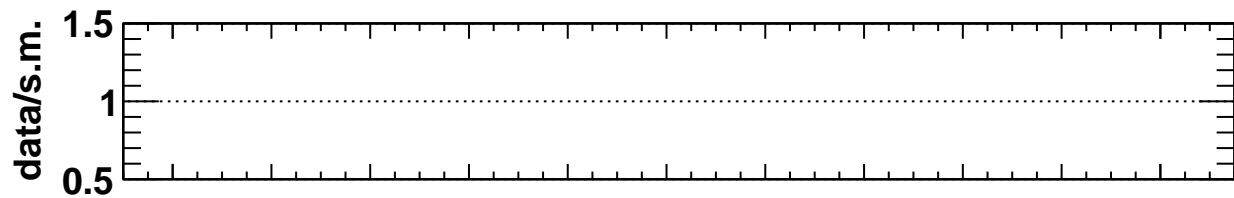
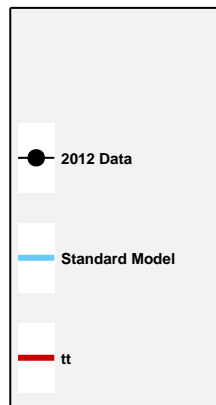


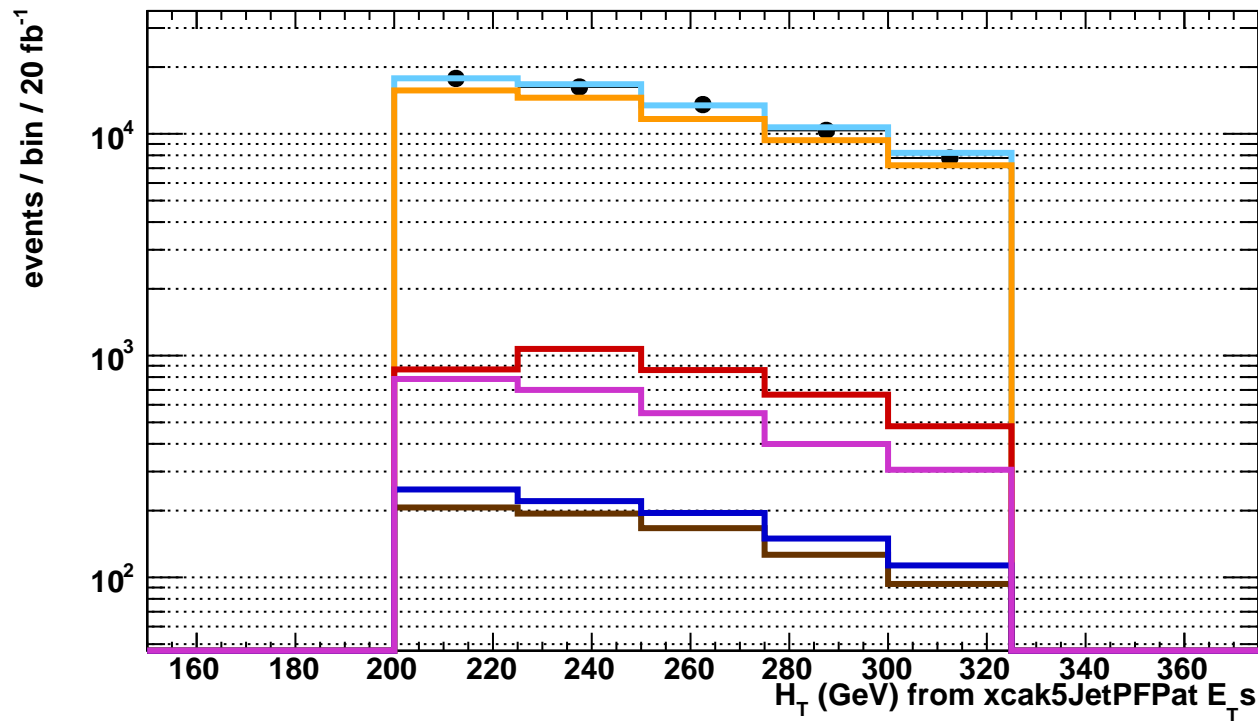




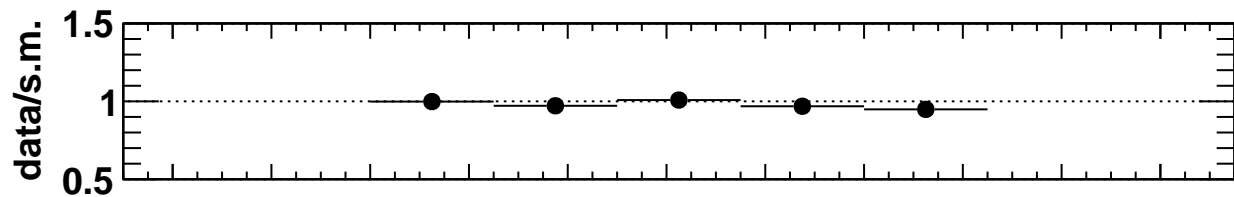
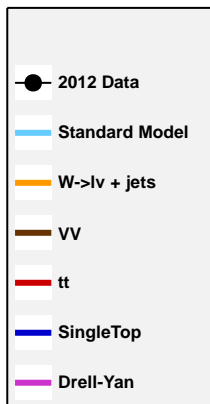
xcak5JetPFSumEtPat_ge4j_ge4b

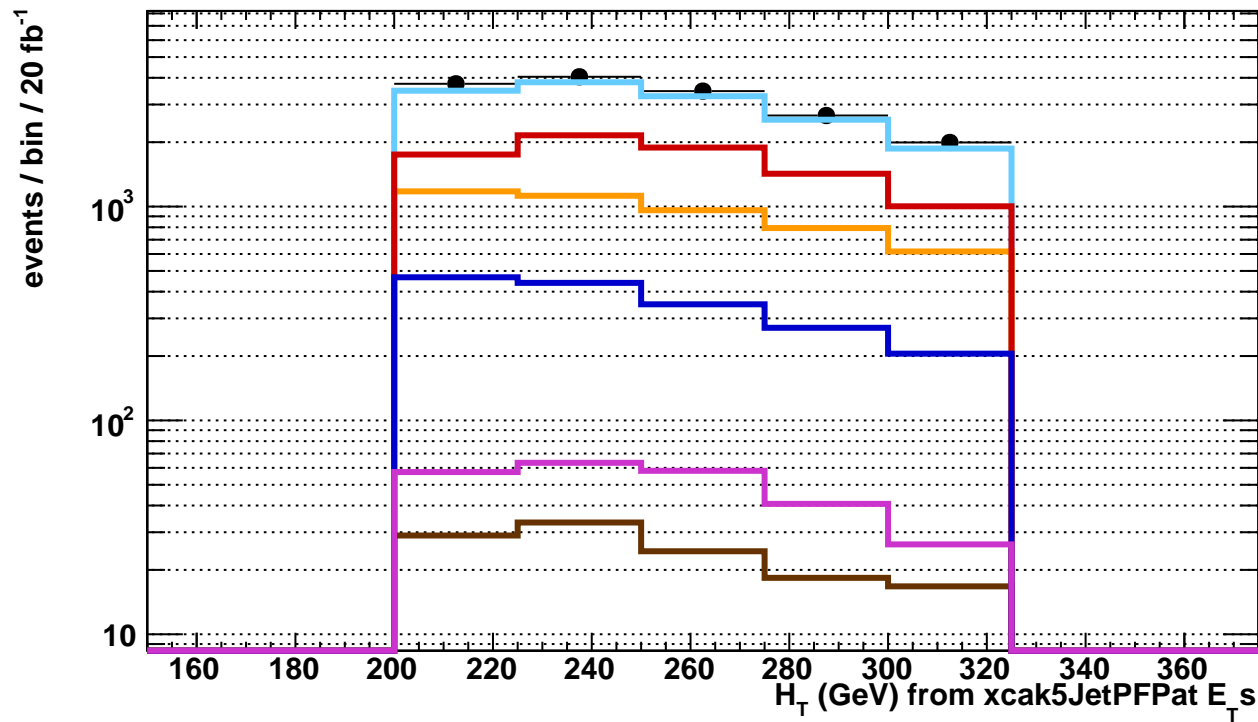
Entries	4
Mean	285.3
RMS	17.92
Underflow	0
Overflow	0
Integral	4



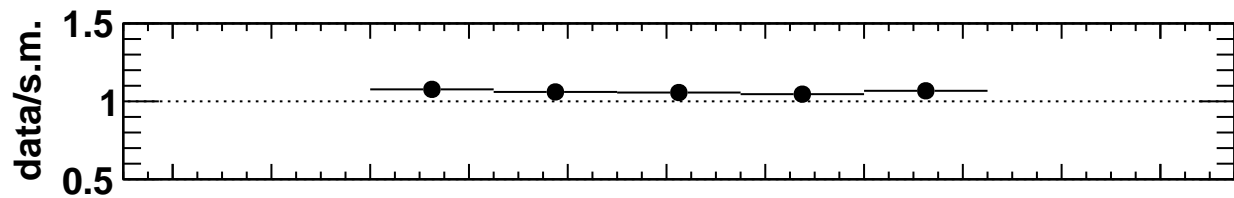
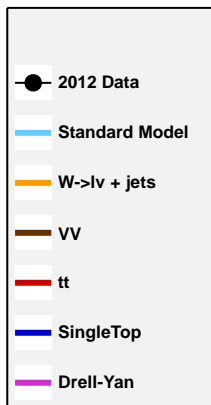


xcak5JetPFSumEtPat_le3j_eq0b	
Entries	65719
Mean	252.3
RMS	34.2
Underflow	0
Overflow	0
Integral	6.572e+04

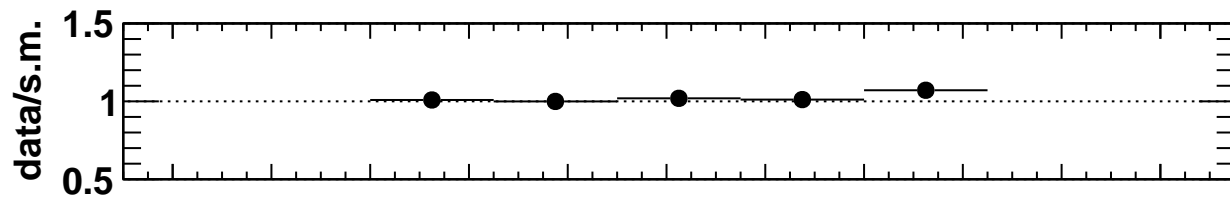
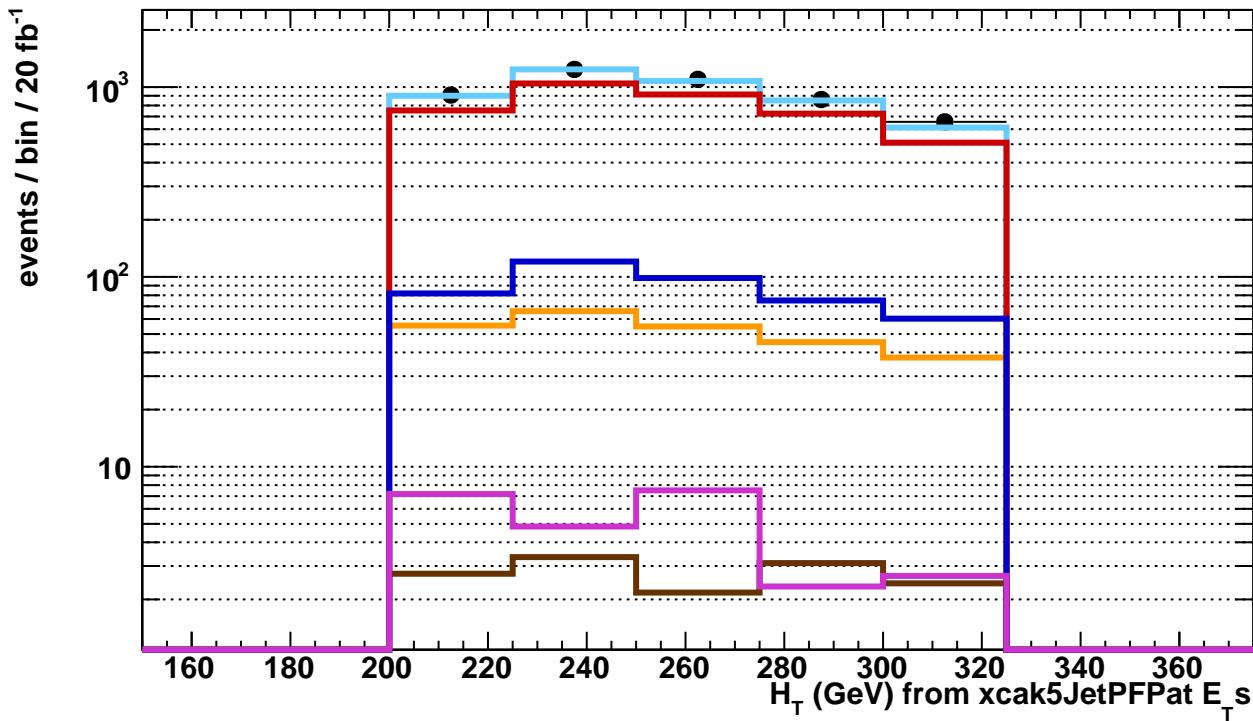


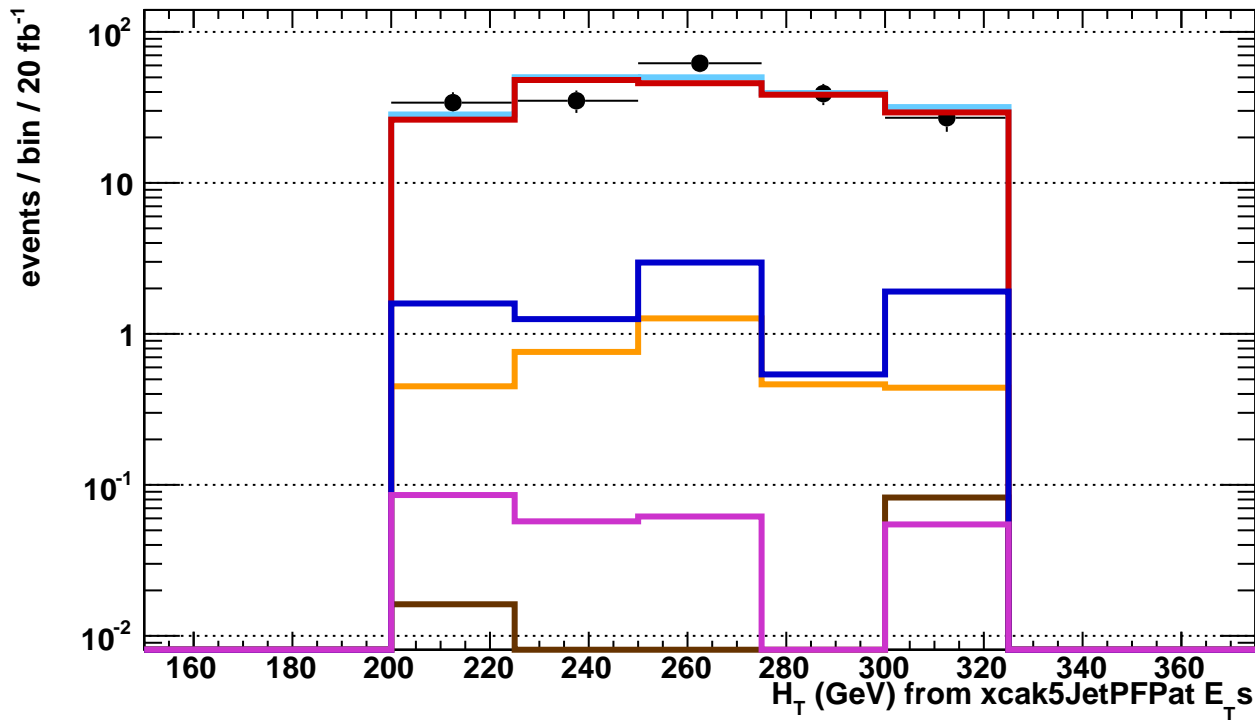


xcak5JetPFSumEtPat_le3_eq1b	
Entries	15919
Mean	254.6
RMS	33.66
Underflow	0
Overflow	0
Integral	1.592e+04

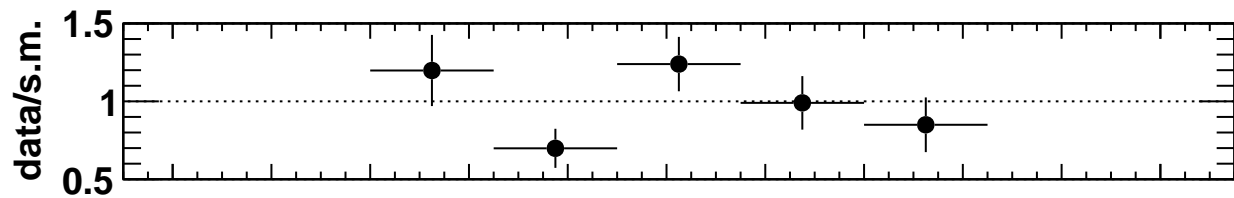
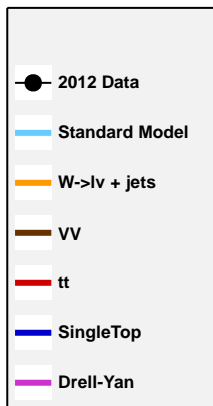


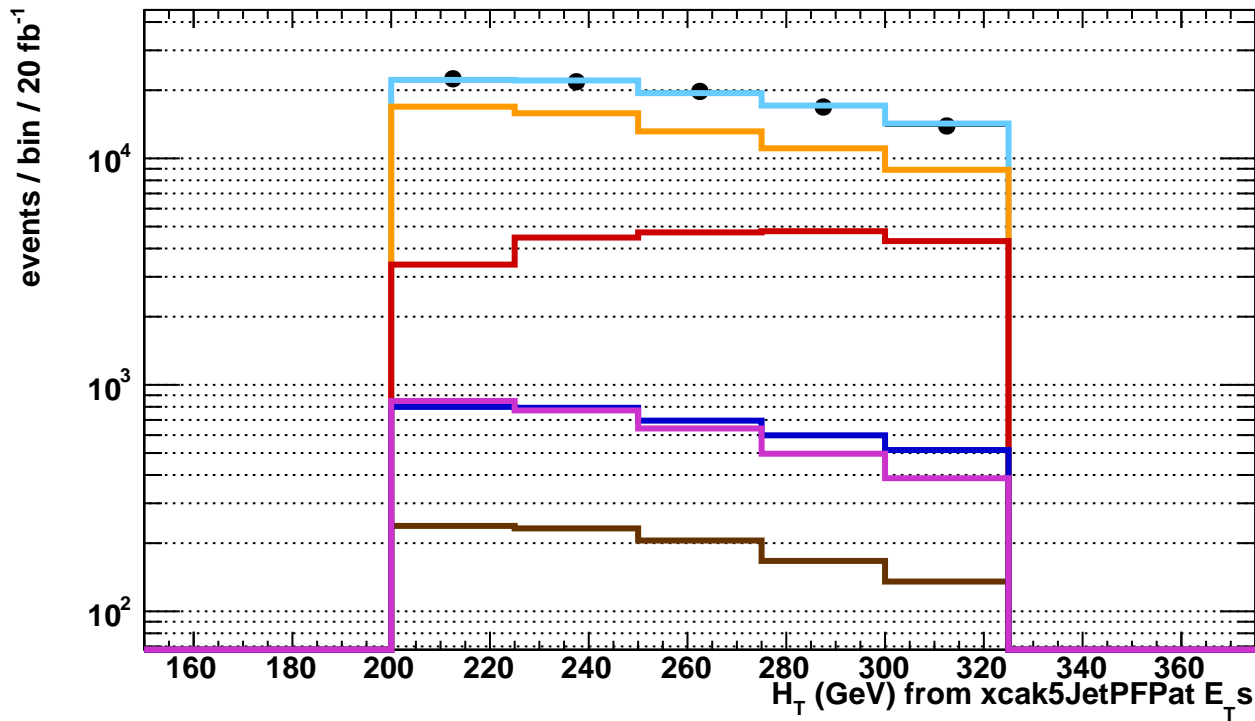
xcak5JetPFSumEtPat_le3j_eq2b	
Entries	4761
Mean	257.8
RMS	32.96
Underflow	0
Overflow	0
Integral	4761



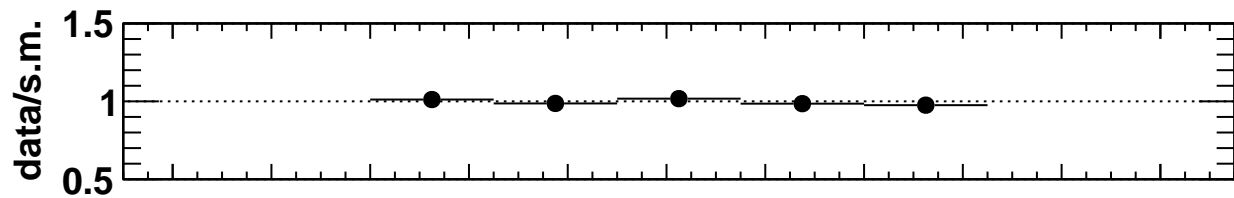
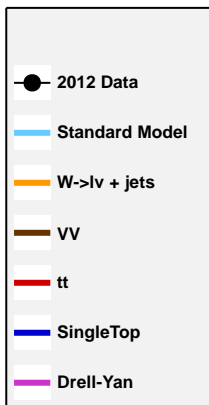


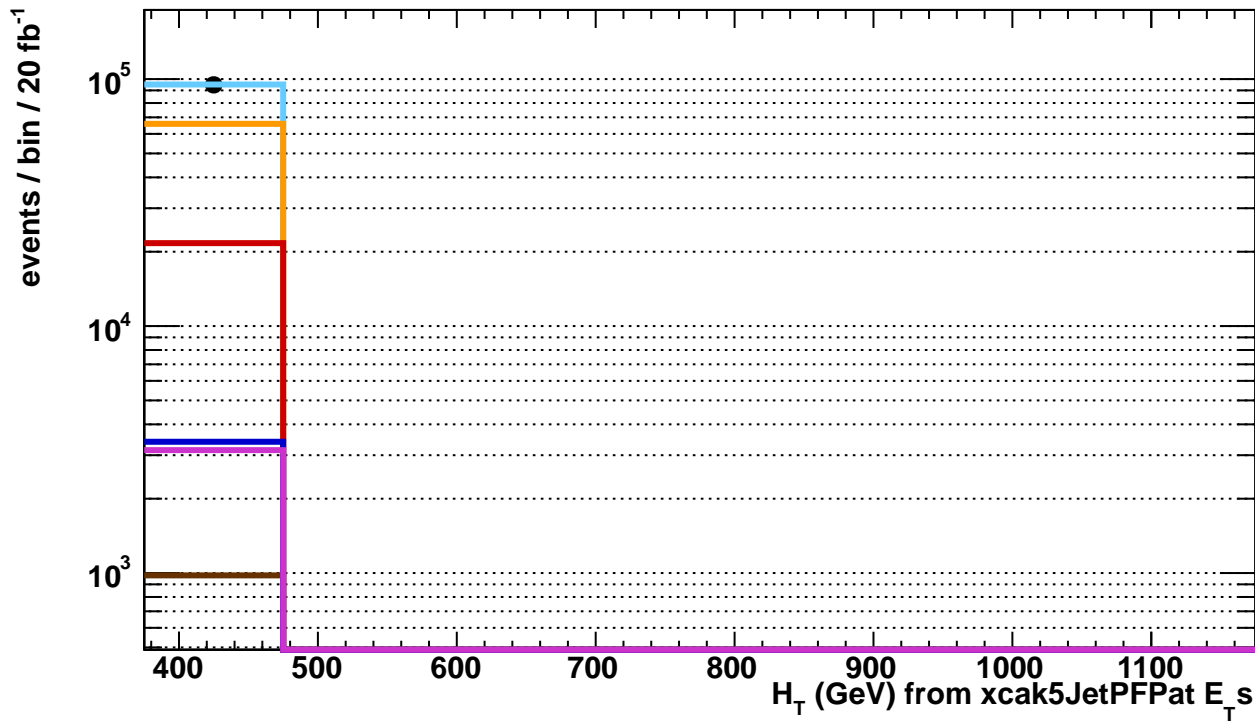
xcak5JetPFSumEtPat_le3_eq3b	
Entries	197
Mean	261.4
RMS	30.75
Underflow	0
Overflow	0
Integral	197



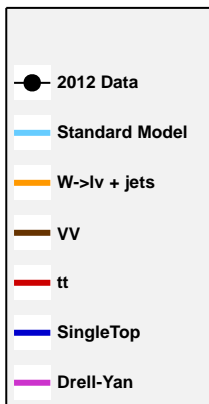


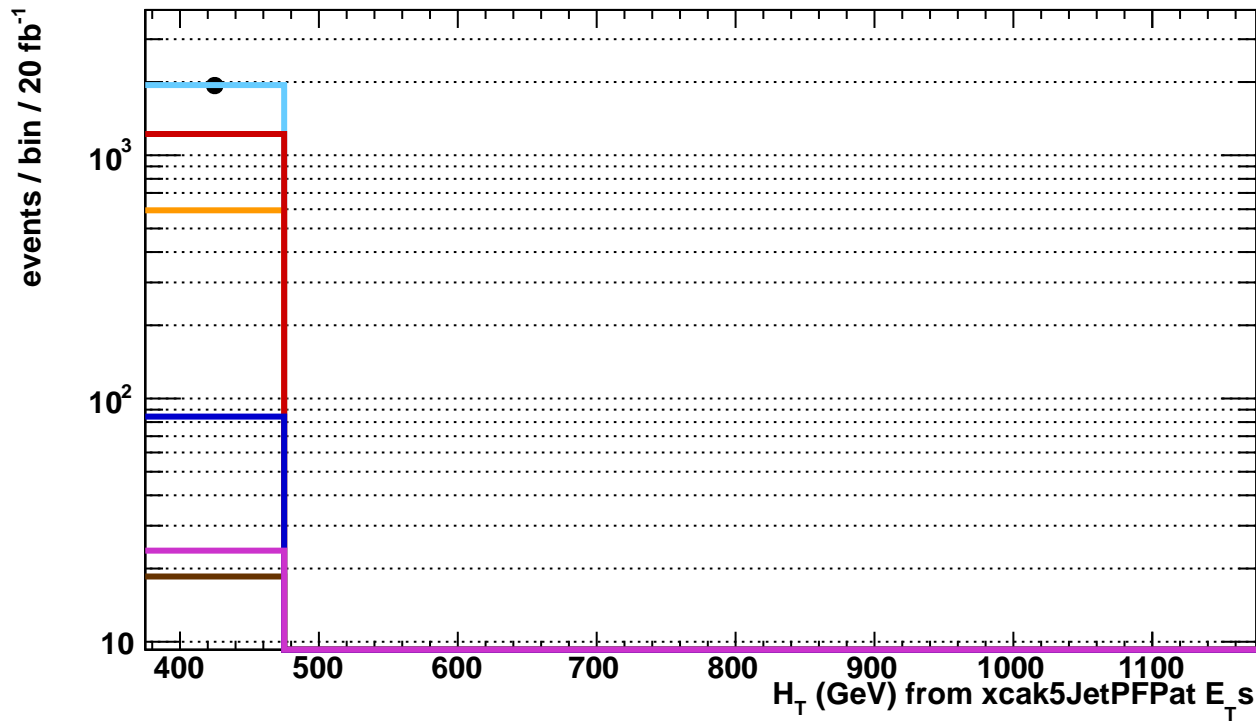
xcak5JetPFSumEtPat	
Entries	94768
Mean	256.5
RMS	34.97
Underflow	0
Overflow	0
Integral	9.477e+04



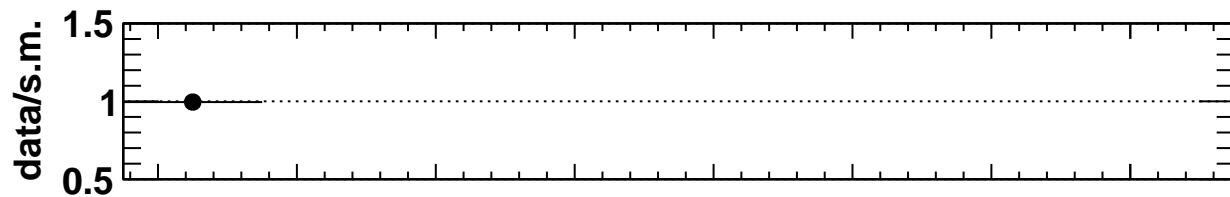
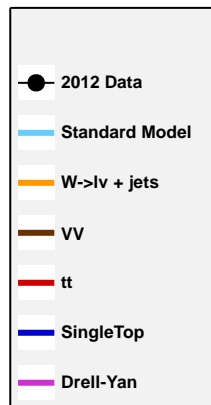


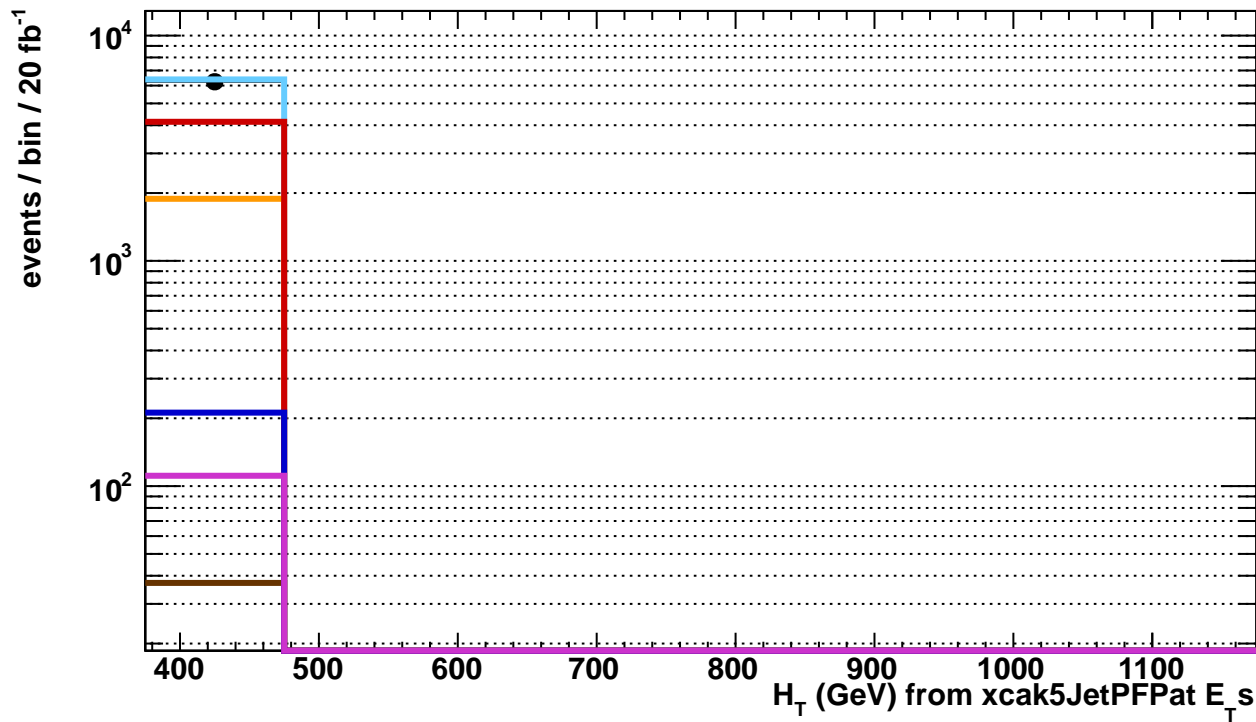
xcak5JetPFSumEtPat	
Entries	94768
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	9.477e+04



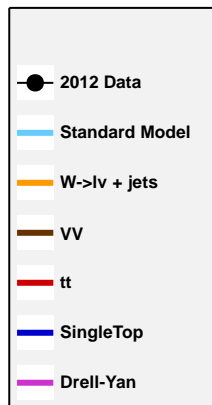


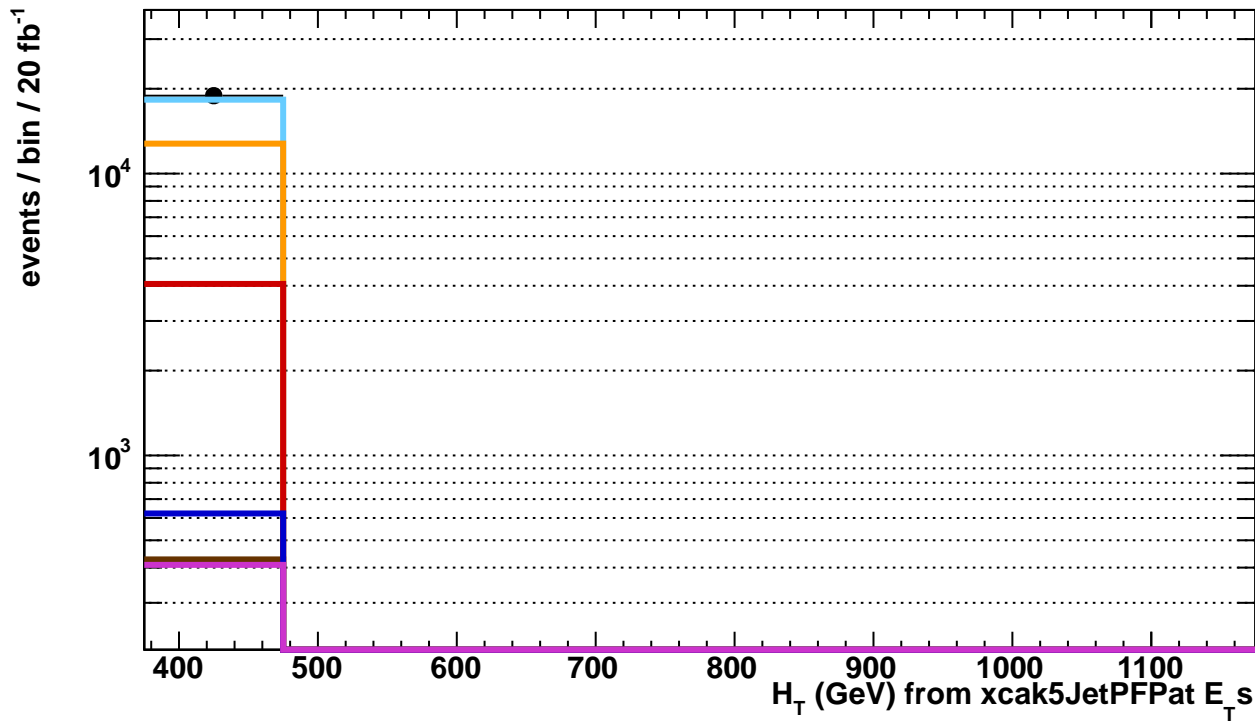
xcak5JetPFSumEtPat_ge4J_aTge55	
Entries	1934
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1934



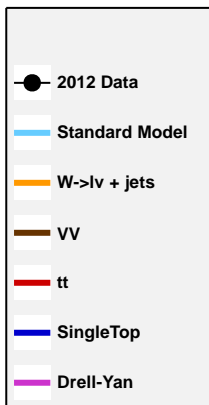


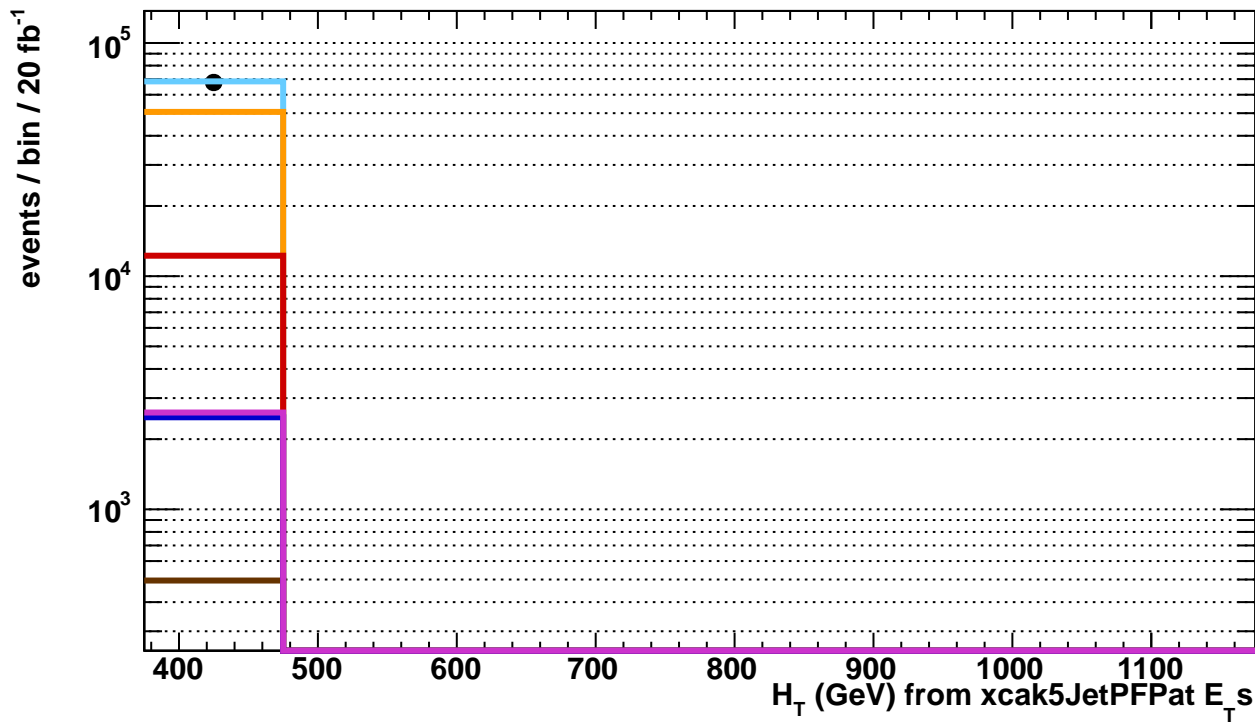
xcak5JetPFSumEtPat_ge4j_aTl55	
Entries	6238
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6238



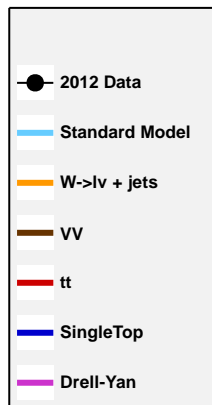


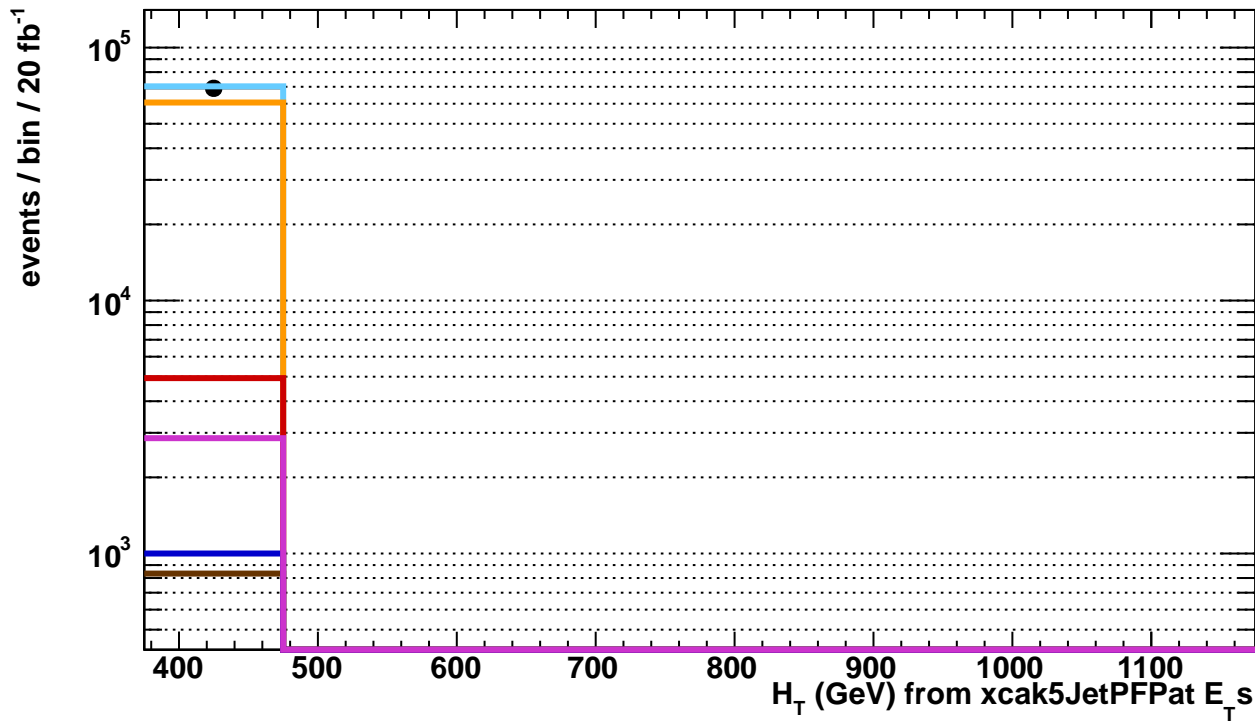
xcak5JetPFSumEtPat_le3j_aTge55	
Entries	18895
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.89e+04



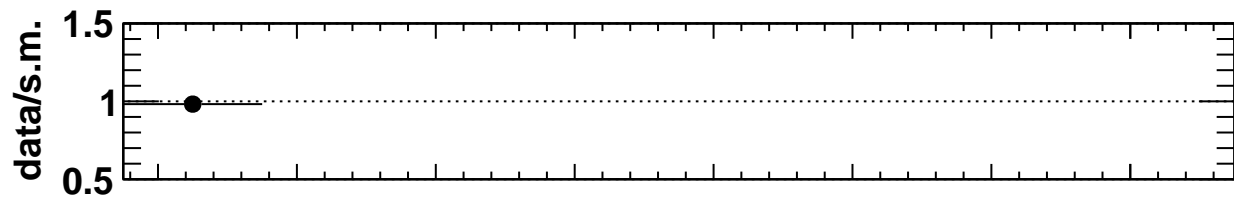
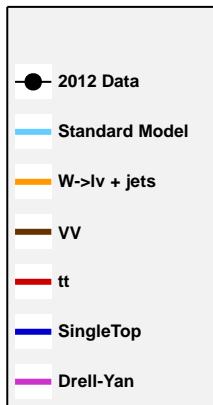


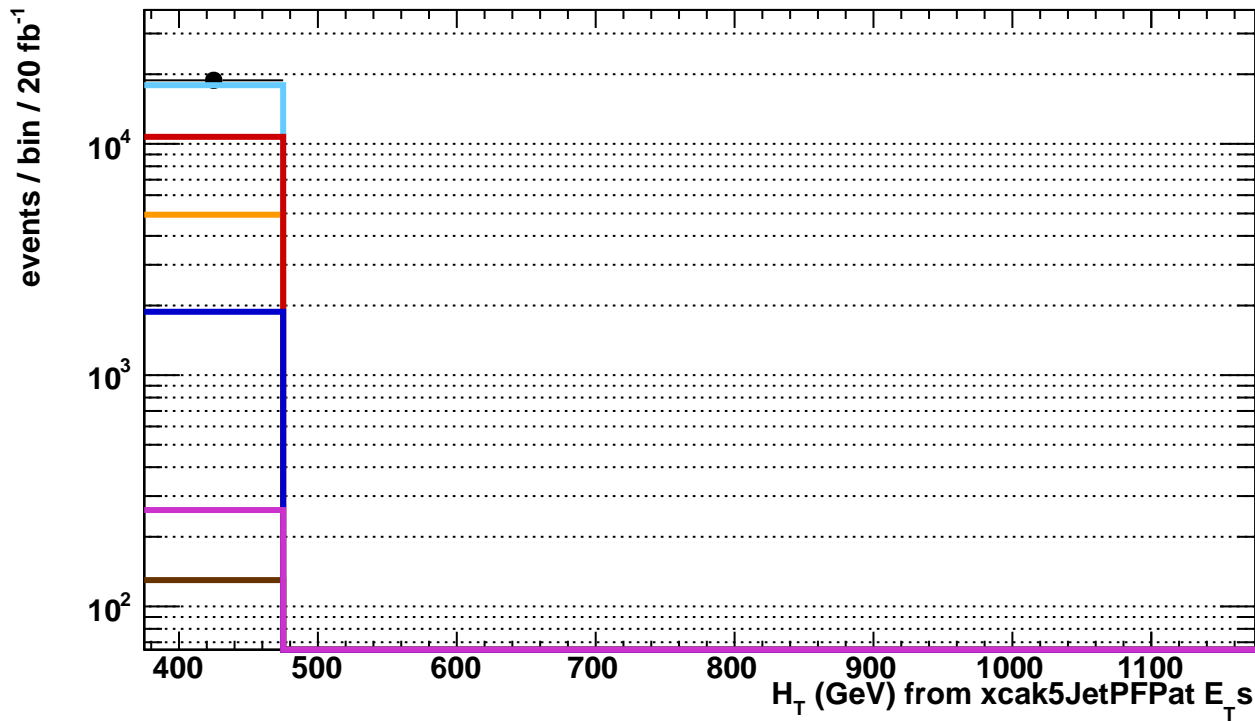
xcak5JetPFSumEtPat_le3j_aTl55	
Entries	67701
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.77e+04



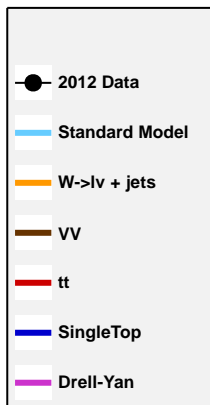


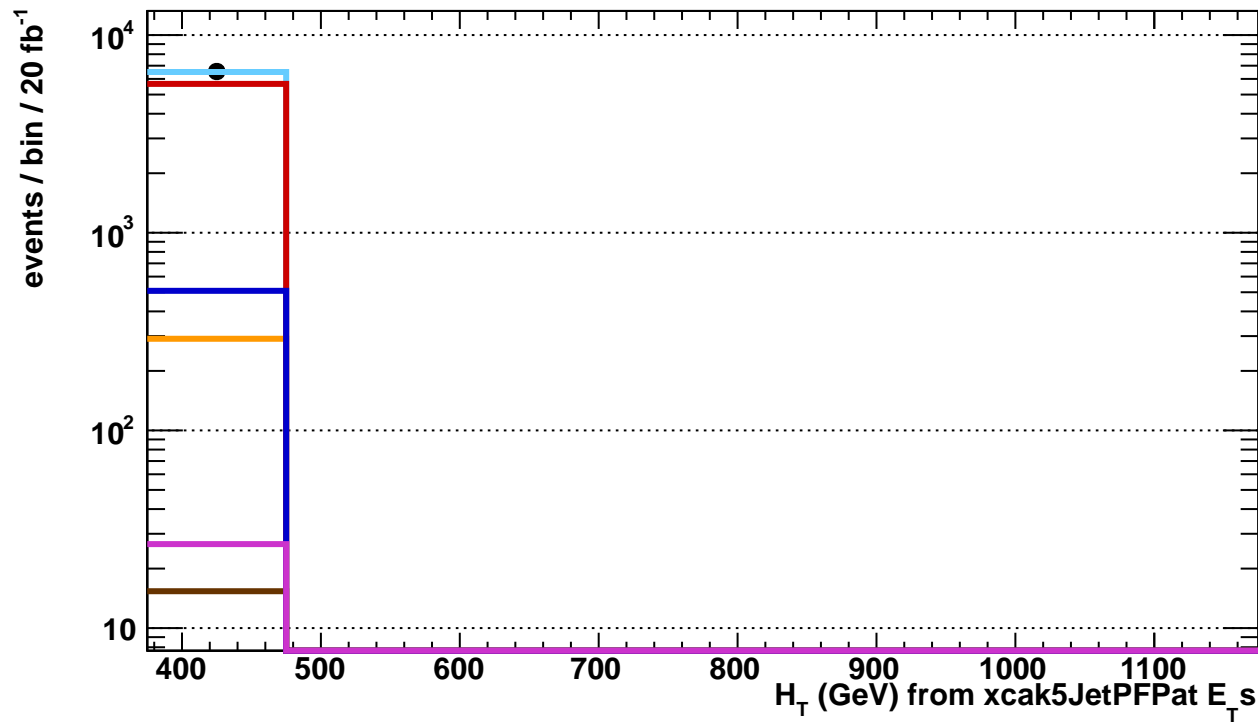
xcak5JetPFSumETPat_eq0b	
Entries	69027
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.903e+04



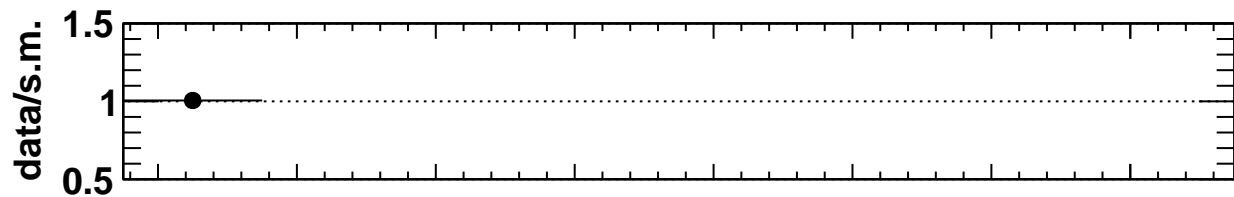
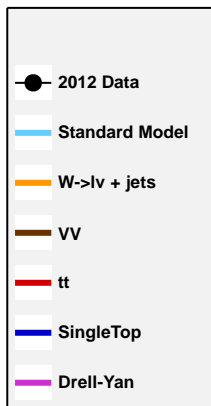


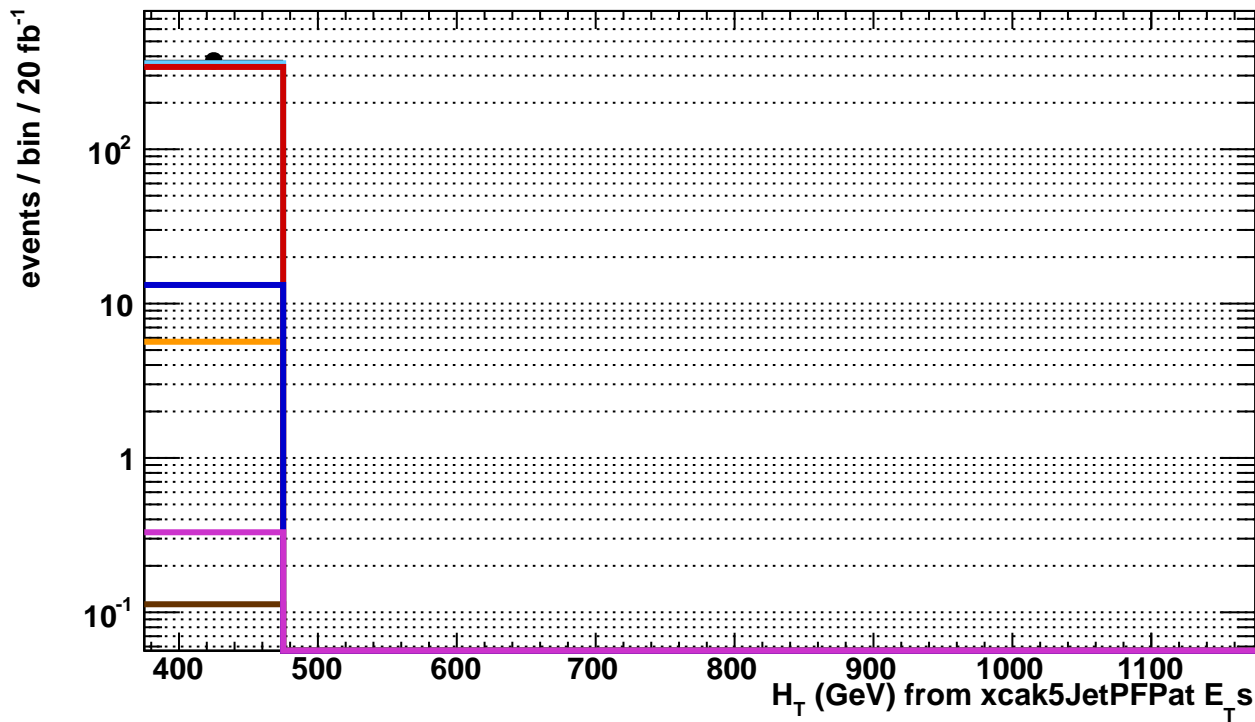
xcak5JetPFSumETPat_eq1b	
Entries	18824
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.882e+04



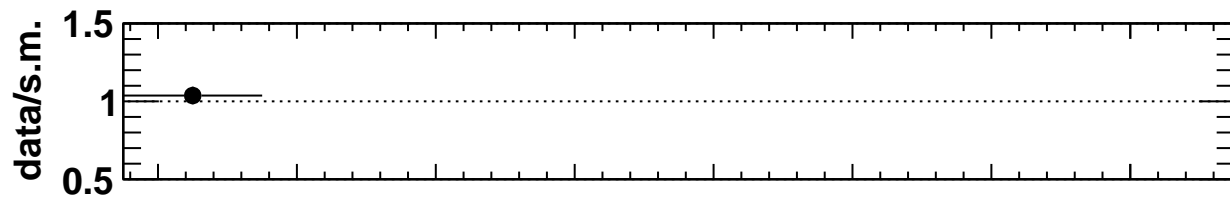
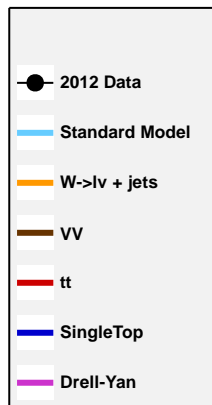


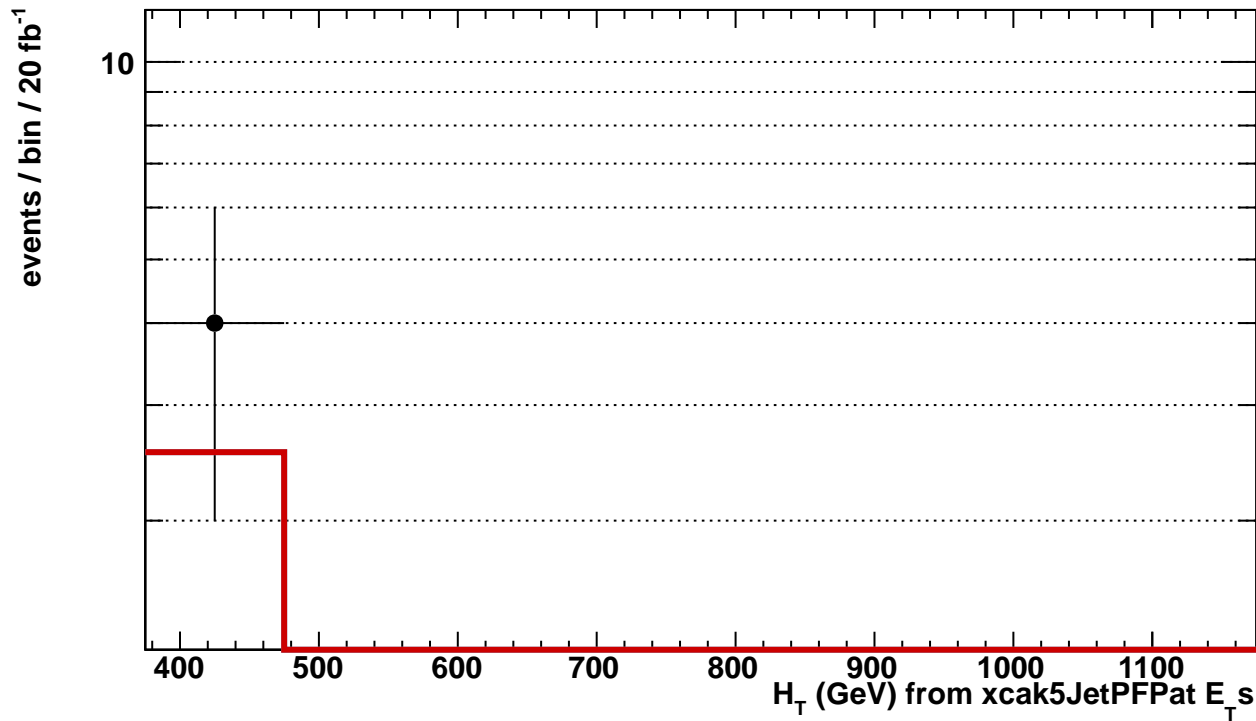
xcak5JetPFSumEIPat_eq2b	
Entries	6539
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6539



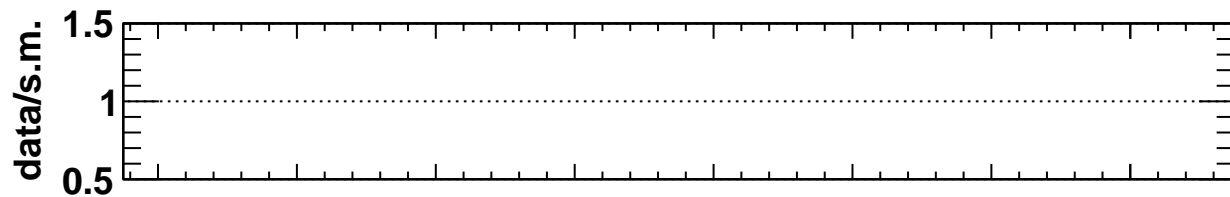
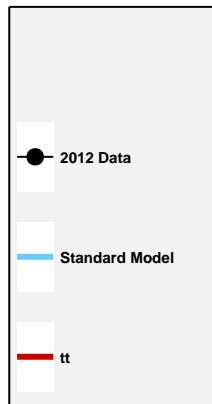


xcak5JetPFSumETPat_eq3b	
Entries	374
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	374



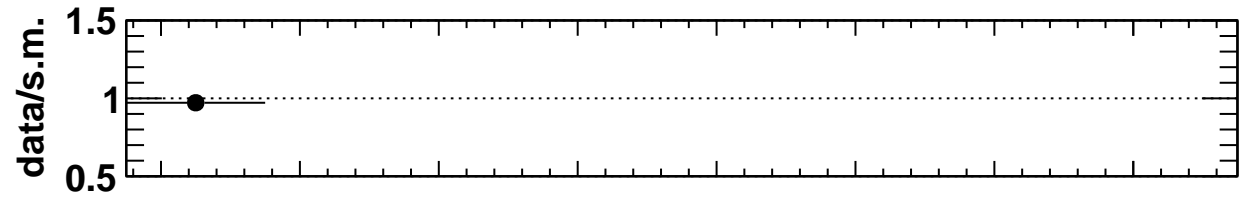
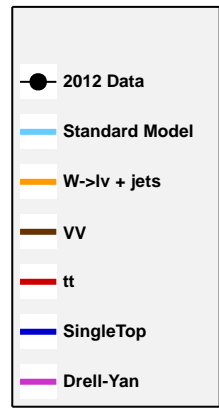
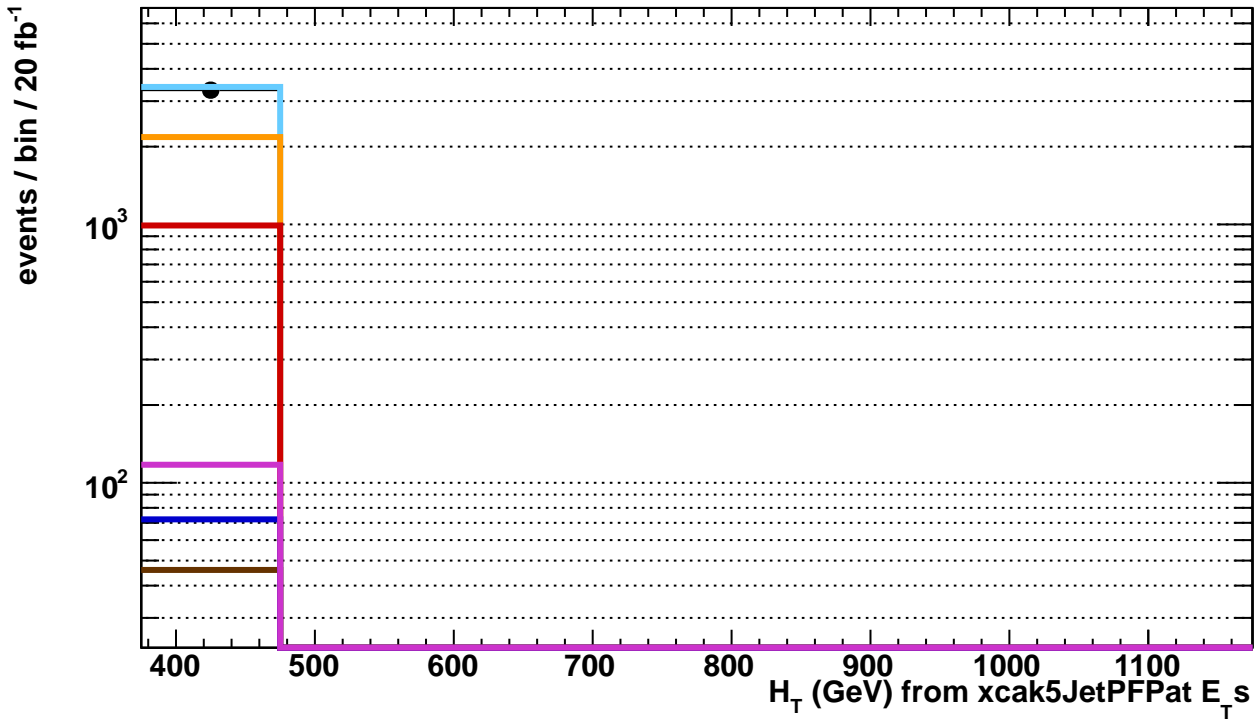


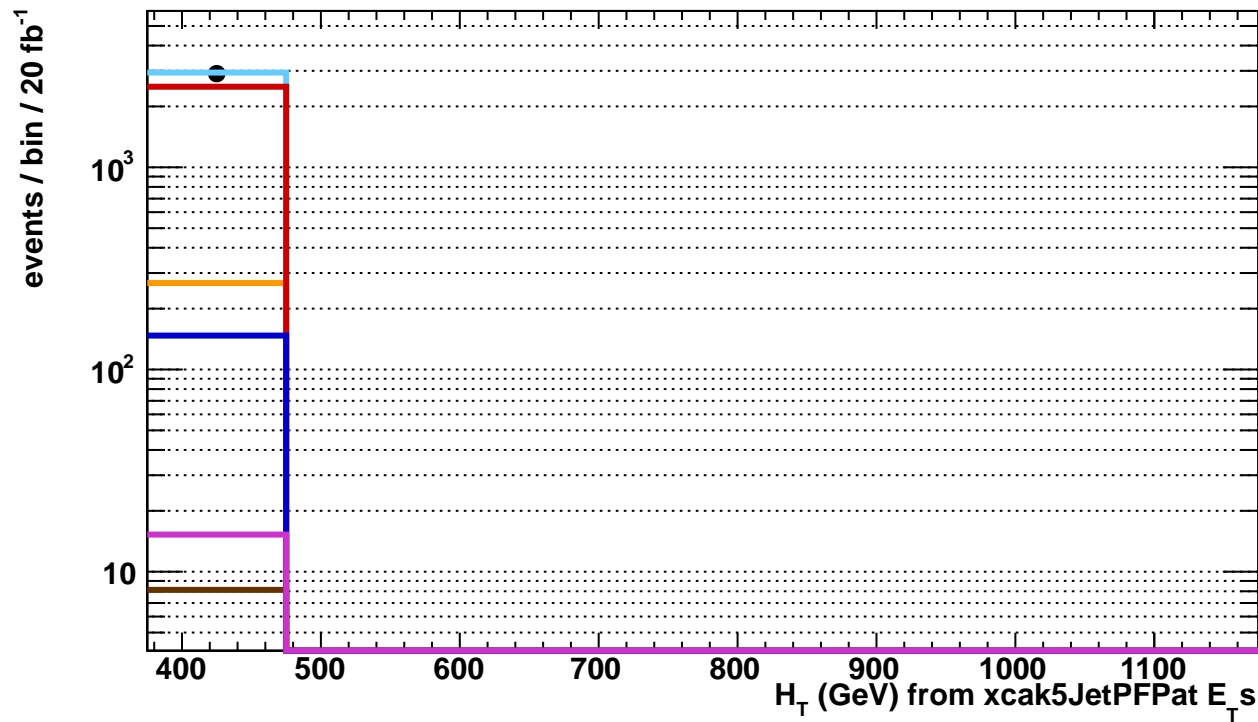
xcak5JetPFSumEtPat_ge4b	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4



xcak5JetPFSumEtPat_ge4j_eq0b

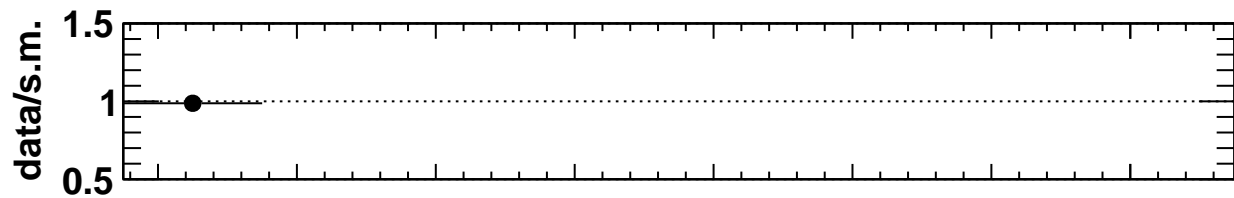
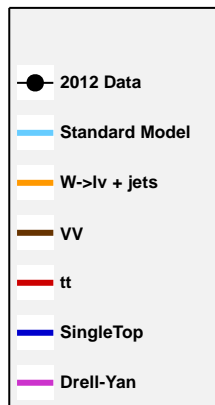
Entries	3308
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3308



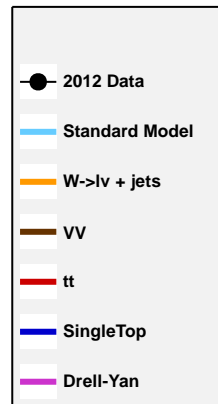
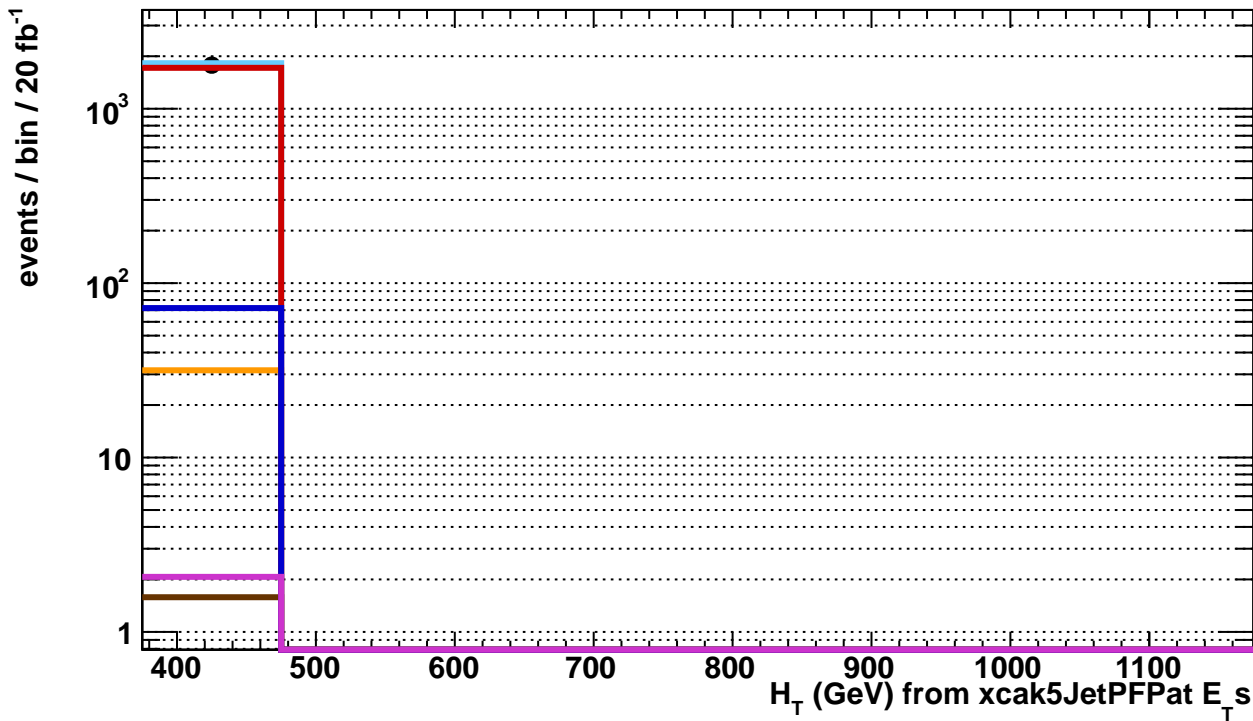


xcak5JetPFSumEtPat_ge4j_eq1b

Entries	2905
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2905

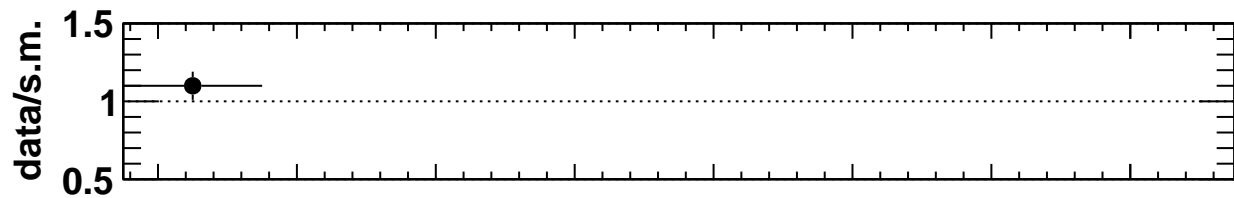
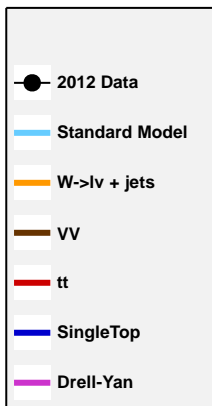
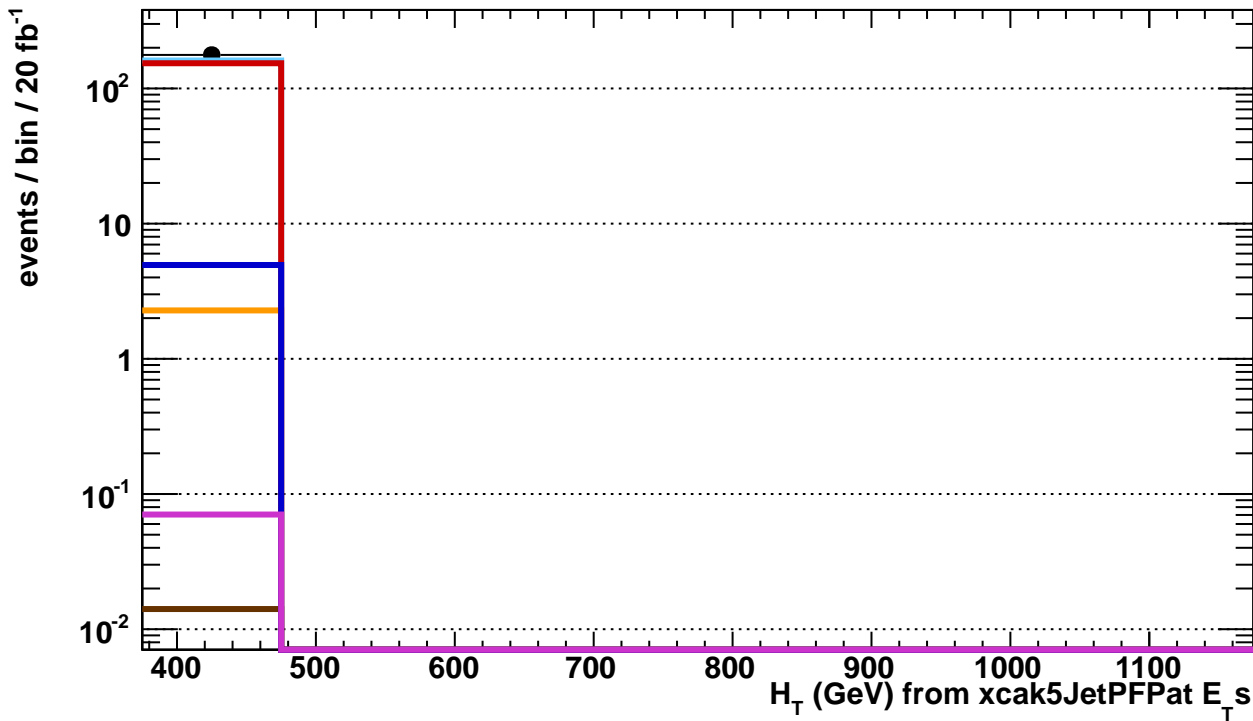


xcak5JetPFSumEtPat_ge4j_eq2b	
Entries	1778
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1778

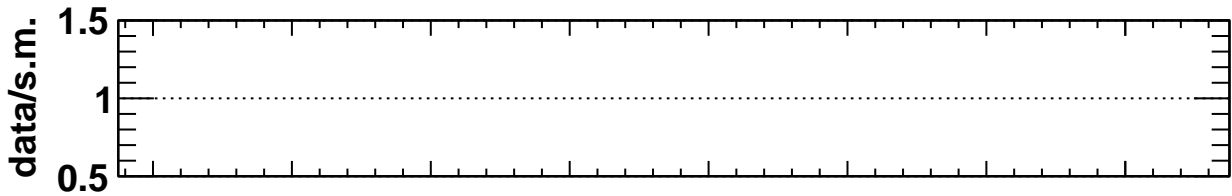
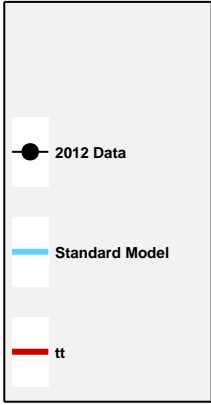
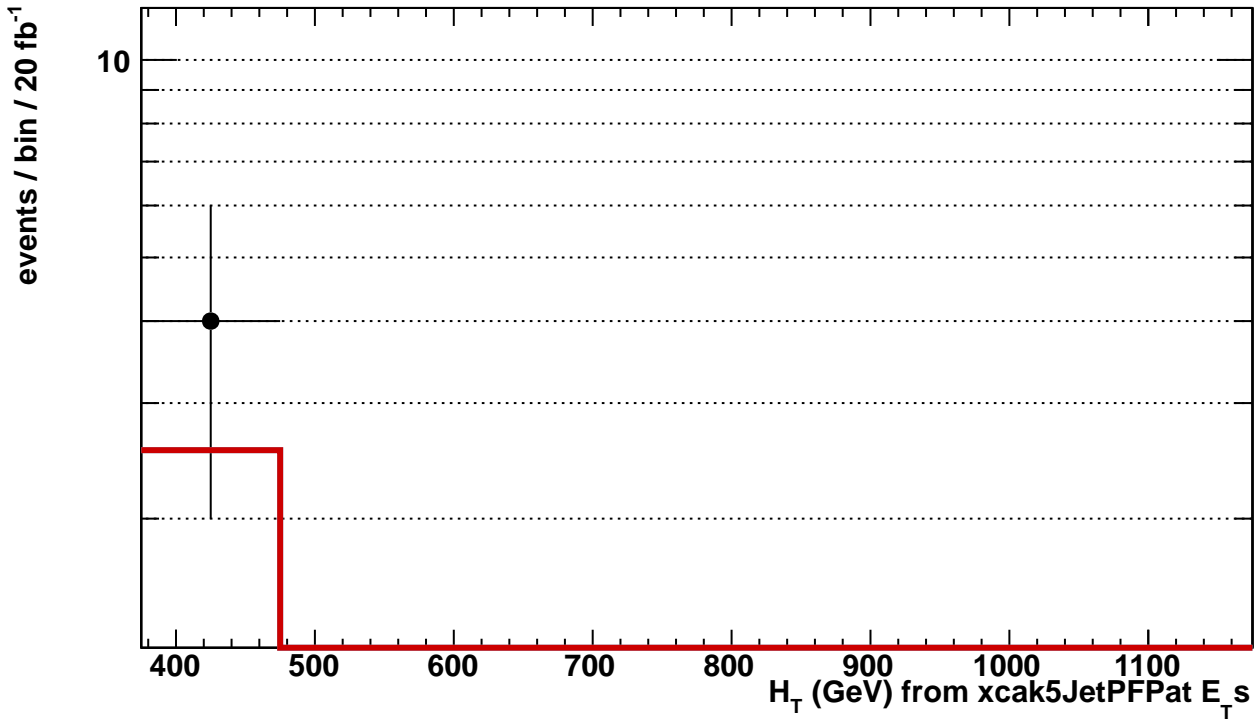


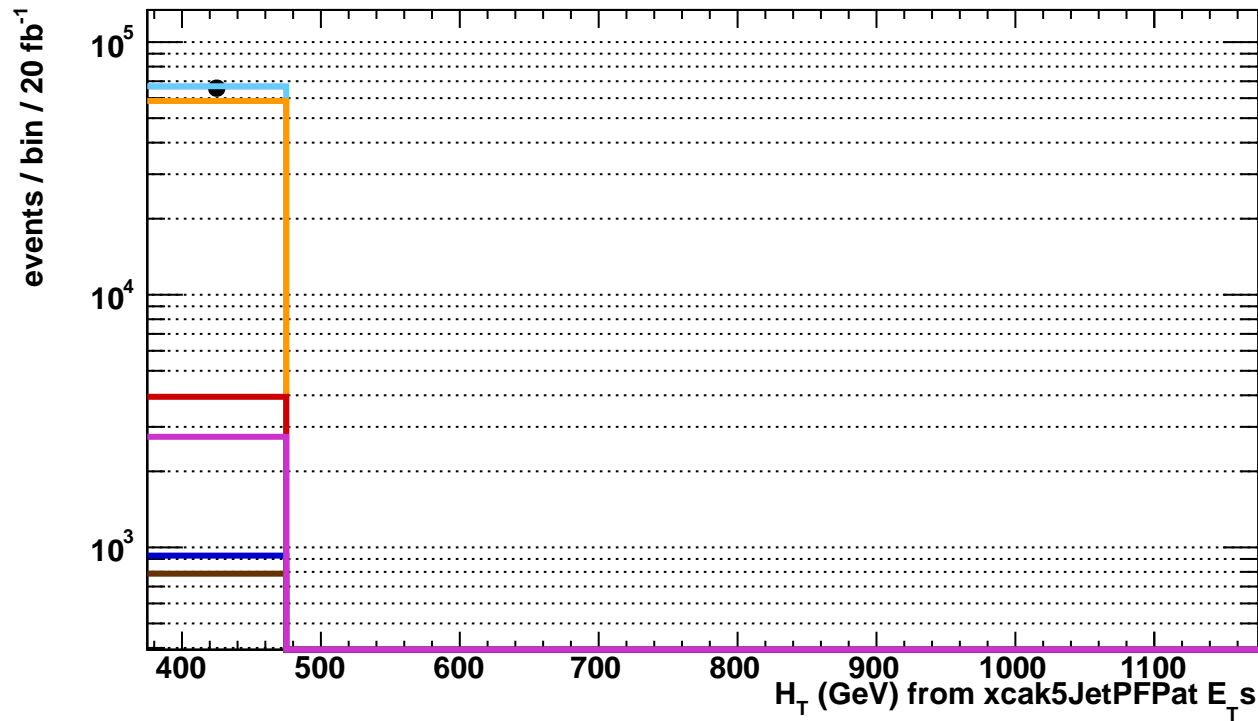
xcak5JetPFSumEtPat_ge4j_eq3b

Entries	177
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	177

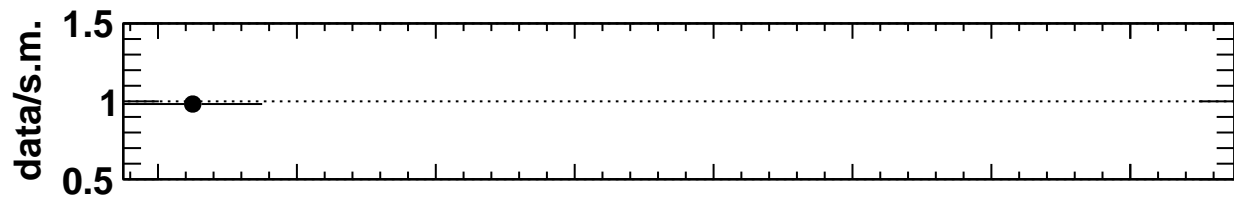
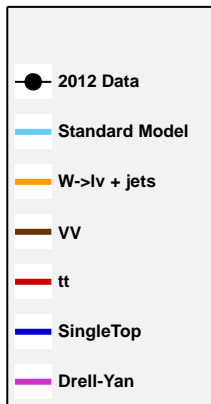


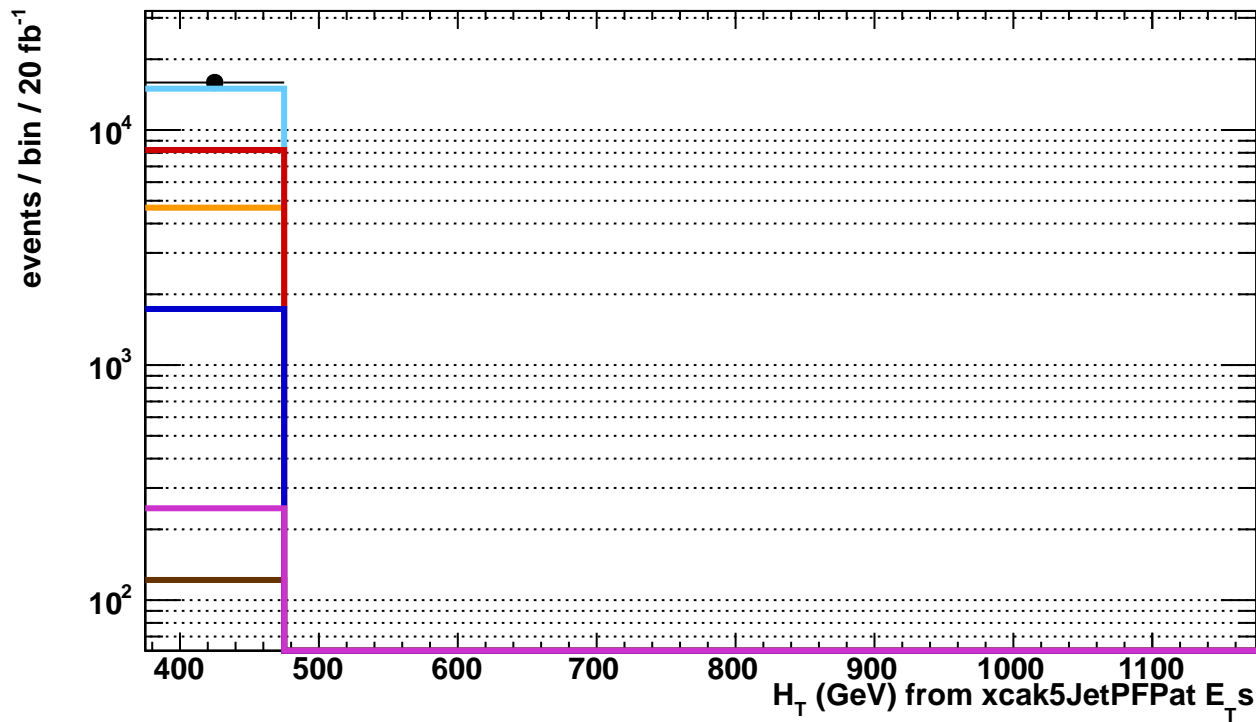
xcak5JetPFSumEtPat_ge4j_ge4b	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4



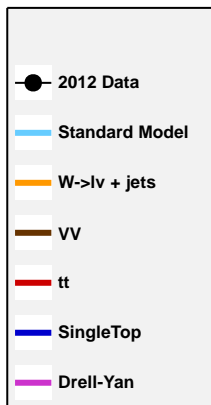


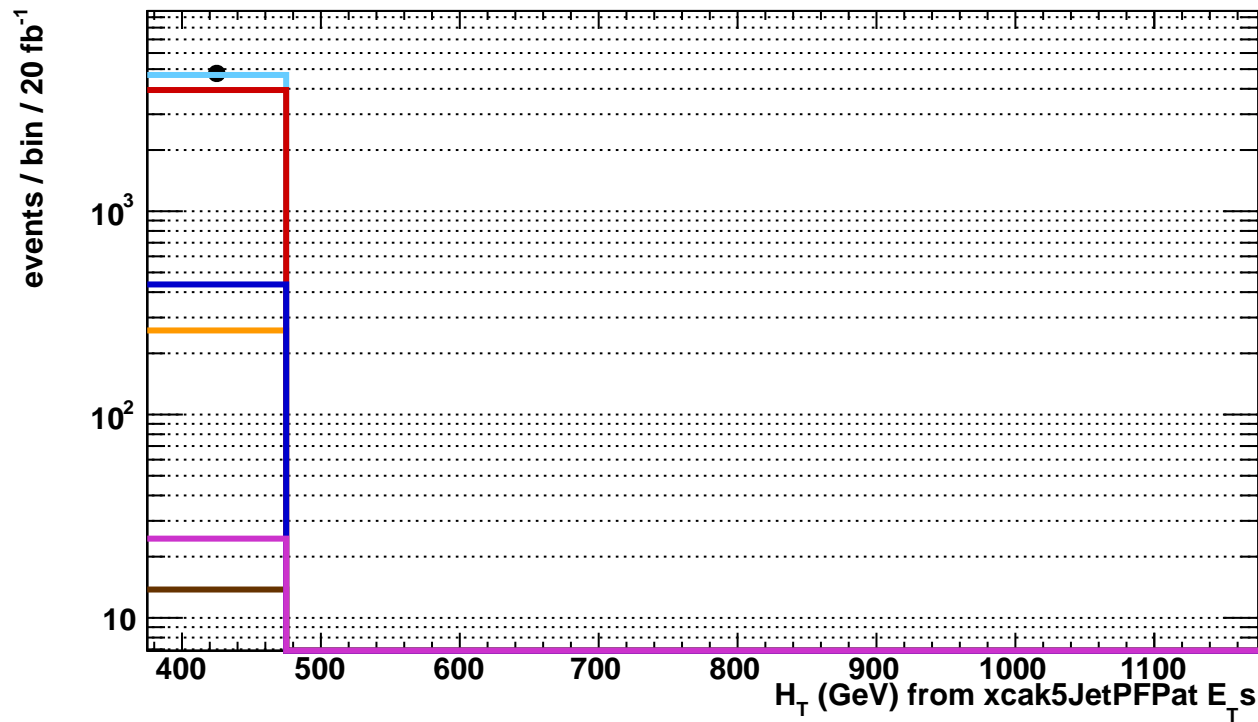
xcak5JetPFSumEtPat_le3_eq0b	
Entries	65719
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.572e+04



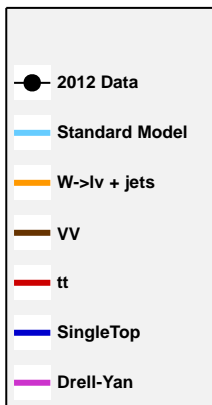


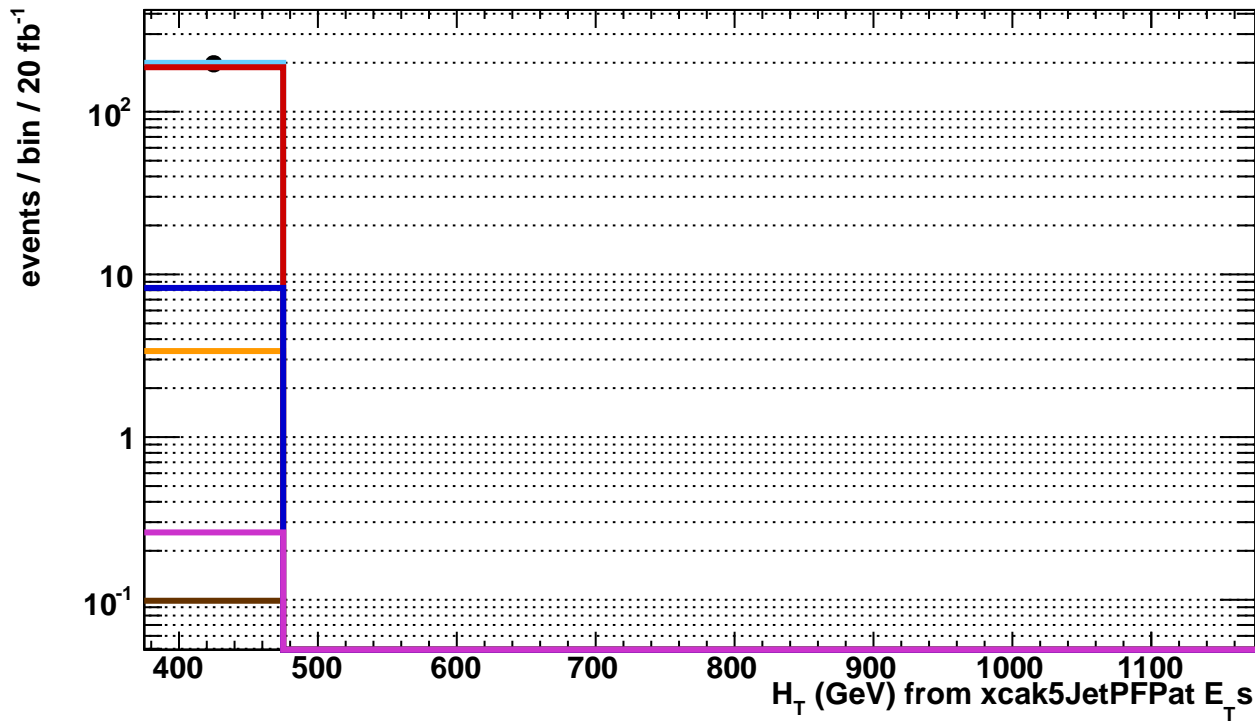
xcak5JetPFSumEtPat_le3_eq1b	
Entries	15919
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.592e+04



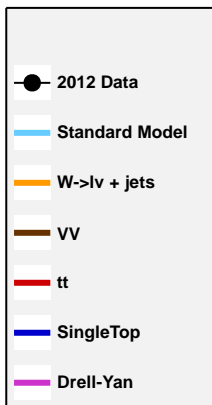


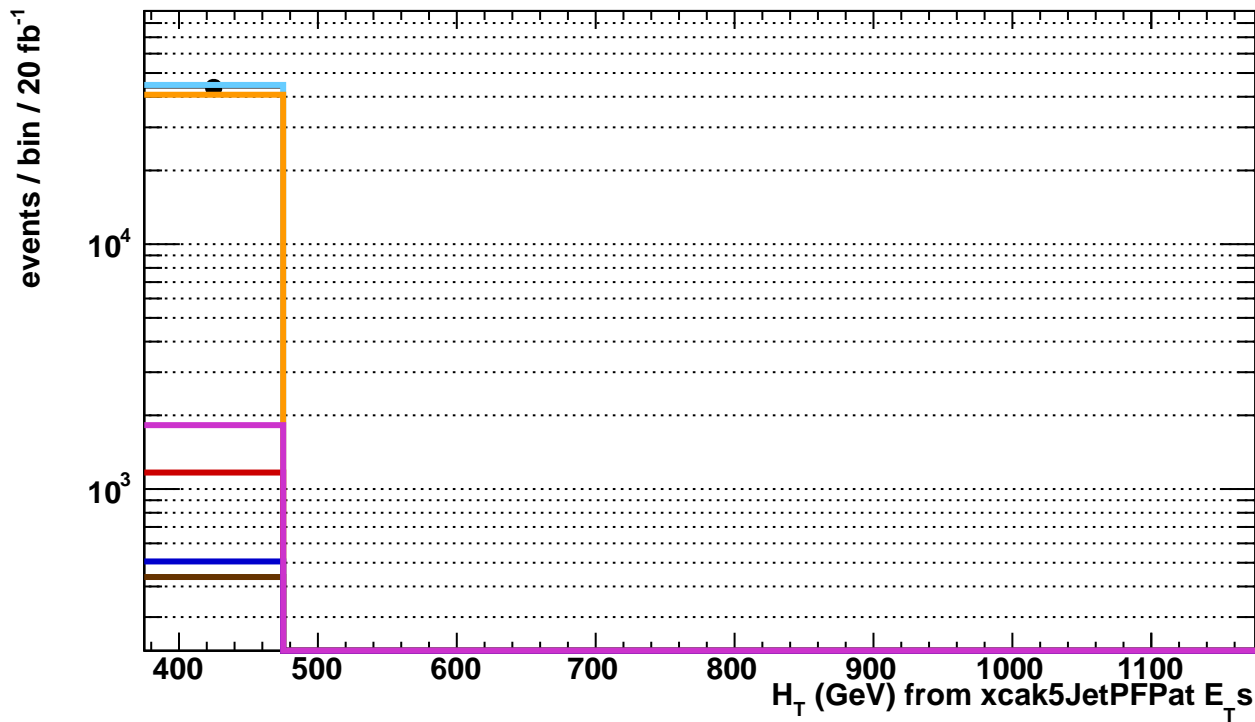
xcak5JetPFSumEtPat_le3j_eq2b	
Entries	4761
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4761



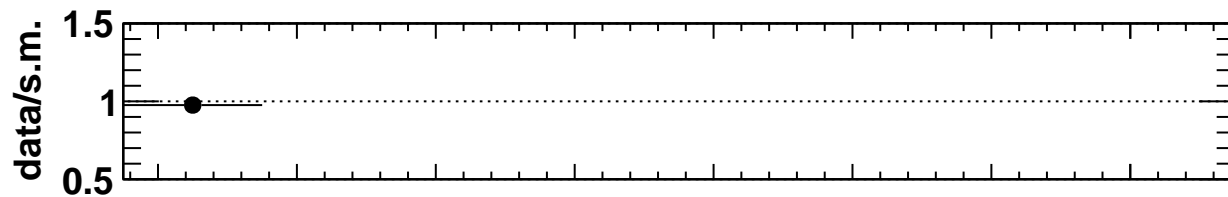
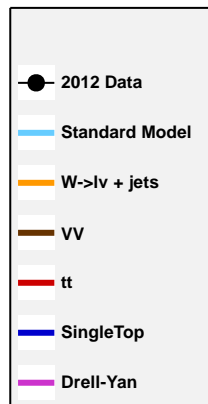


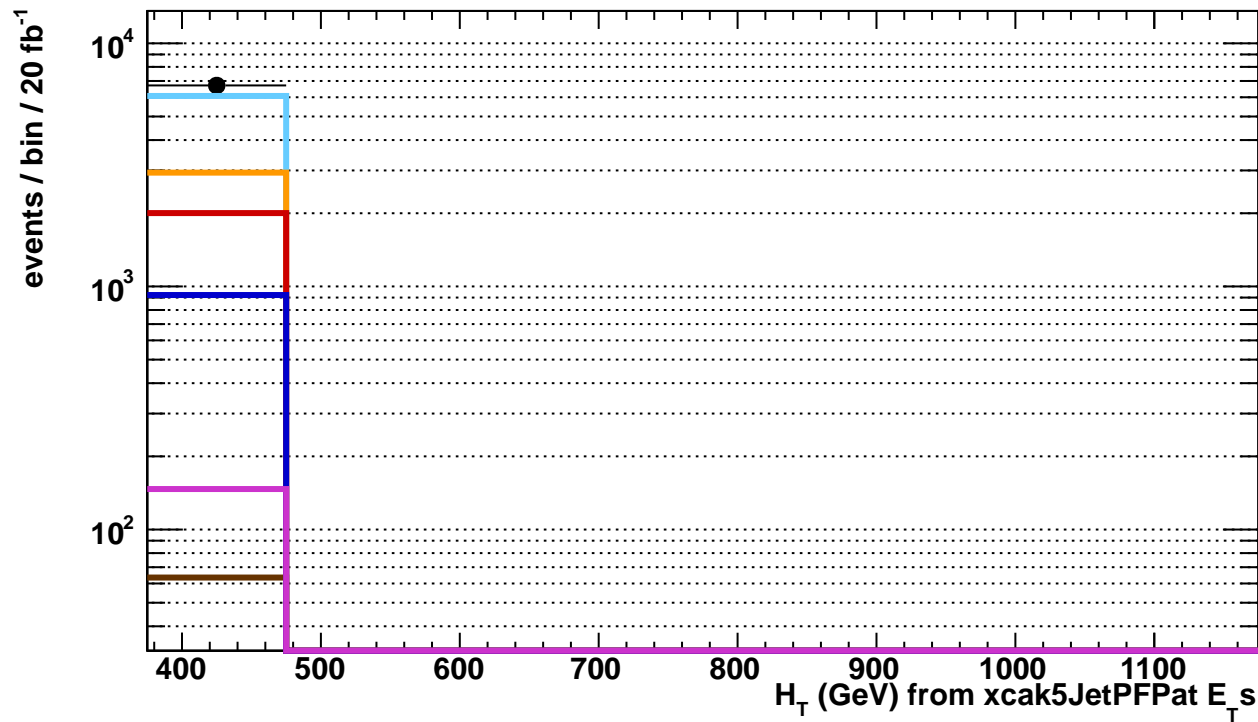
xcak5JetPFSumEtPat_le3j_eq3b	
Entries	197
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	197



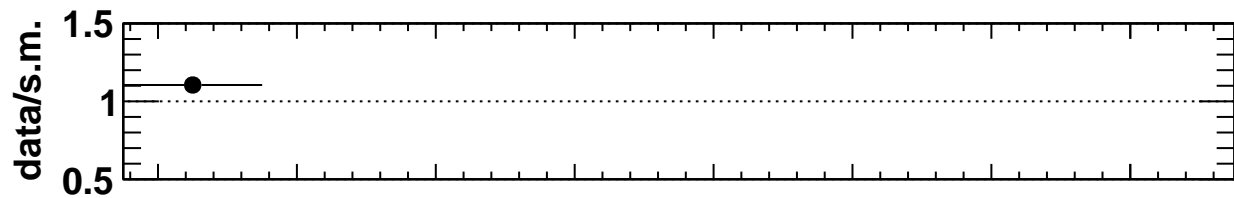
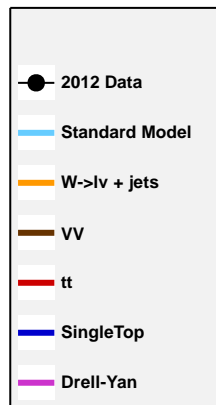


xcak5JetPFSumEtPat_eq2j_eq0b	
Entries	43624
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4.362e+04



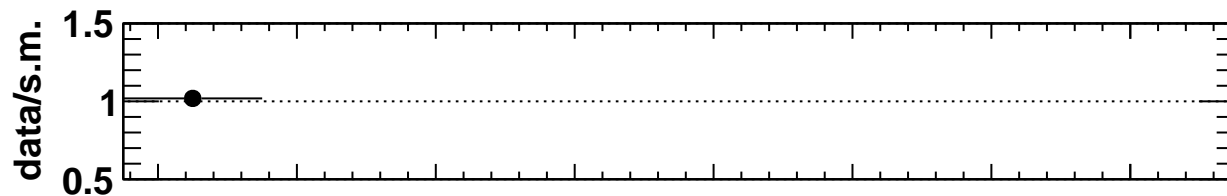
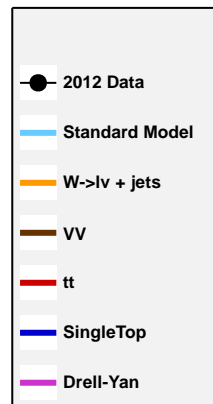
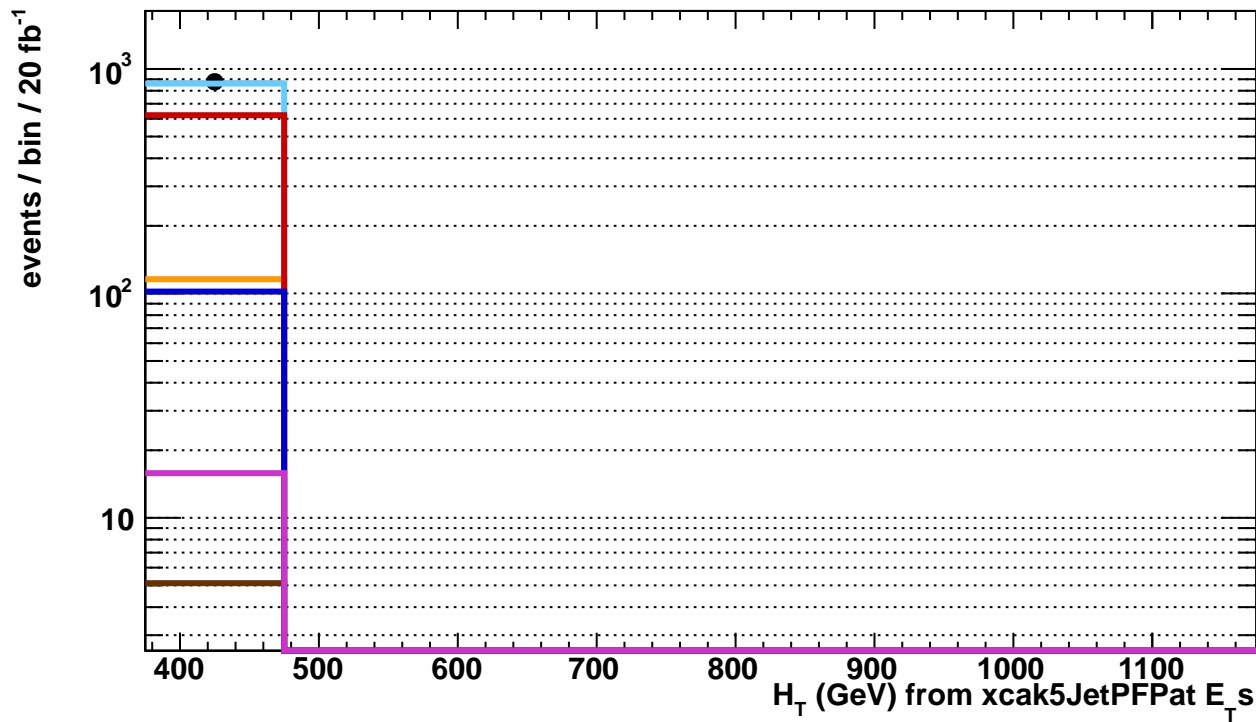


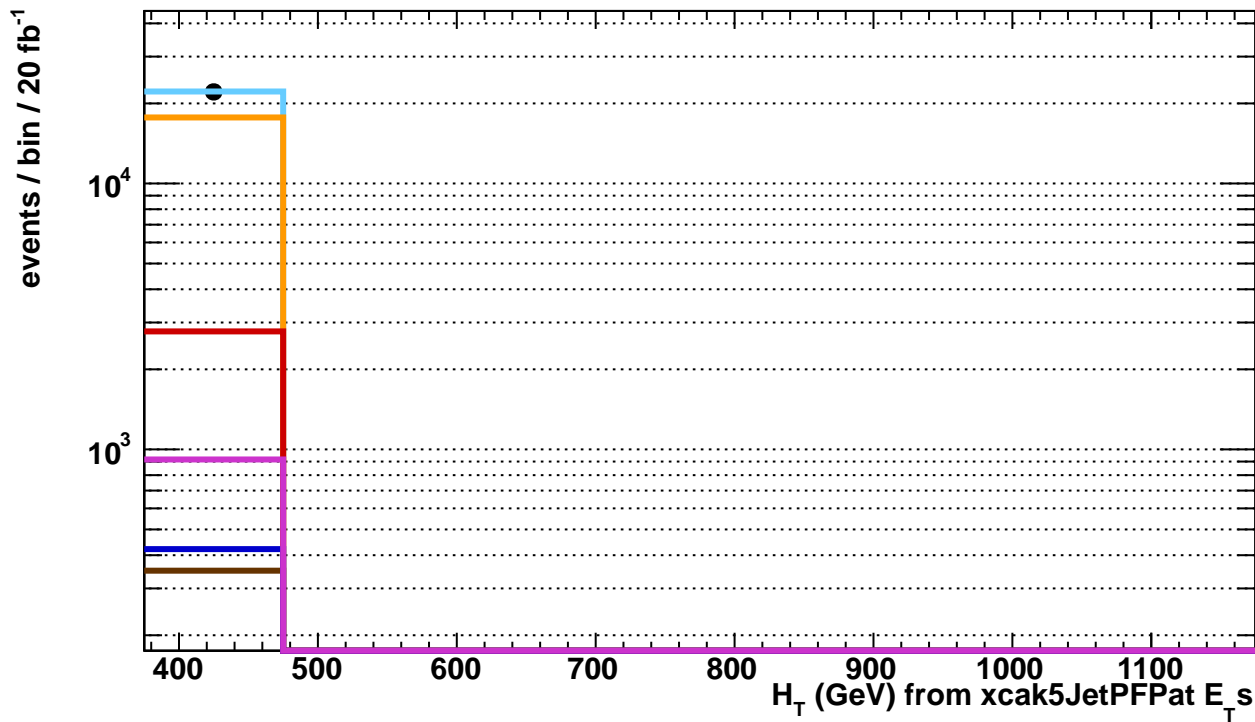
xcak5JetPFSumEtPat_eq2j_eq1b	
Entries	6711
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6711



xcak5JetPFSumEtPat_eq2j_eq2b

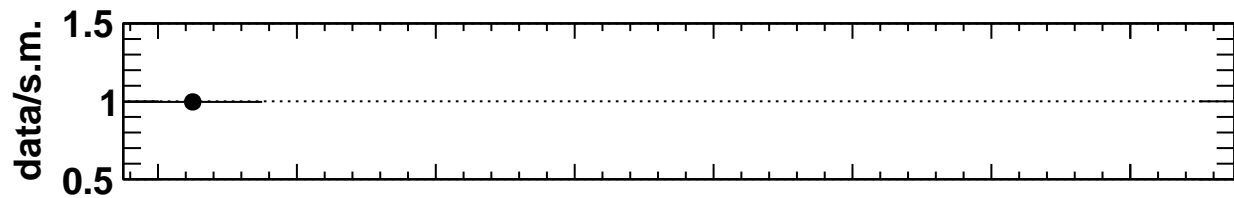
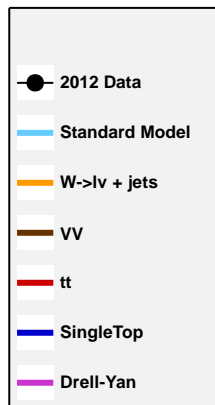
Entries	877
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	877

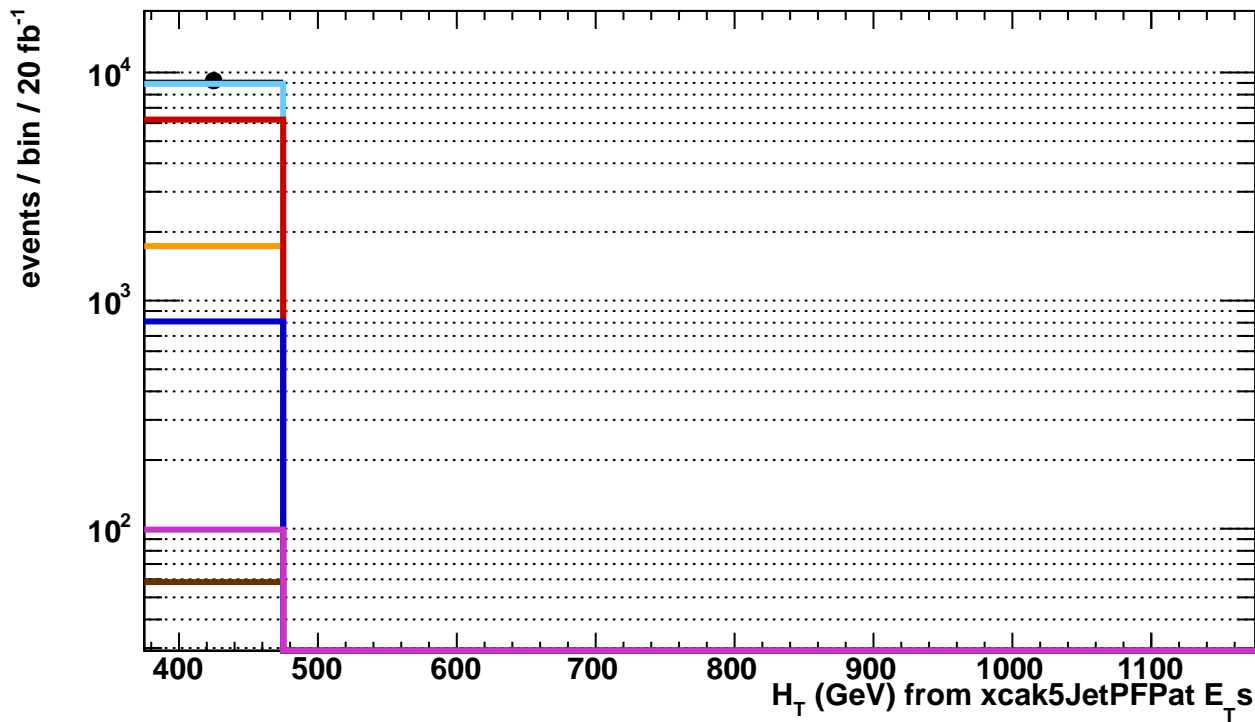




xcak5JetPFSumEtPat_eq3j_eq0b

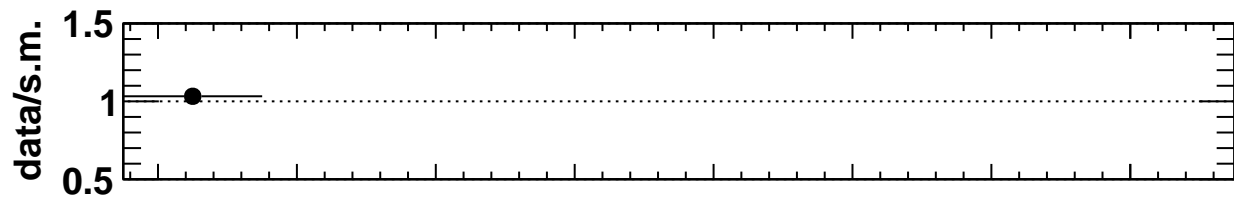
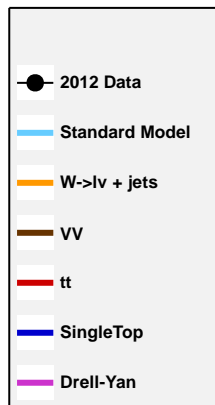
Entries	22095
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2.21e+04



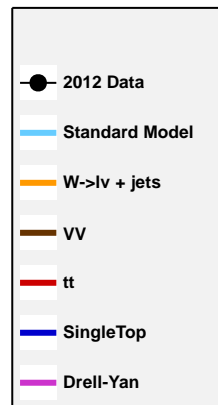
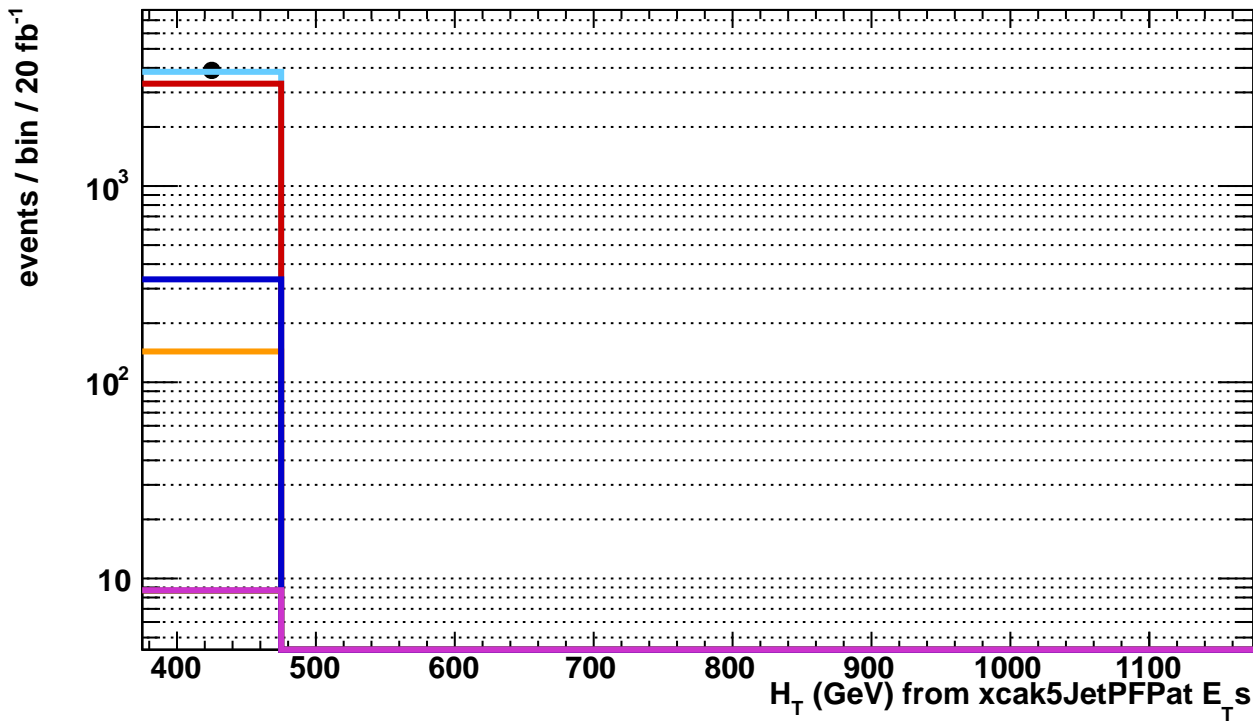


xcak5JetPFSumEtPat_eq3j_eq1b

Entries	9208
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	9208

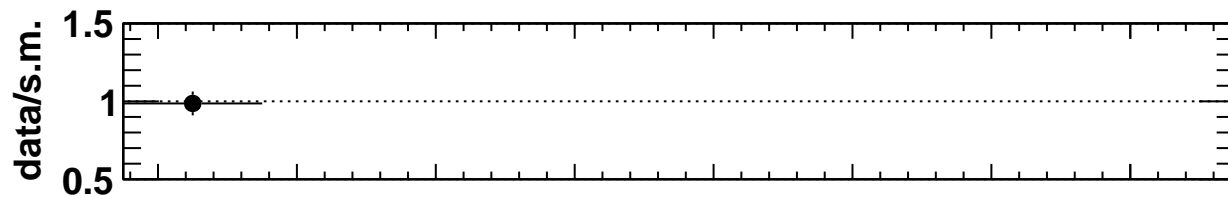
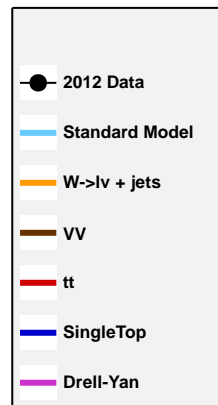
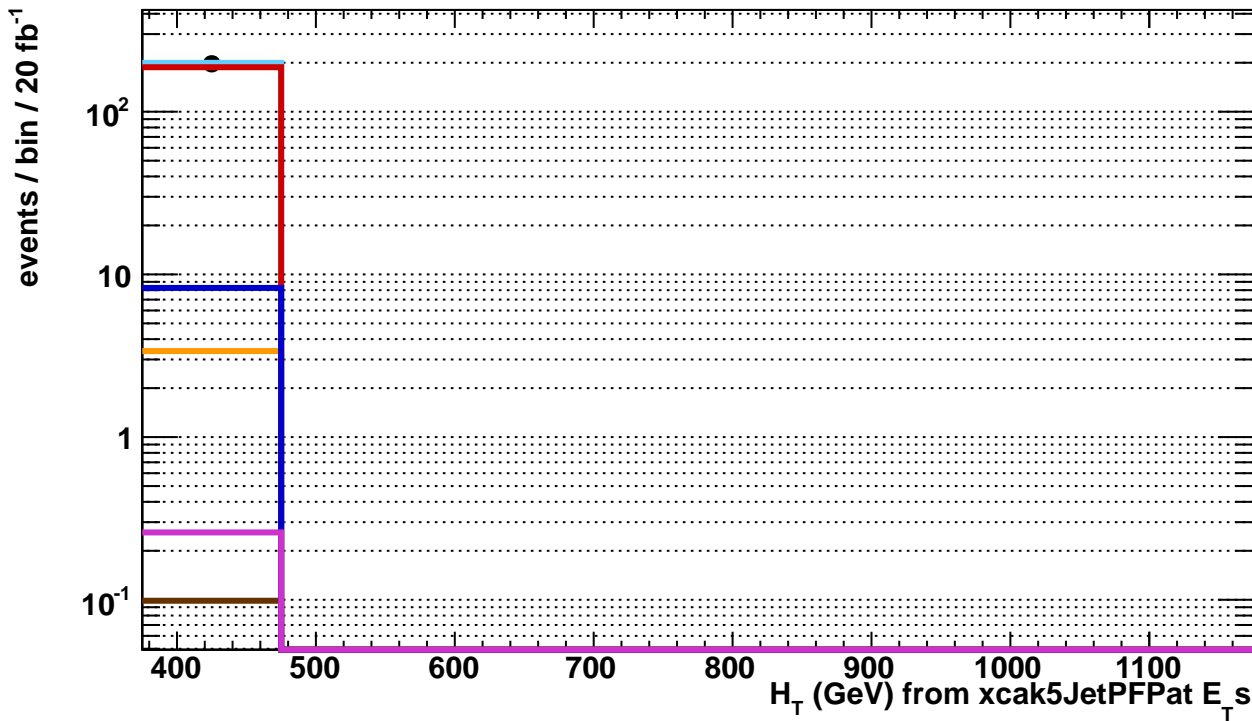


xcak5JetPFSumEtPat_eq3j_eq2b	
Entries	3884
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3884



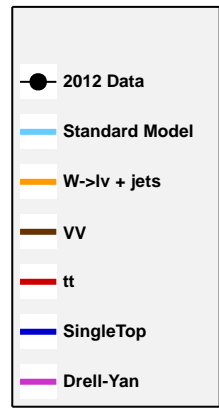
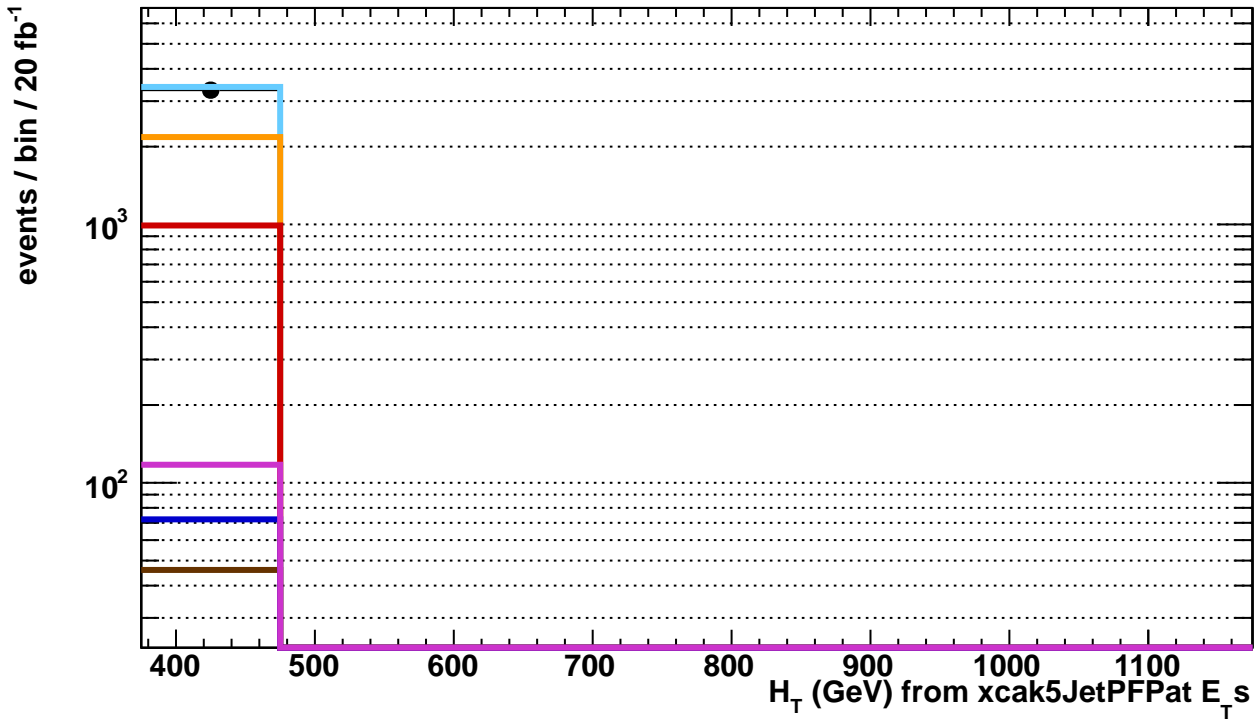
xcak5JetPFSumEtPat_eq3j_eq3b

Entries	197
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	197



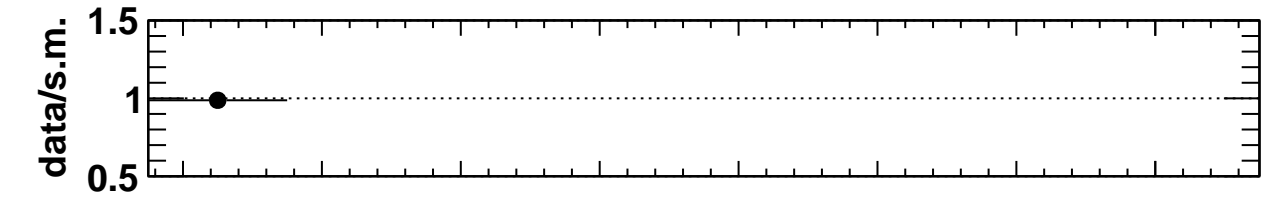
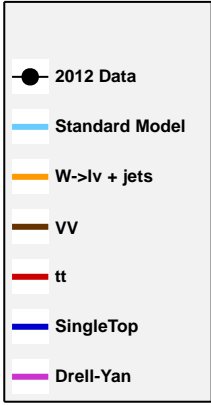
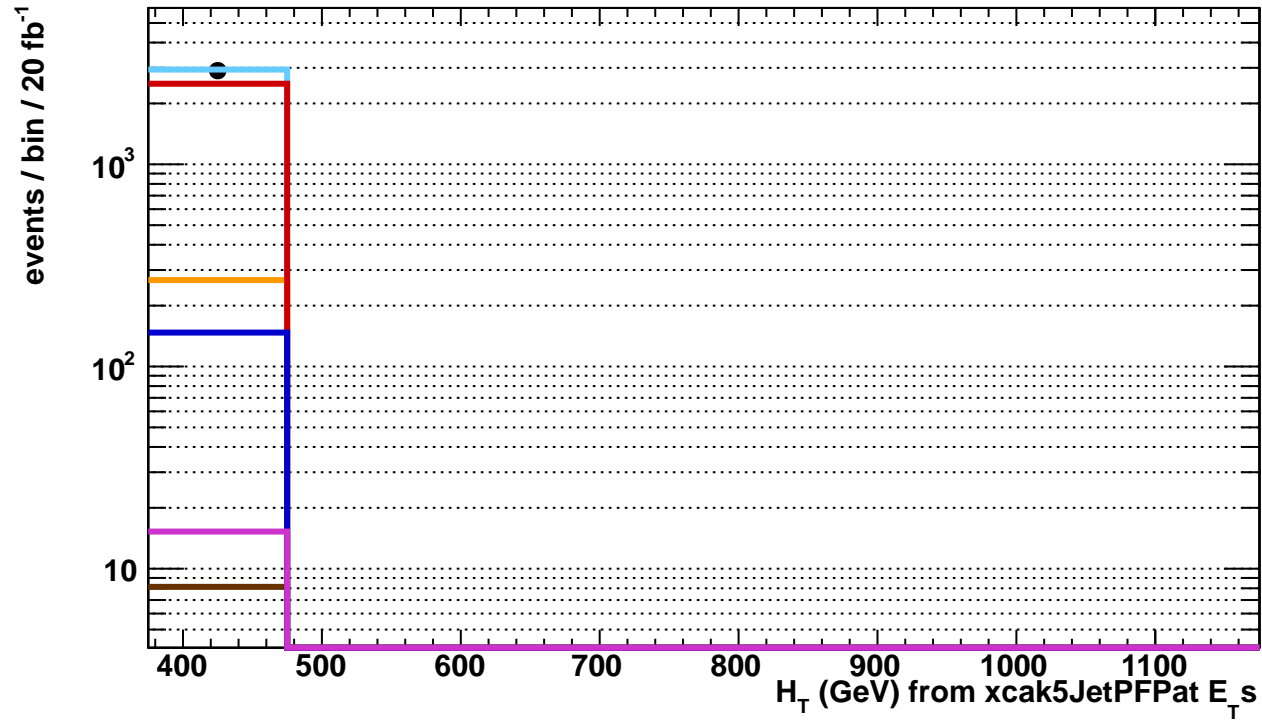
xcak5JetPFSumEtPat_ge4j_eq0b

Entries	3308
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3308

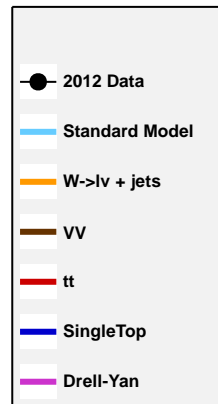
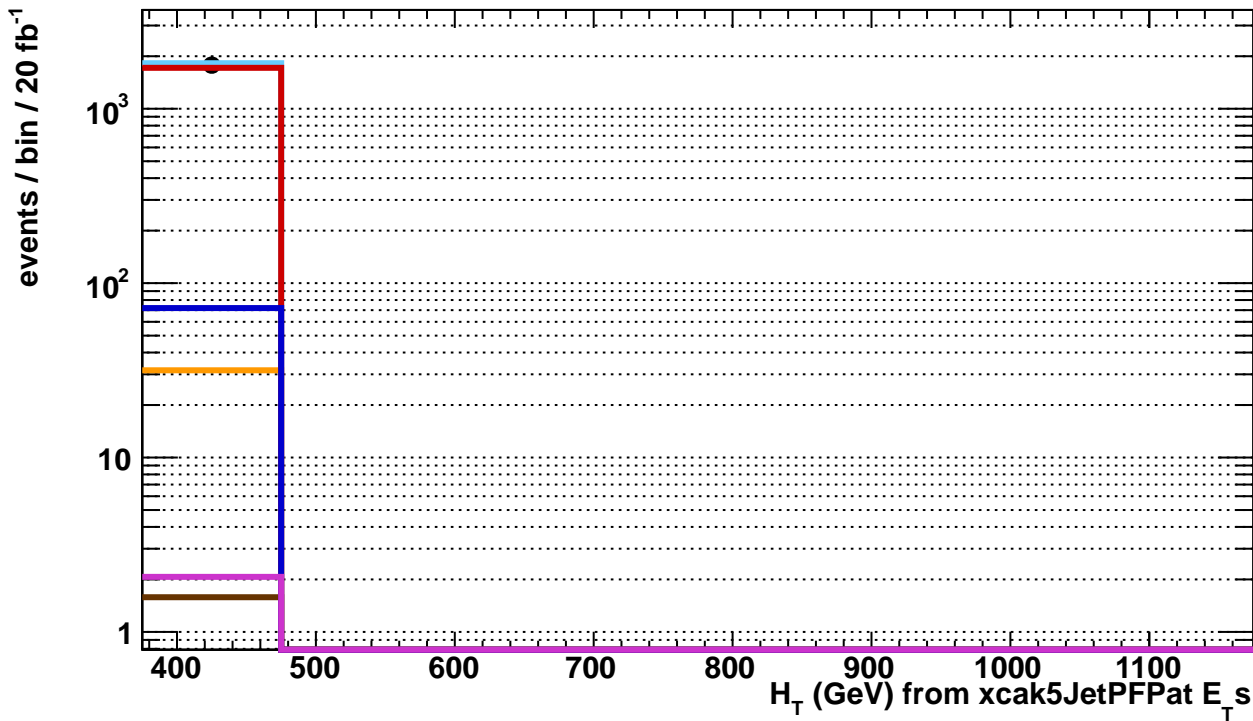


xcak5JetPFSumEtPat_ge4j_eq1b

Entries	2905
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2905

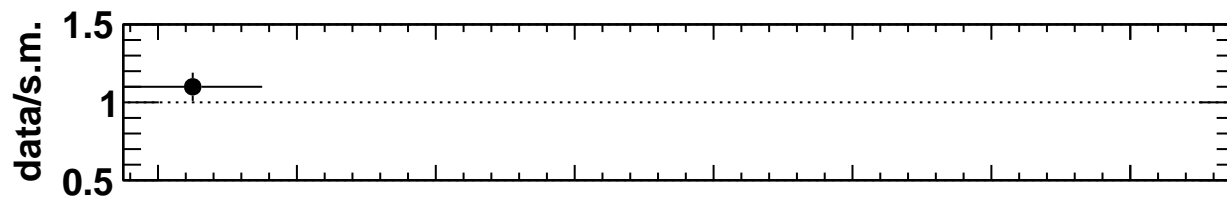
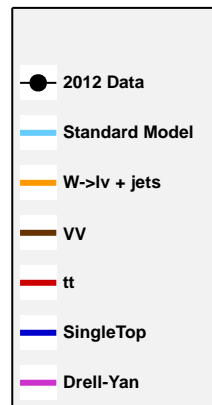
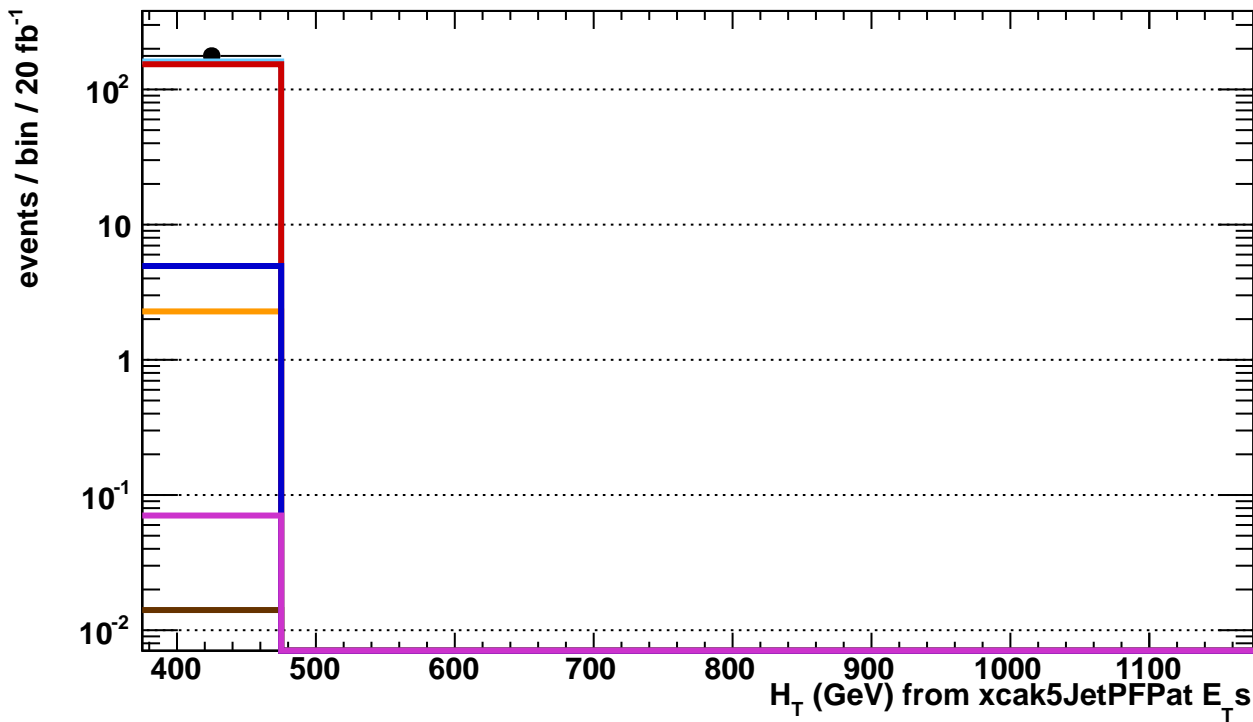


xcak5JetPFSumEtPat_ge4j_eq2b	
Entries	1778
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1778

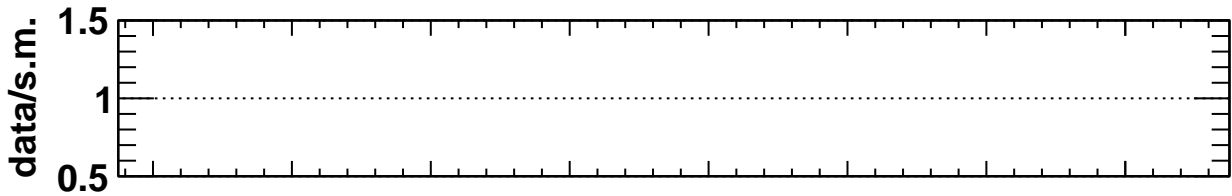
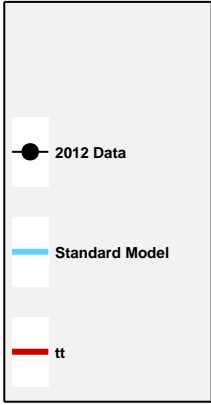
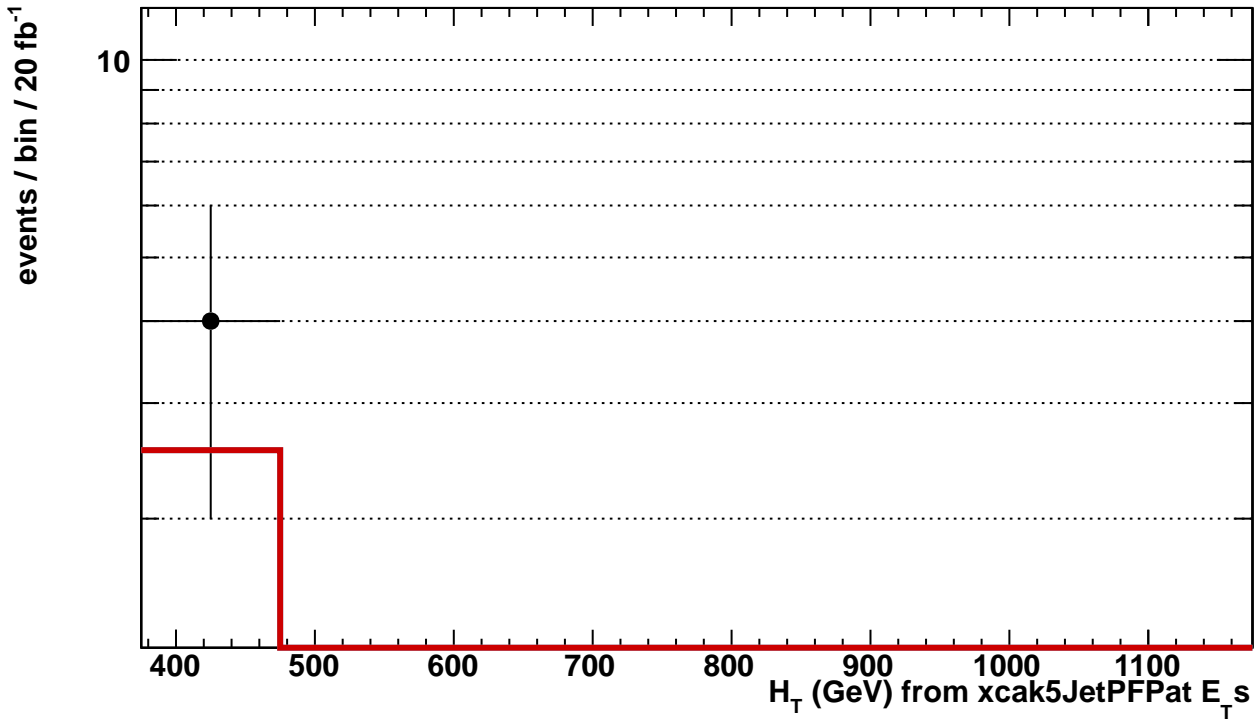


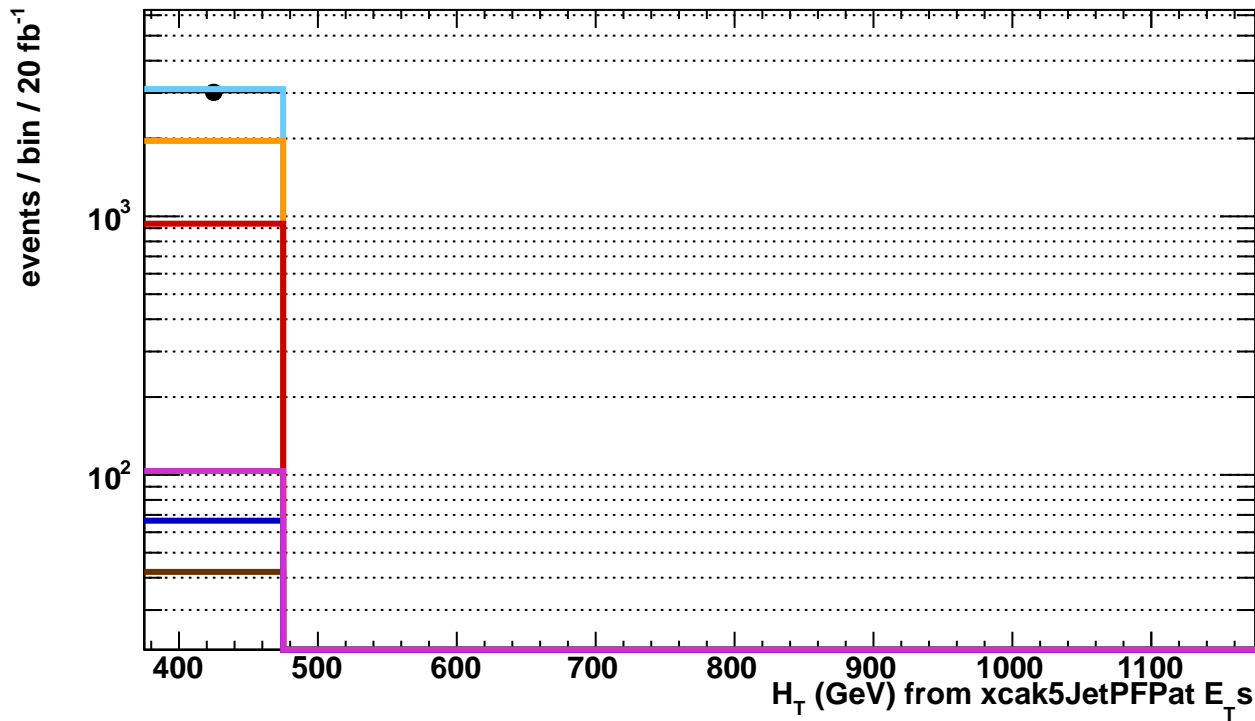
xcak5JetPFSumEtPat_ge4j_eq3b

Entries	177
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	177

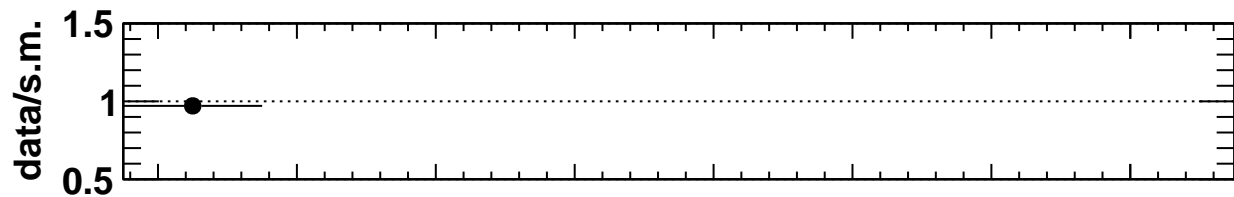
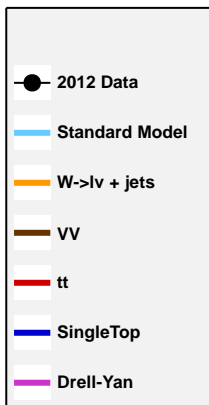


xcak5JetPFSumEtPat_ge4j_ge4b	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4

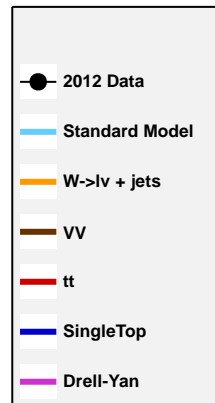
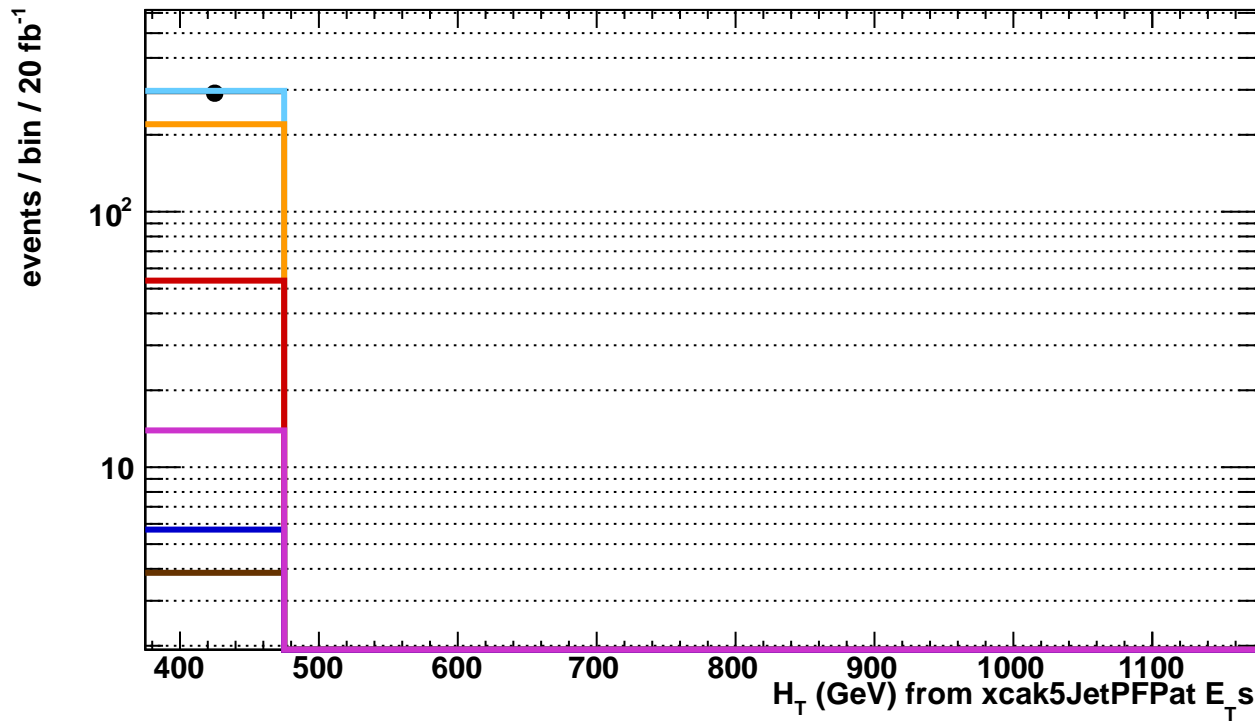


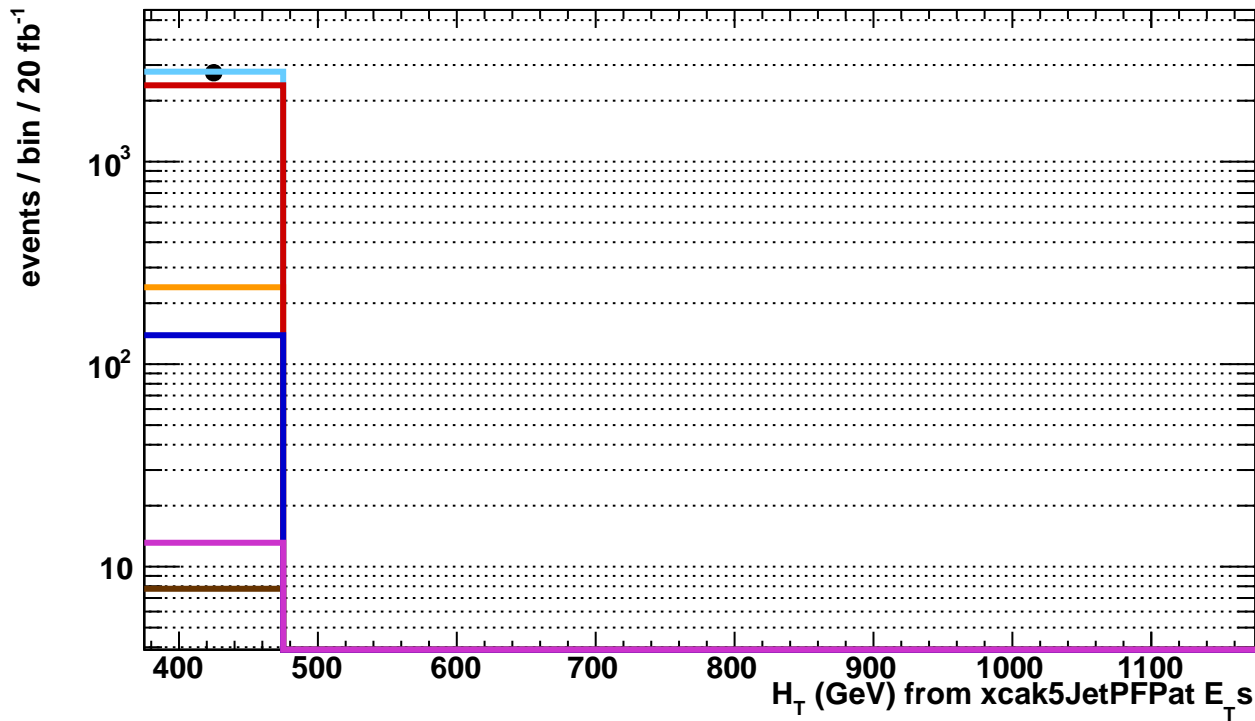


xcak5JetPFSumEtPat_ge4J_eq0b_dRge65	
Entries	3017
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3017

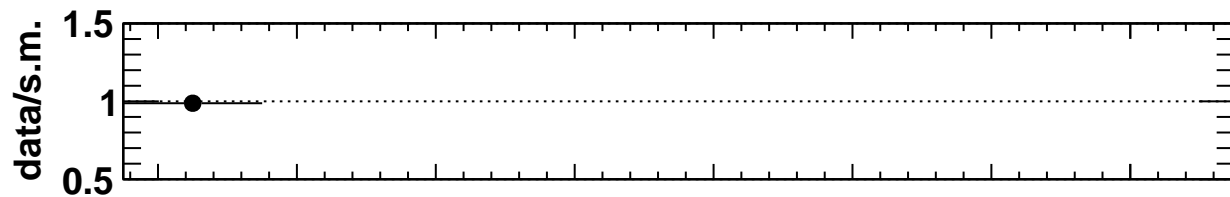
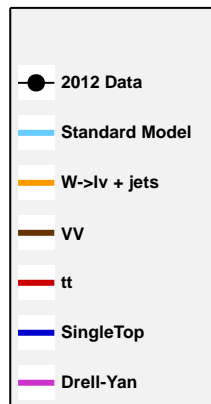


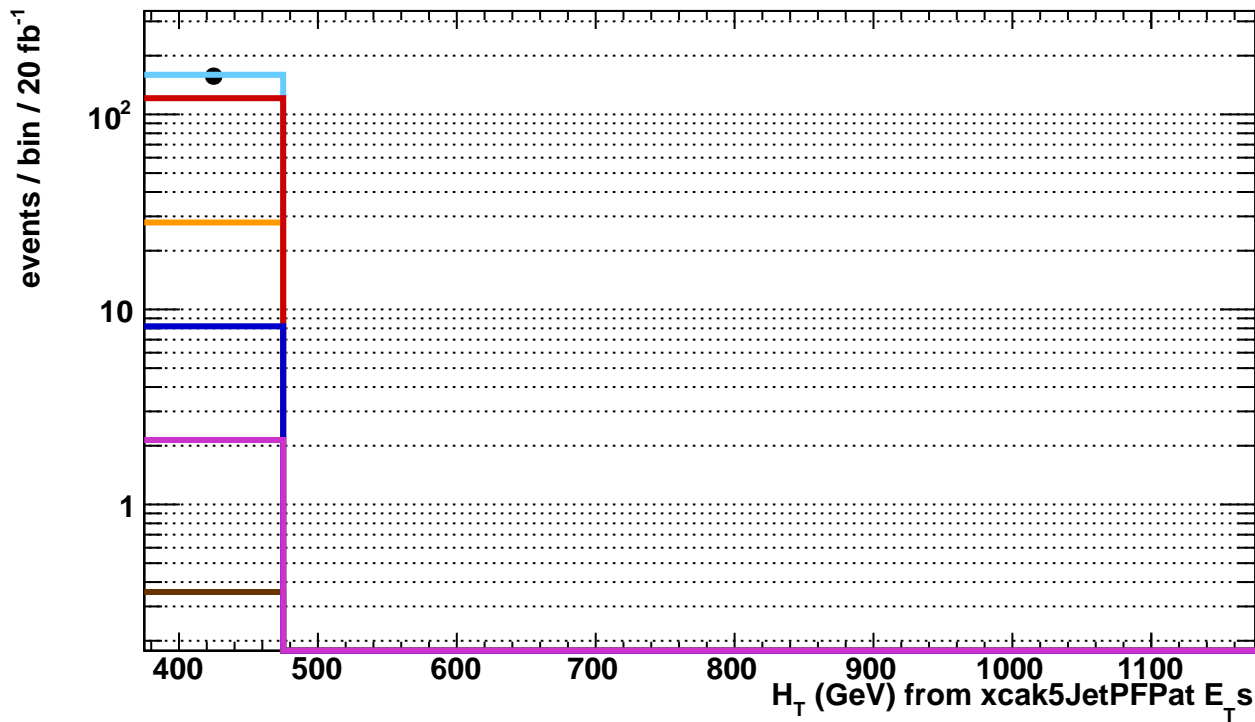
xcak5JetPFSumEtPat_ge4j_eq0b_dRl65	
Entries	291
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	291



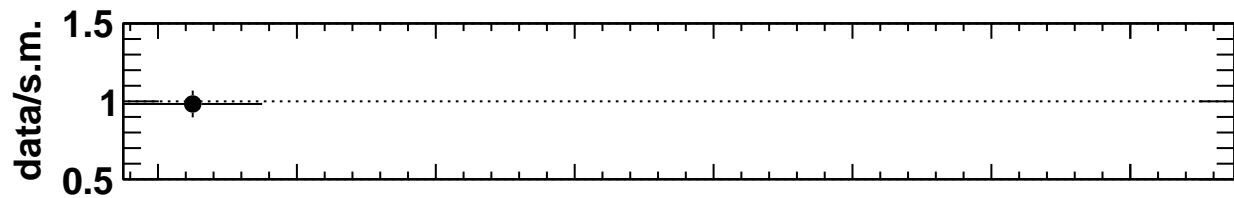
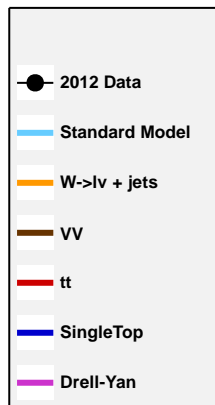


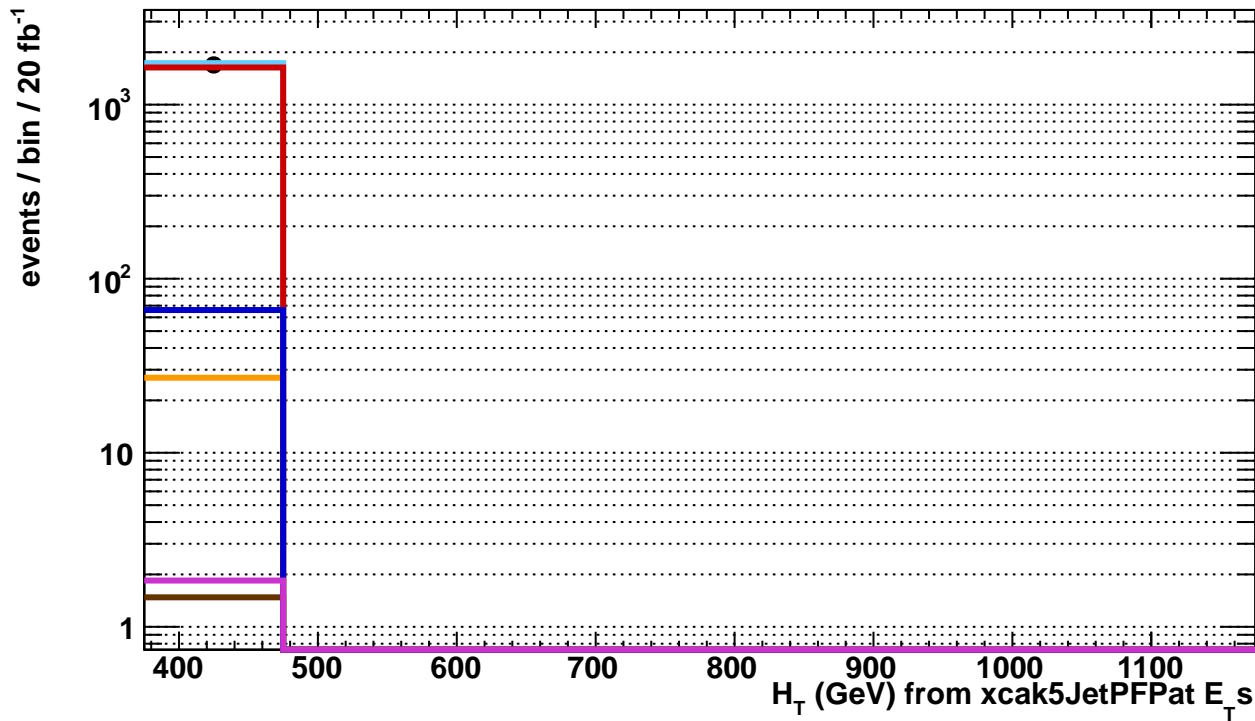
xcak5JetPFPatEIPat_ge4j_eq1b_dRge65	
Entries	2748
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2748



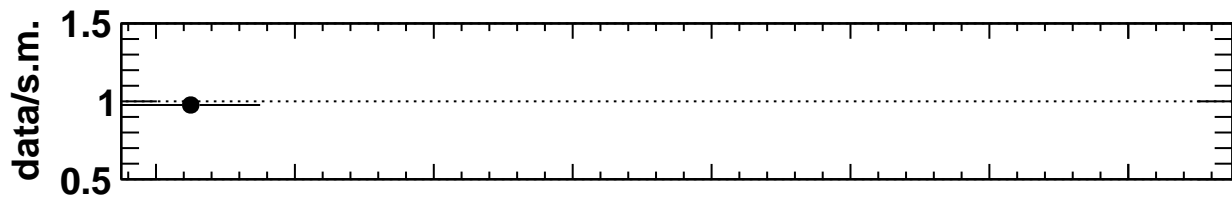
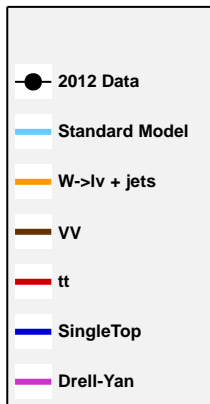


xcak5JetPFSumEIPat_ge4j_eq1b_dRl65	
Entries	157
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	157

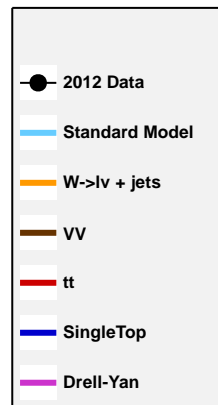
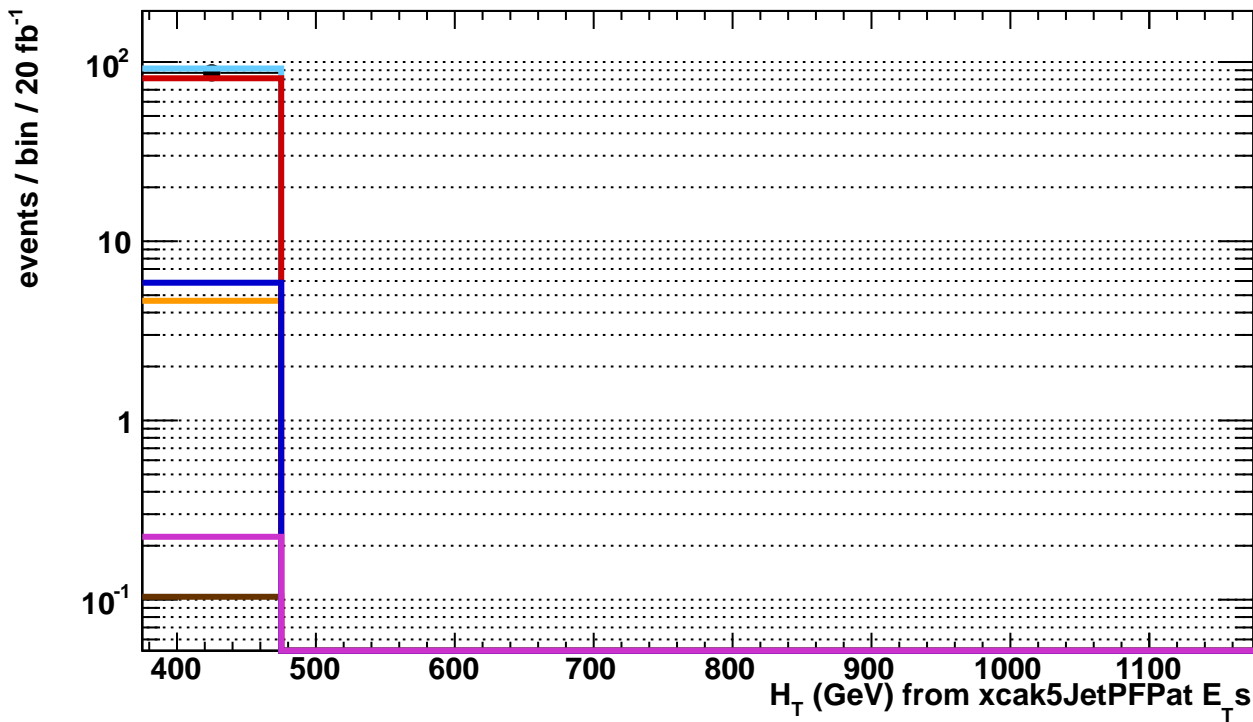


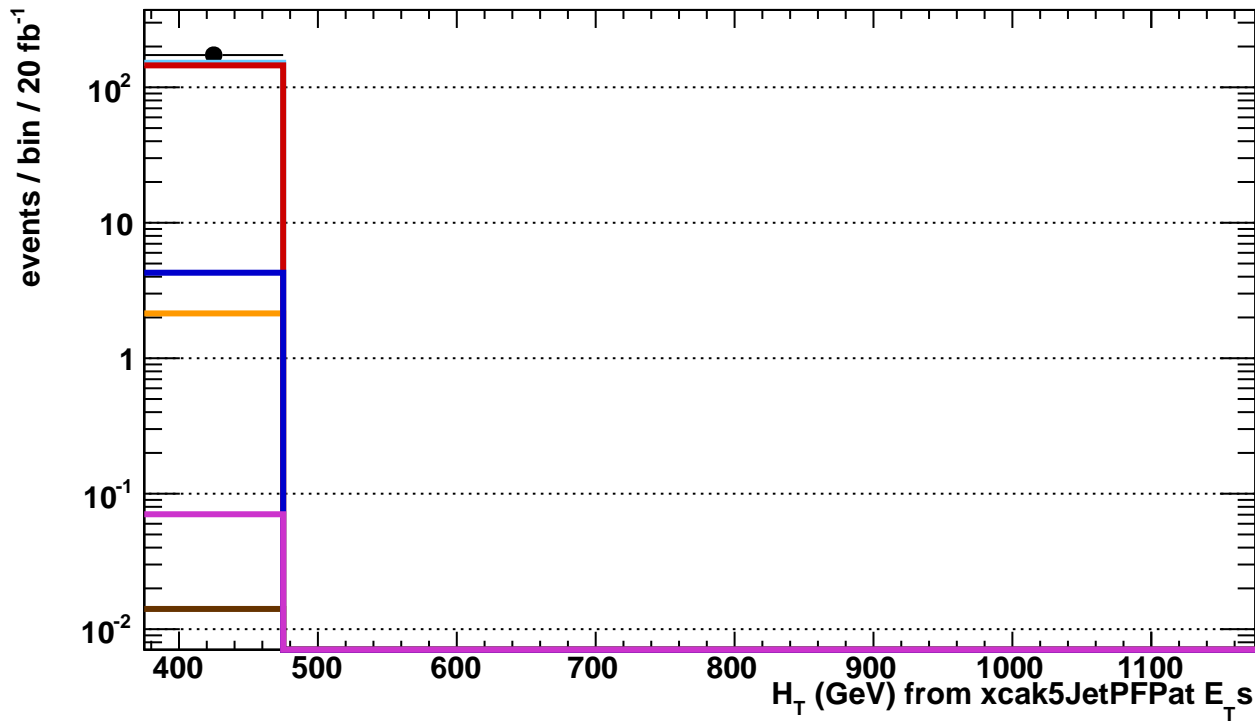


xcak5JetPFPSumEtPat_ge4J_eq2b_dRge65	
Entries	1691
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1691

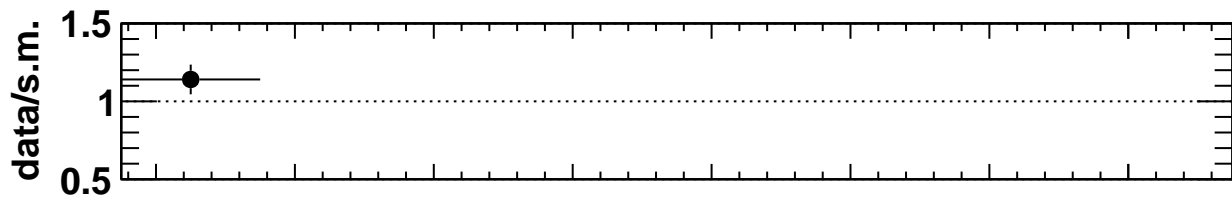
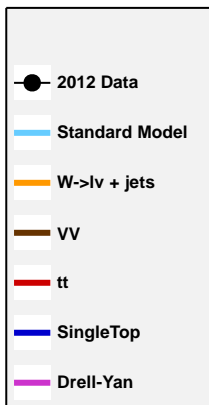


xcak5JetPFSumEtPat_ge4j_eq2b_dRl65	
Entries	87
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	87

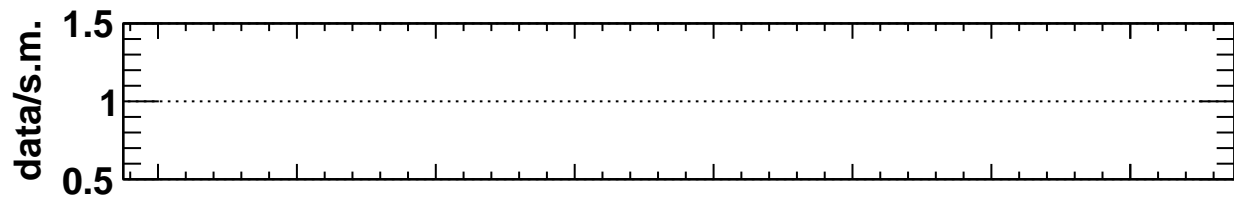
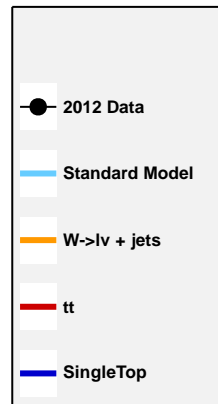
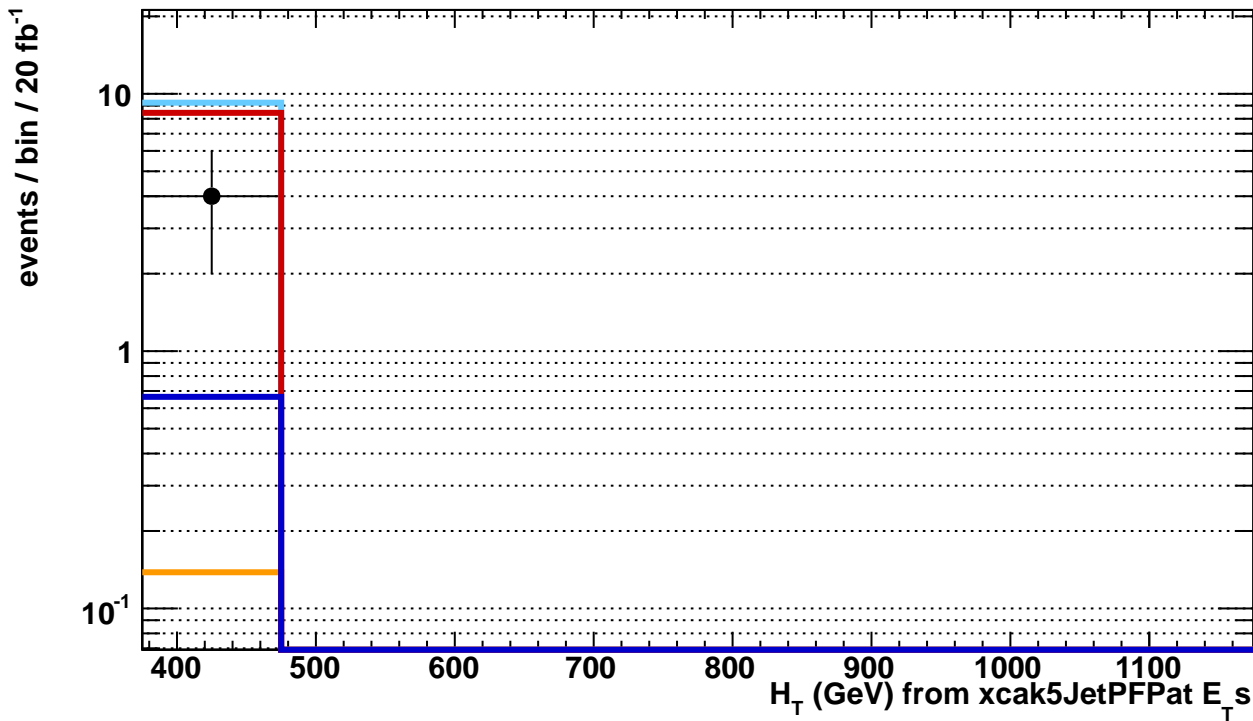




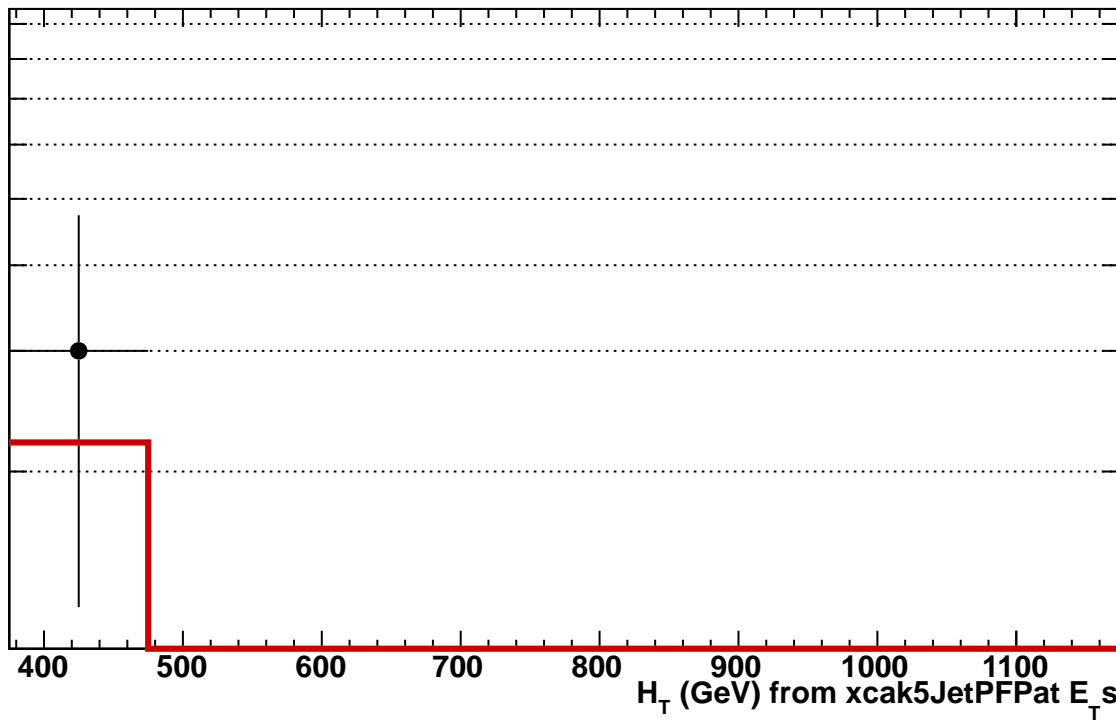
xcak5JetPFSumEtPat_ge4J_eq3b_dRge65	
Entries	173
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	173



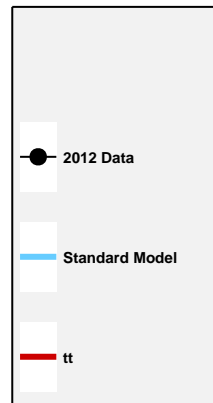
xcak5JetPFSumEtPat_ge4j_eq3b_dRl65	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4



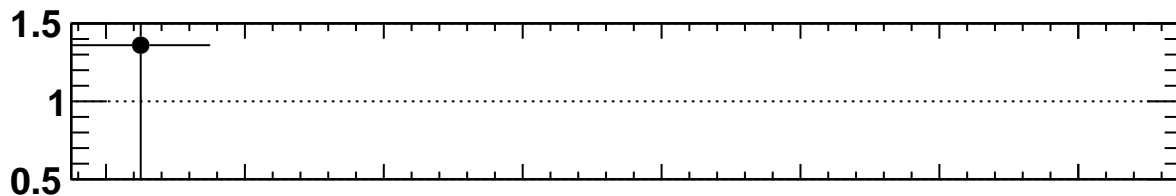
events / bin / 20 fb⁻¹



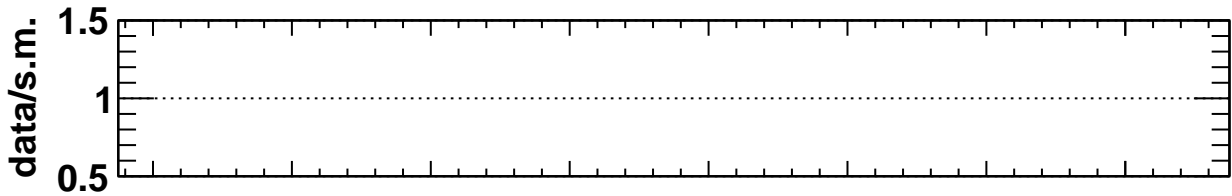
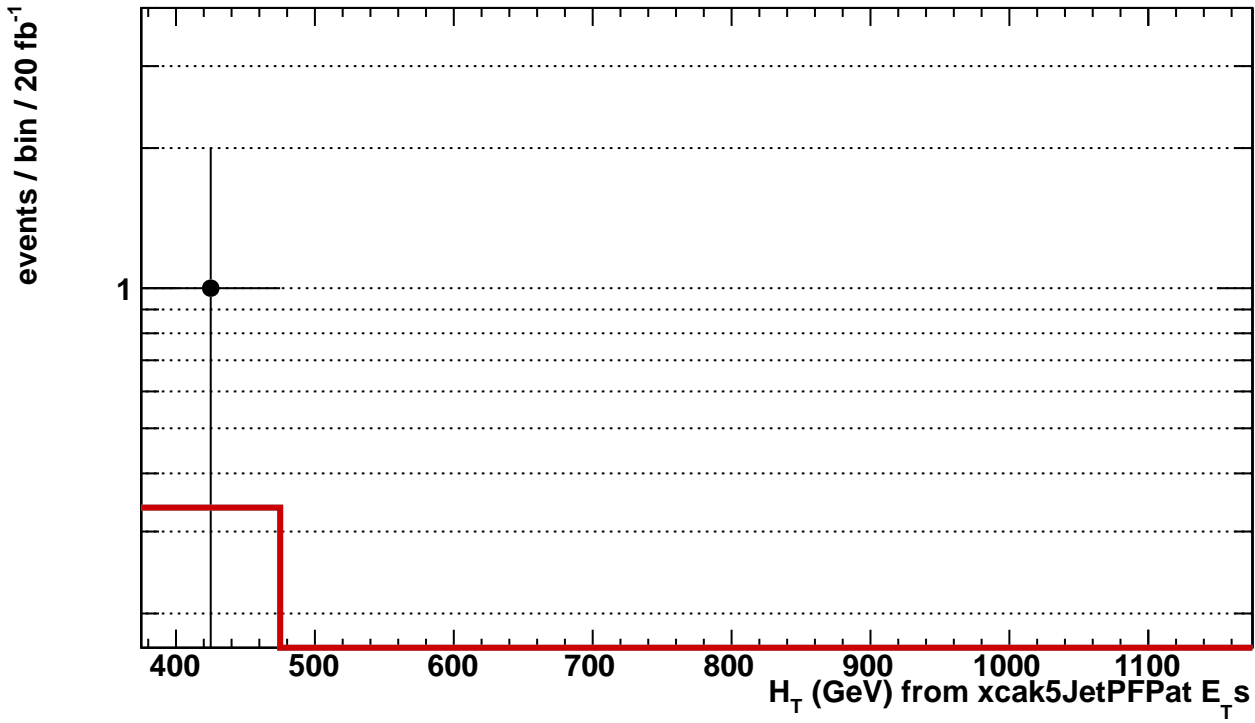
xcak5JetPFSumEtPat_ge4j_ge4b_dRge65	
Entries	3
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3

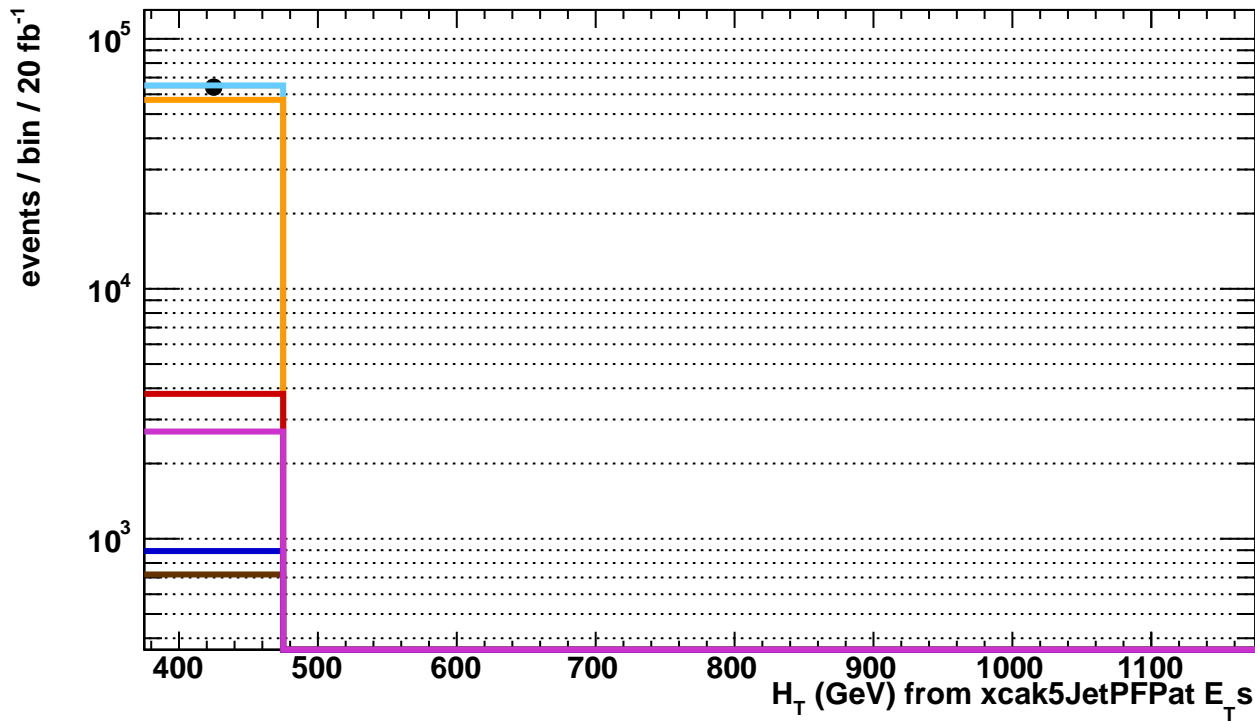


data/s.m.

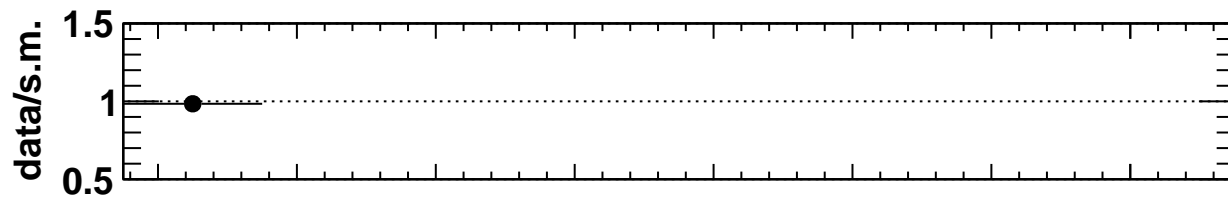
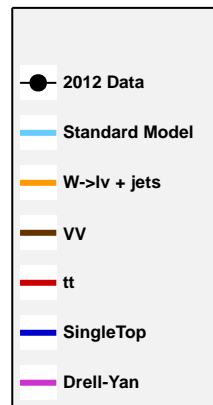


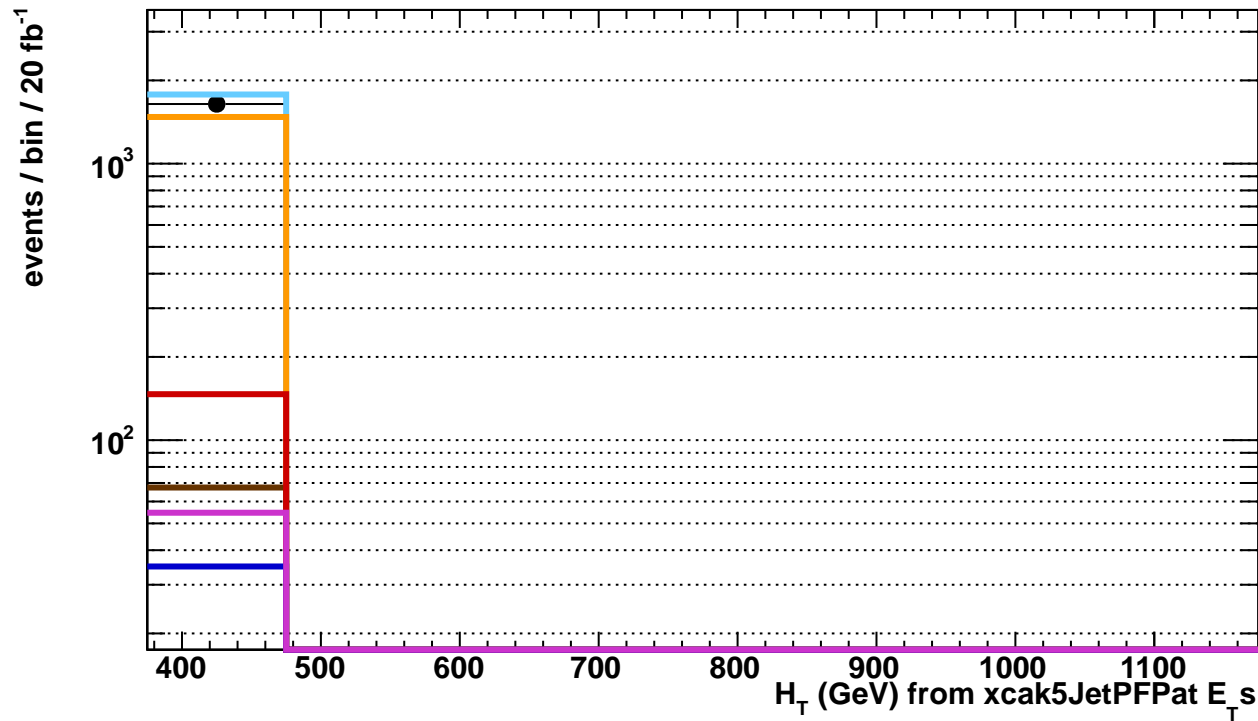
xcak5JetPFSumEtPat_ge4j_ge4b_dRl65	
Entries	1
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1



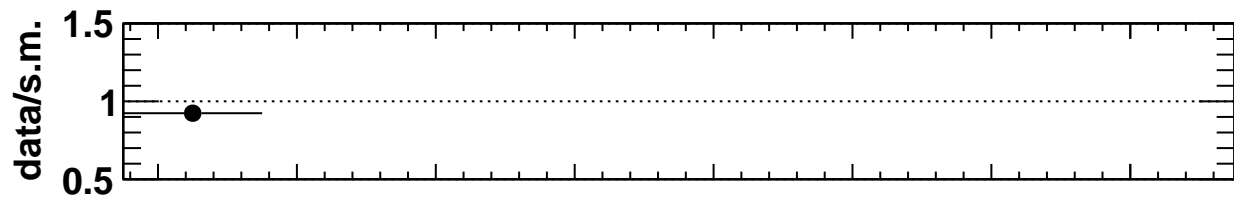
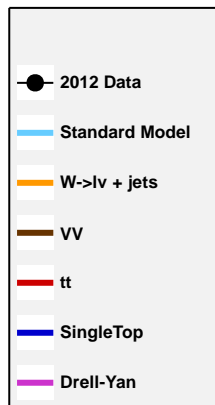


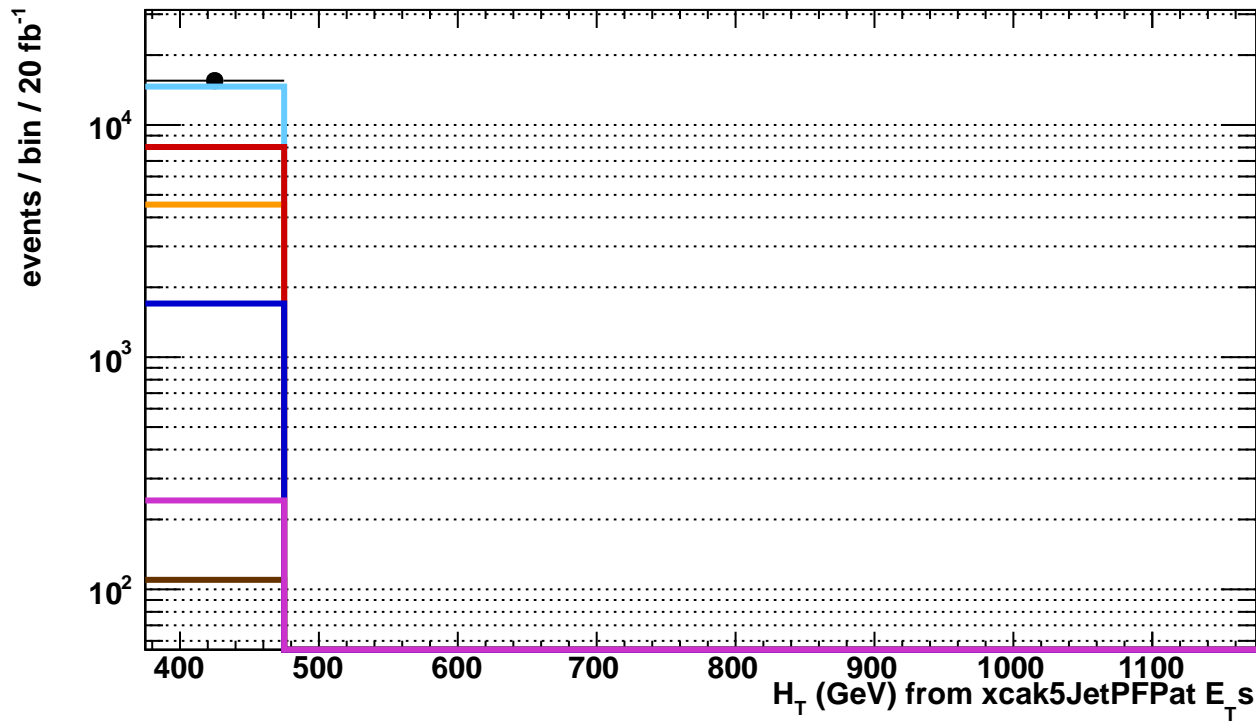
xcak5JetPFPatEiPat_1e3_eq0b_dRge65	
Entries	64076
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.408e+04



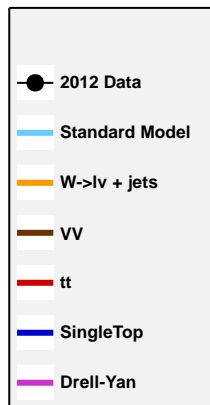


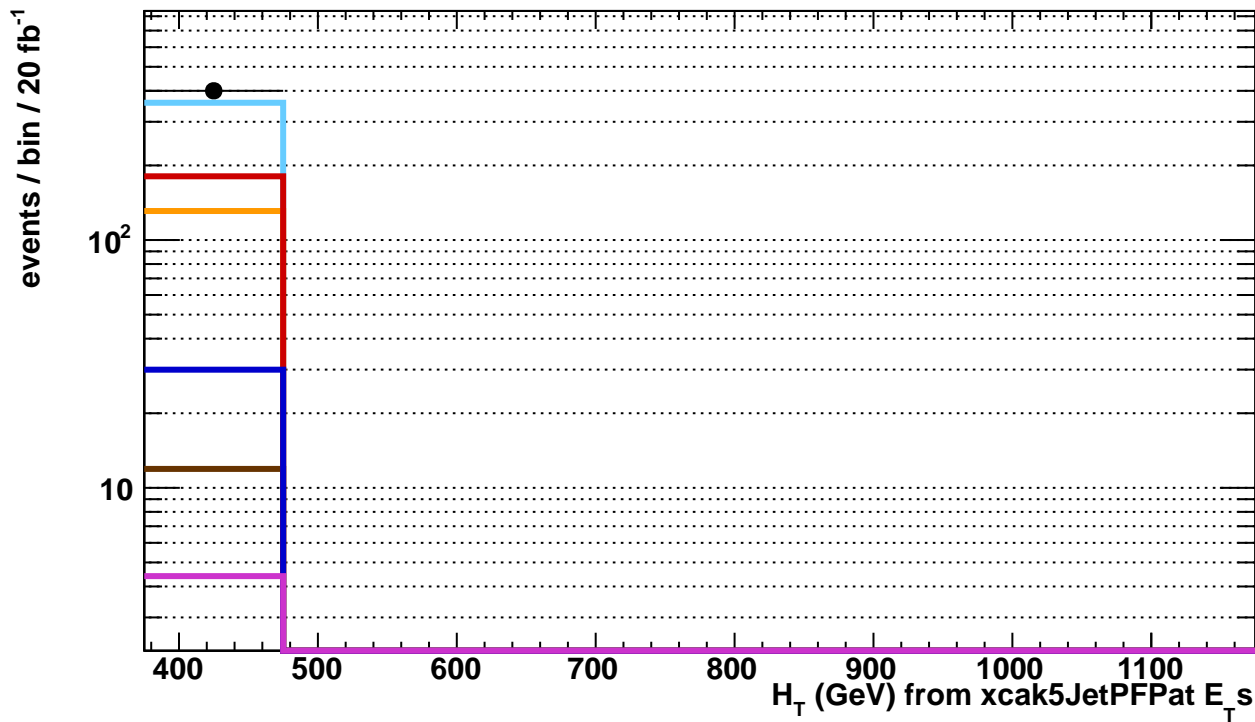
xcak5JetPFSumEtPat_le3l_eq0b_dR165	
Entries	1643
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1643



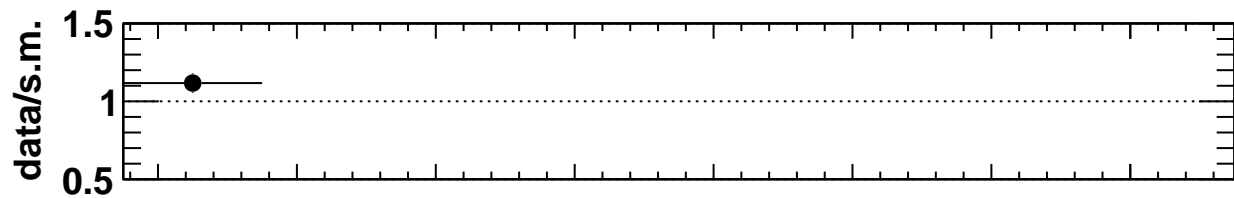
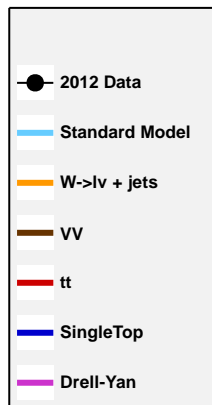


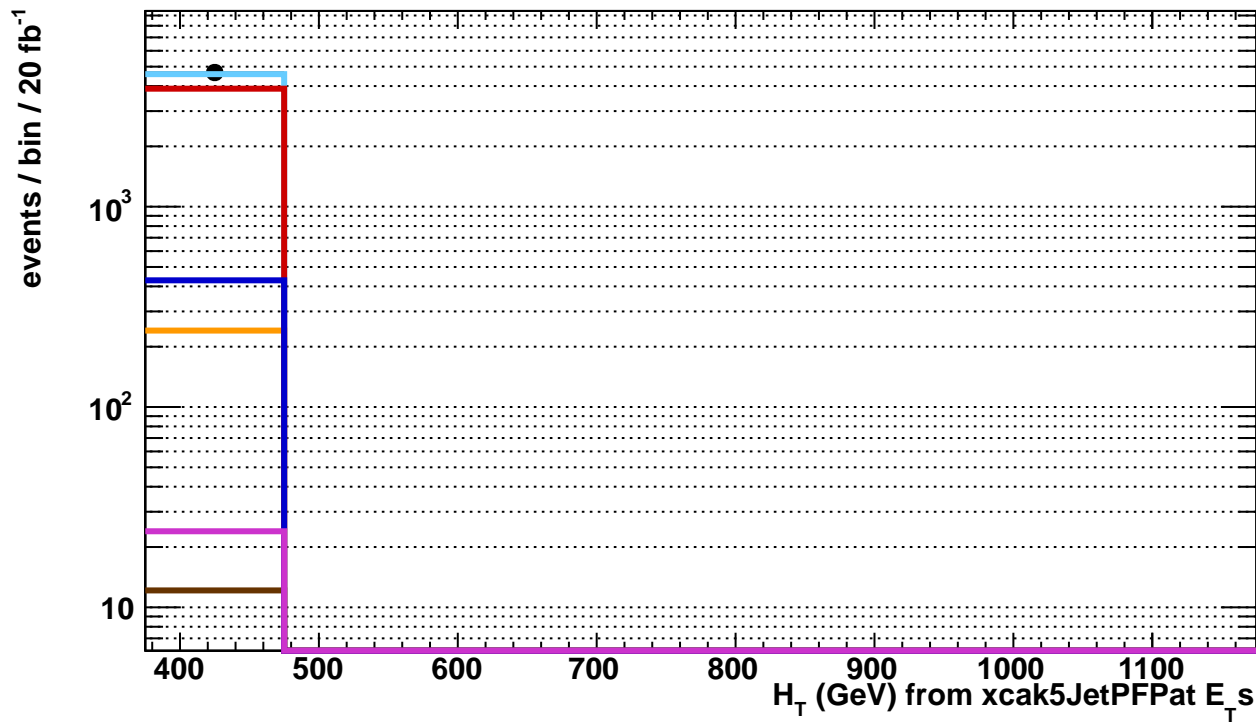
xcak5JetPFPatEFPat_03_eq1b_dRge65	
Entries	15519
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.552e+04



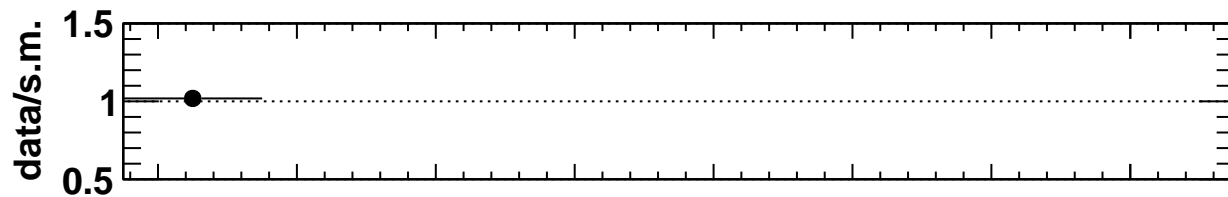
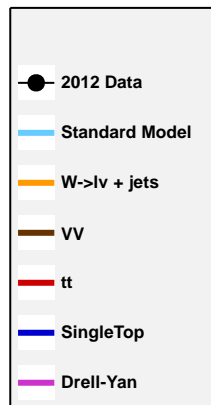


xcak5JetPFSumEtPat_l3j_eq1b_dR165	
Entries	400
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	400

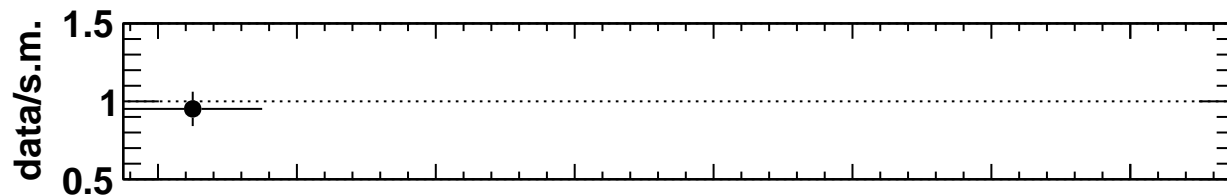
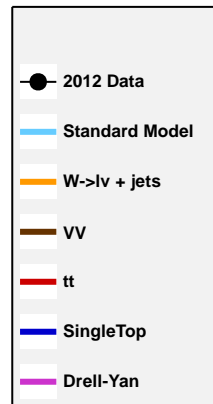
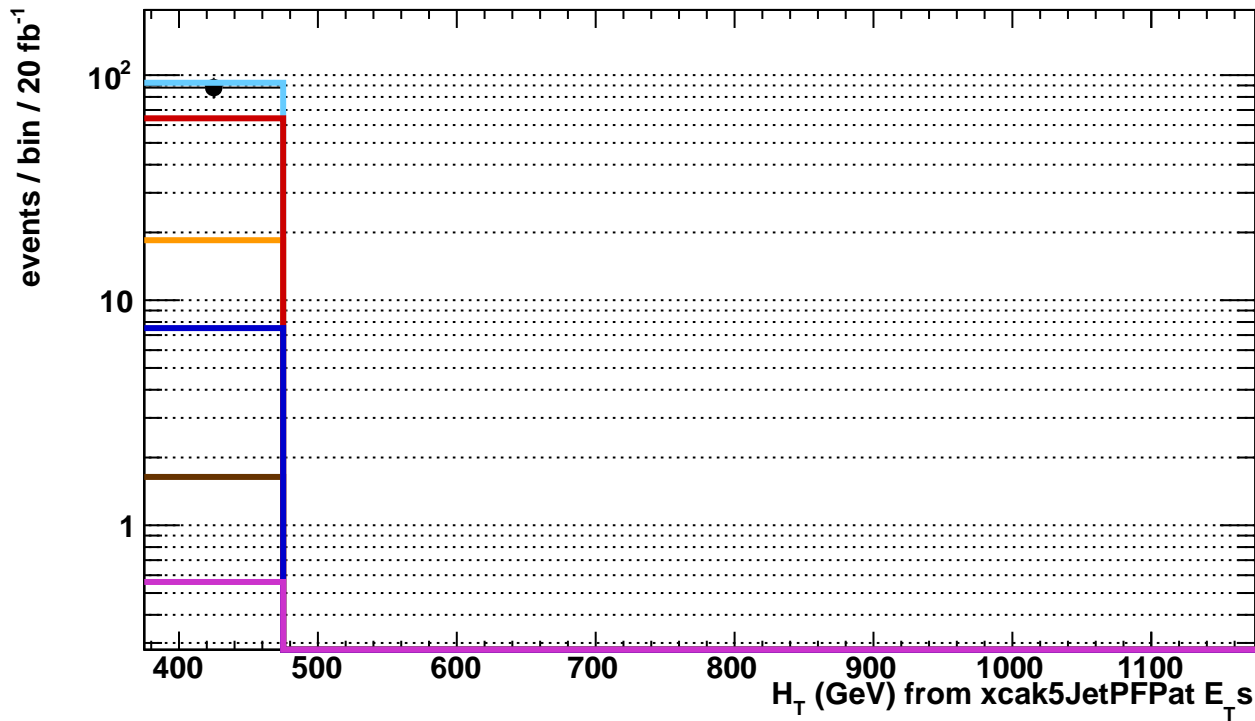




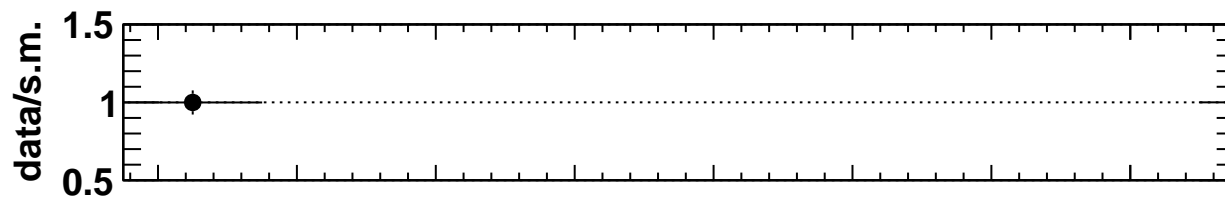
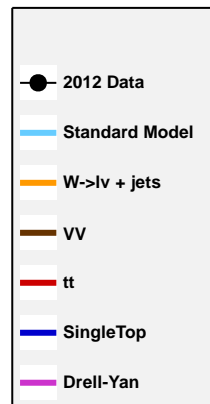
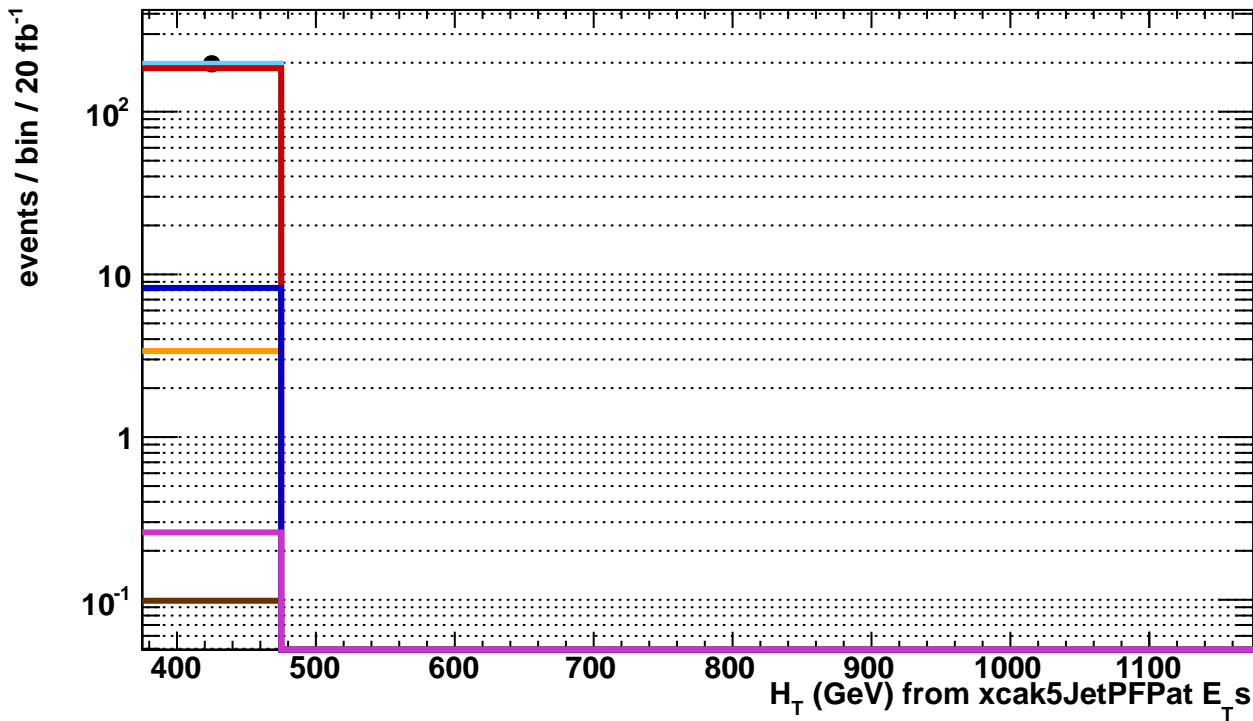
xcak5JetPFPat	Eq2b_dRge65
Entries	4673
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4673



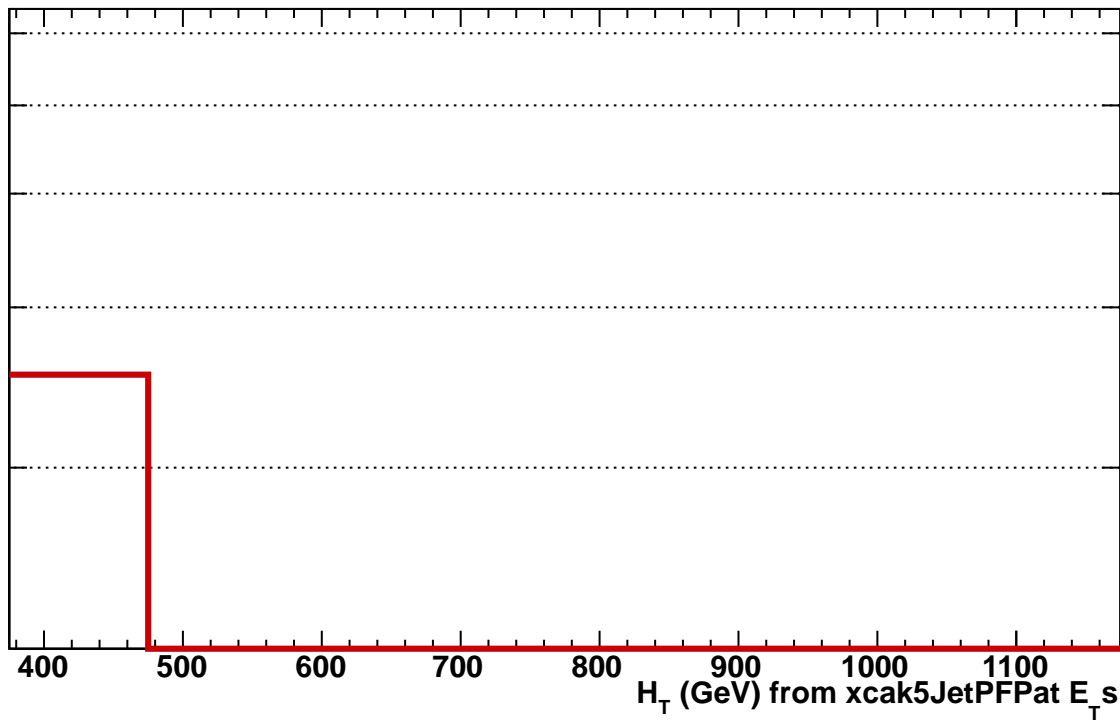
xcak5JetPFSumEtPat_l3l_eq2b_dR165	
Entries	88
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	88



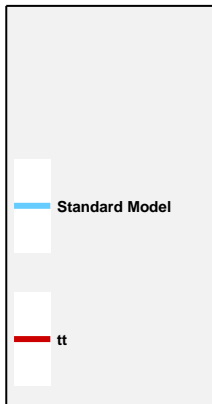
xcak5JetPFSumEIPat_l63_eq3b_dRge65	
Entries	197
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	197

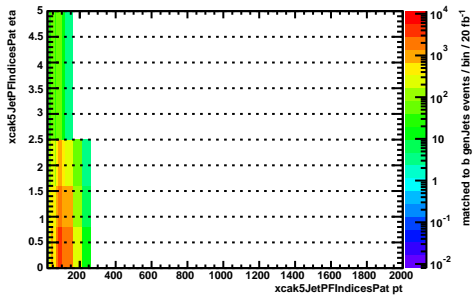
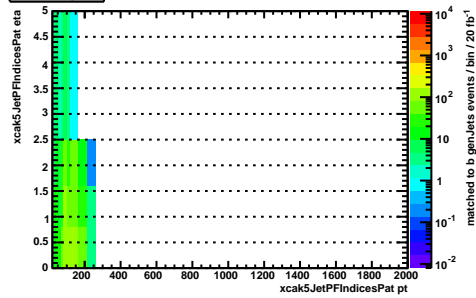
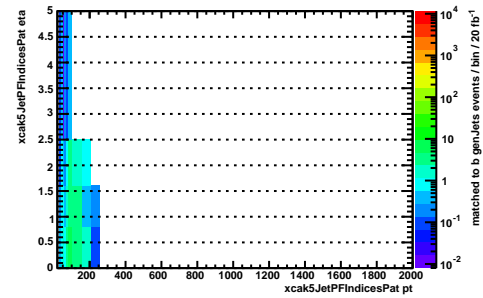
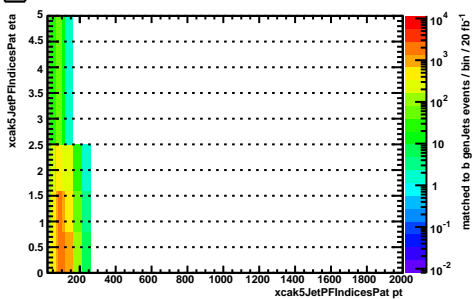
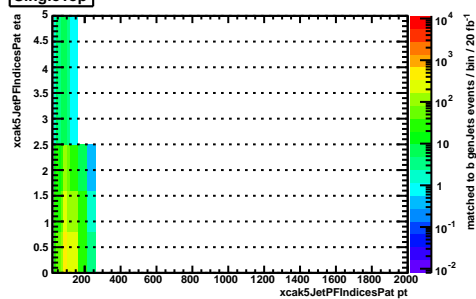
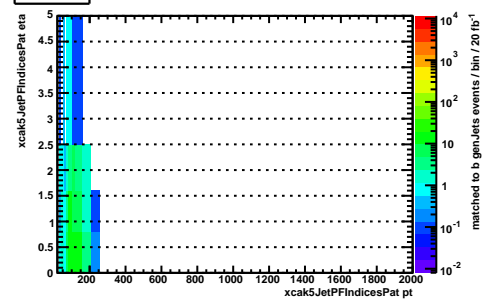


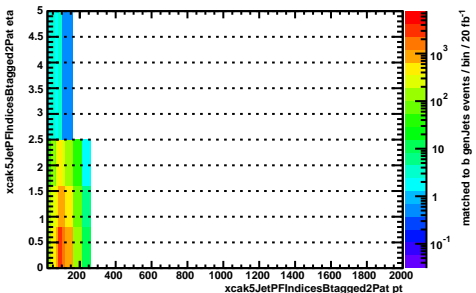
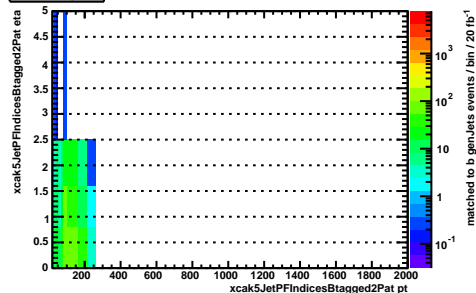
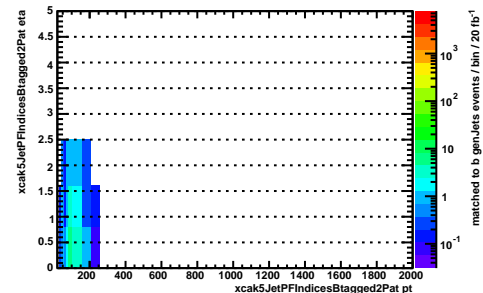
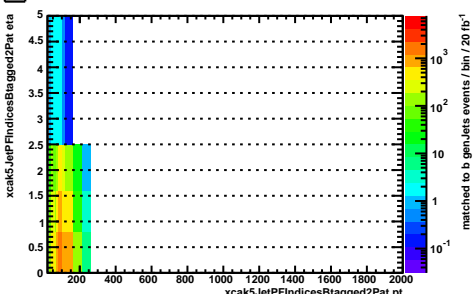
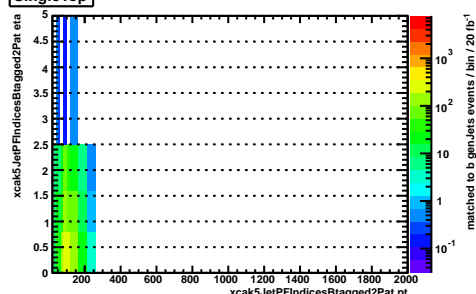
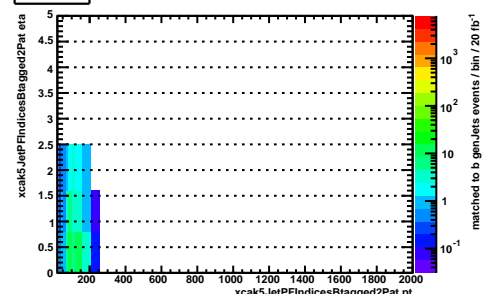
events / bin / 20 fb⁻¹

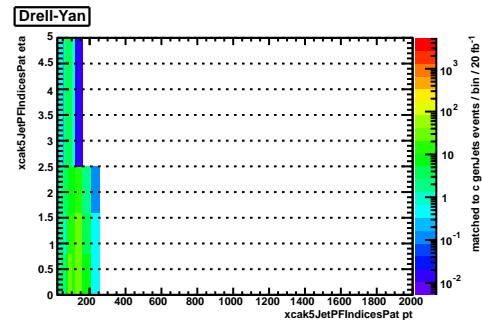
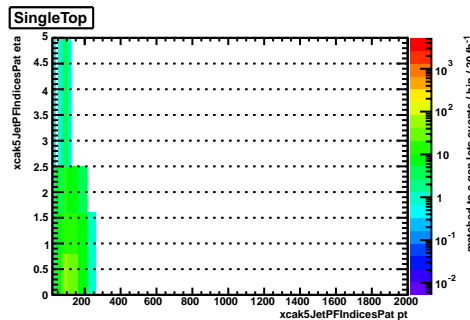
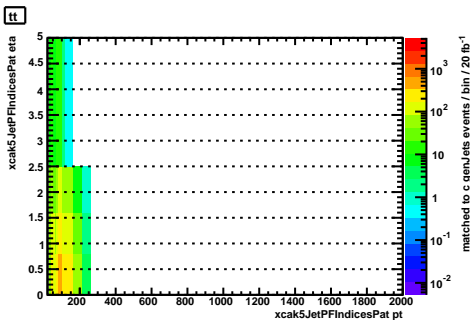
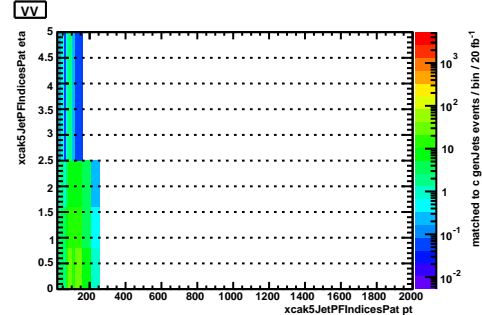
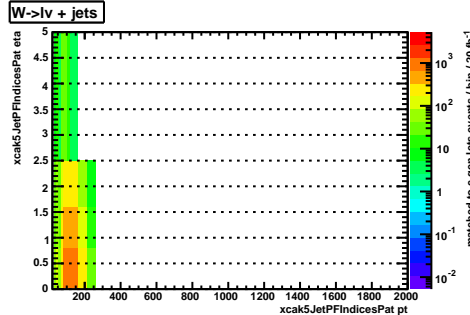
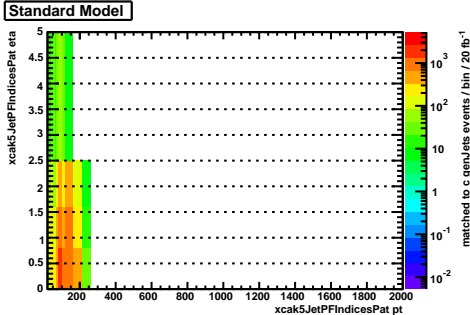


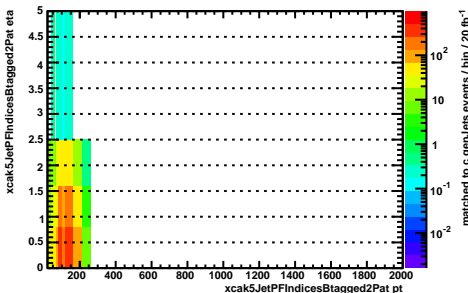
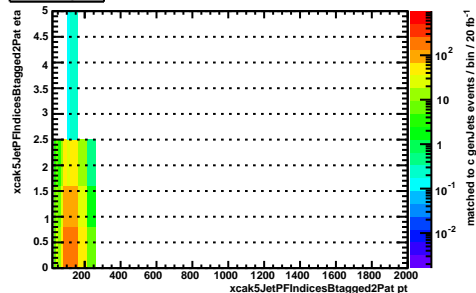
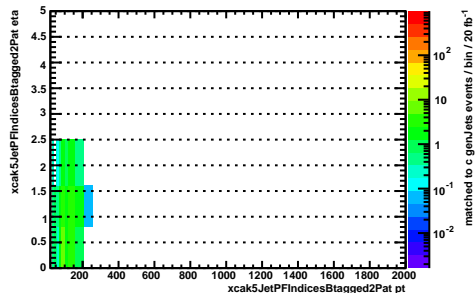
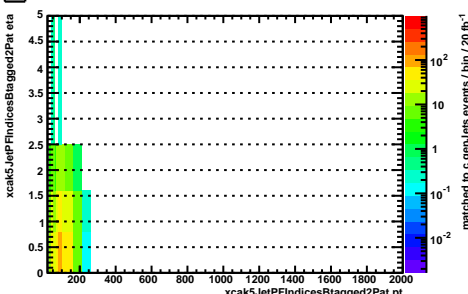
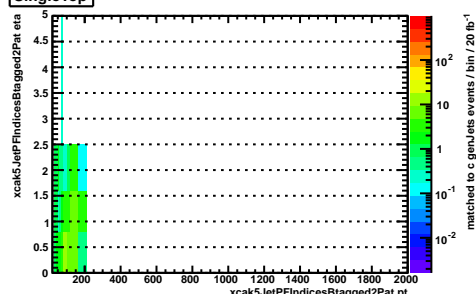
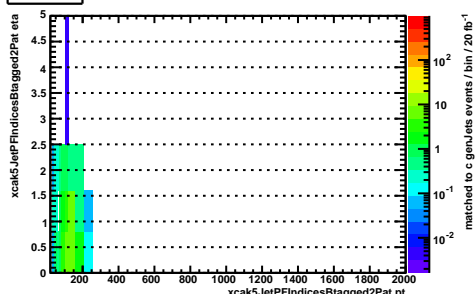
xcak5JetPFSumEtPat_le3_eq3b_dRl65	
Entries	16
Mean	425
RMS	7.629e-06
Underflow	0
Overflow	0
Integral	2.53

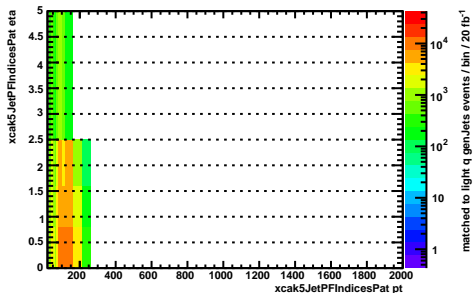
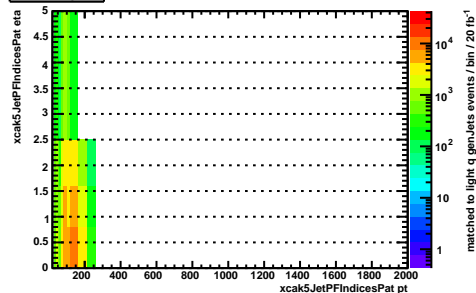
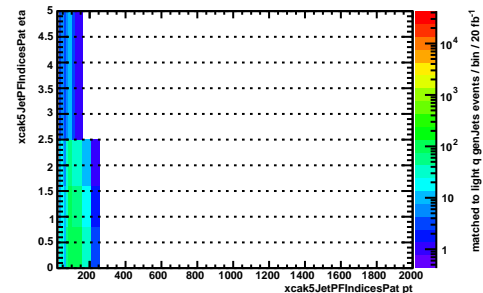
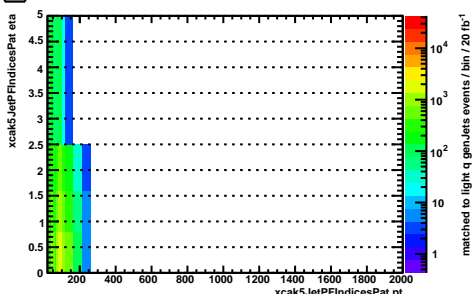
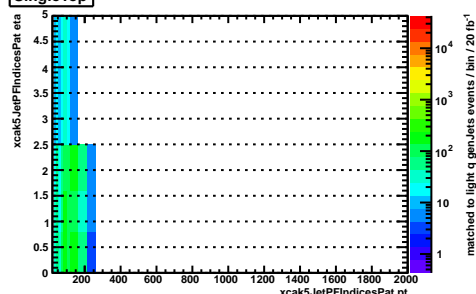
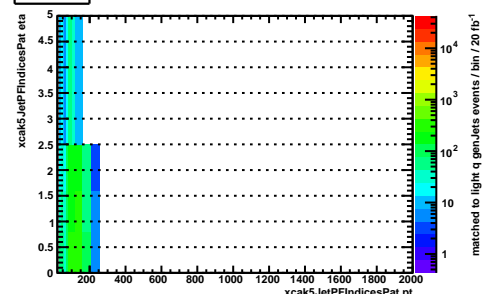


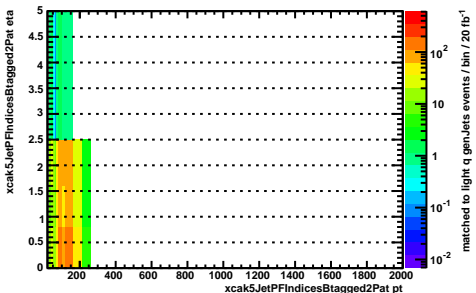
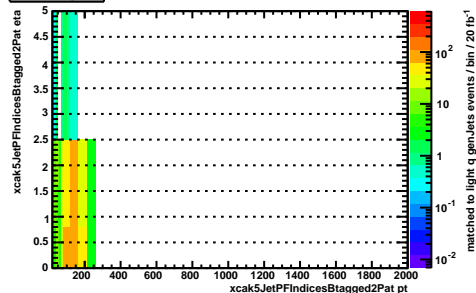
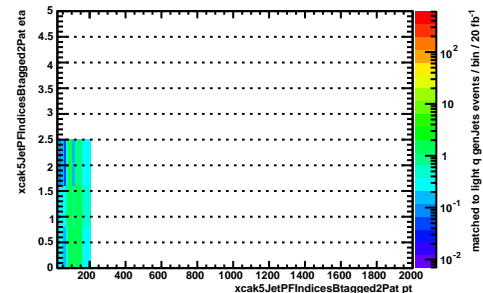
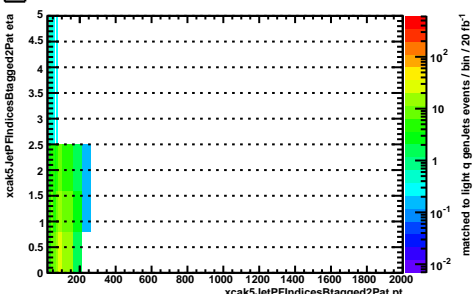
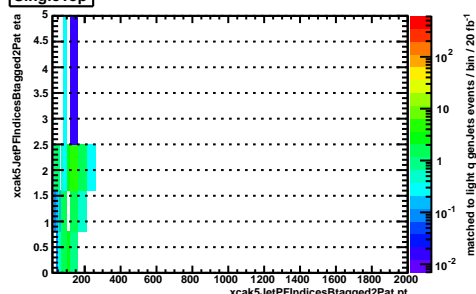
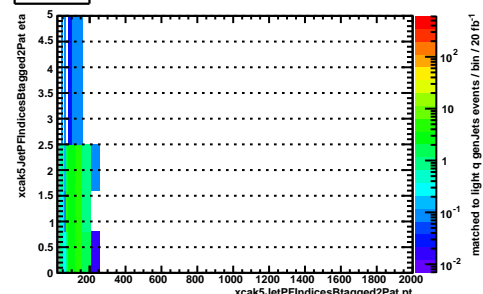
Standard Model**W->lv + jets****vv****tt****SingleTop****Drell-Yan**

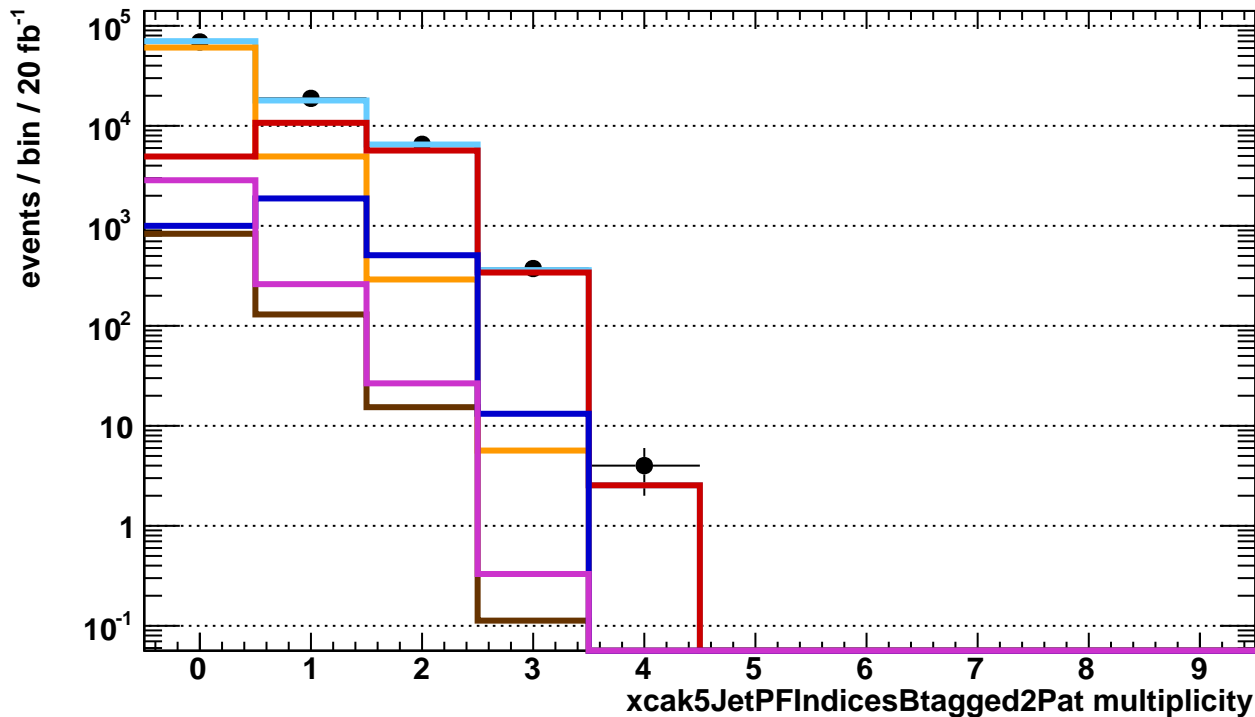
Standard Model**W->lv + jets****VV****tt****SingleTop****Drell-Yan**



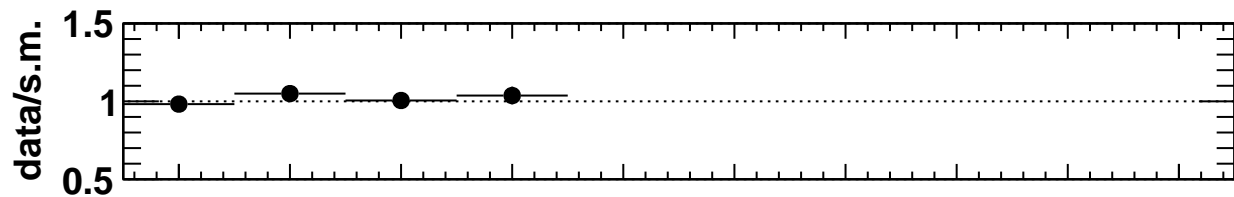
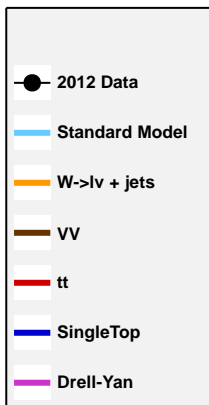
Standard Model**W→lv + jets****vv****tt****SingleTop****Drell-Yan**

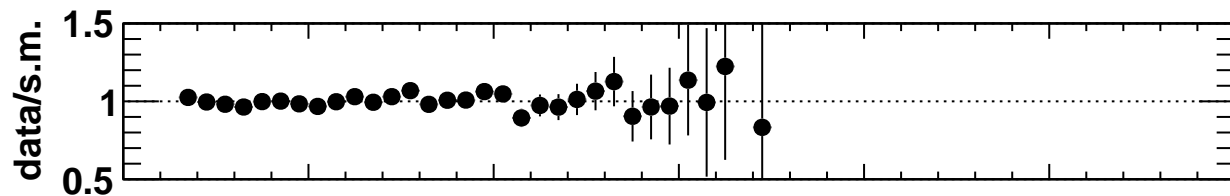
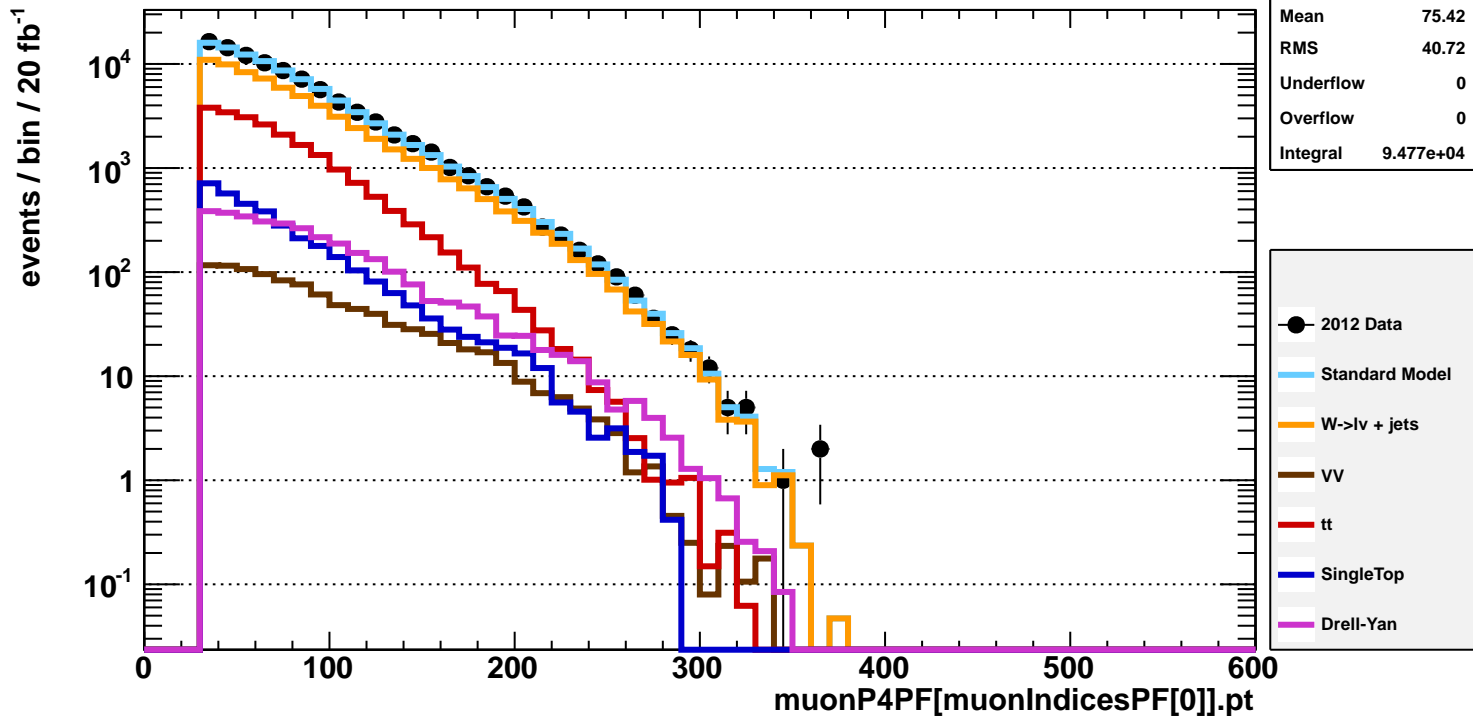
Standard Model**W→lv + jets****VV****tt****SingleTop****Drell-Yan**

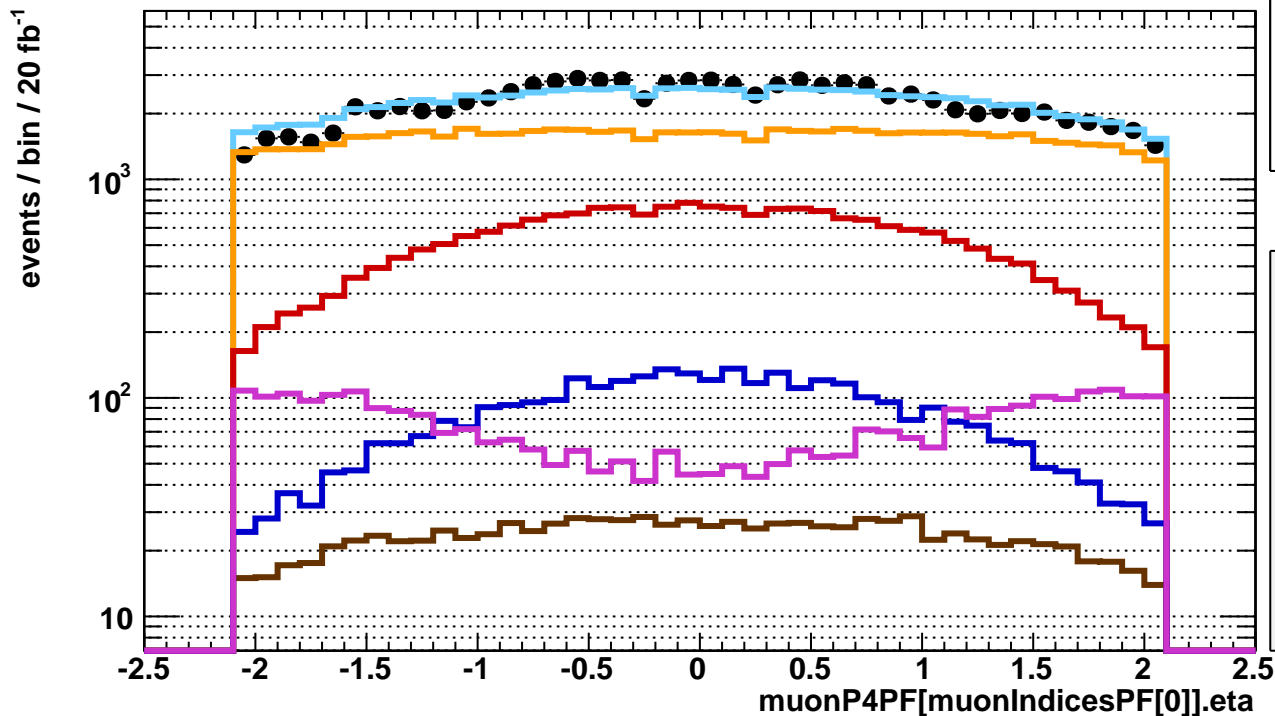
Standard Model**W→lv + jets****VV****tt****SingleTop****Drell-Yan**



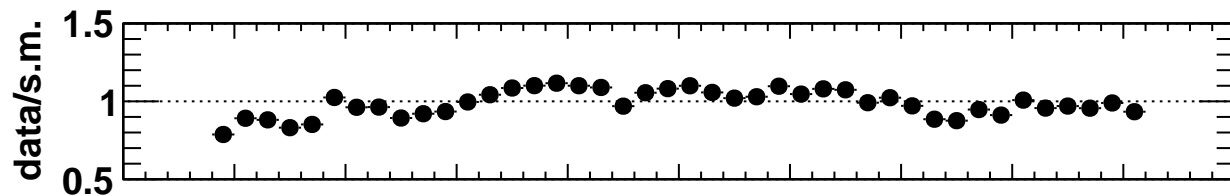
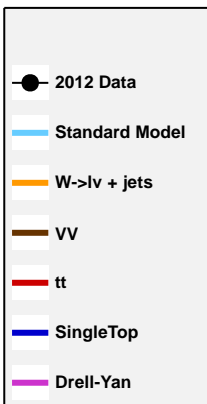
xcak5JetPFIndicesBtagged2PatMultiplicity	
Entries	94768
Mean	0.3486
RMS	0.6239
Underflow	0
Overflow	0
Integral	9.477e+04

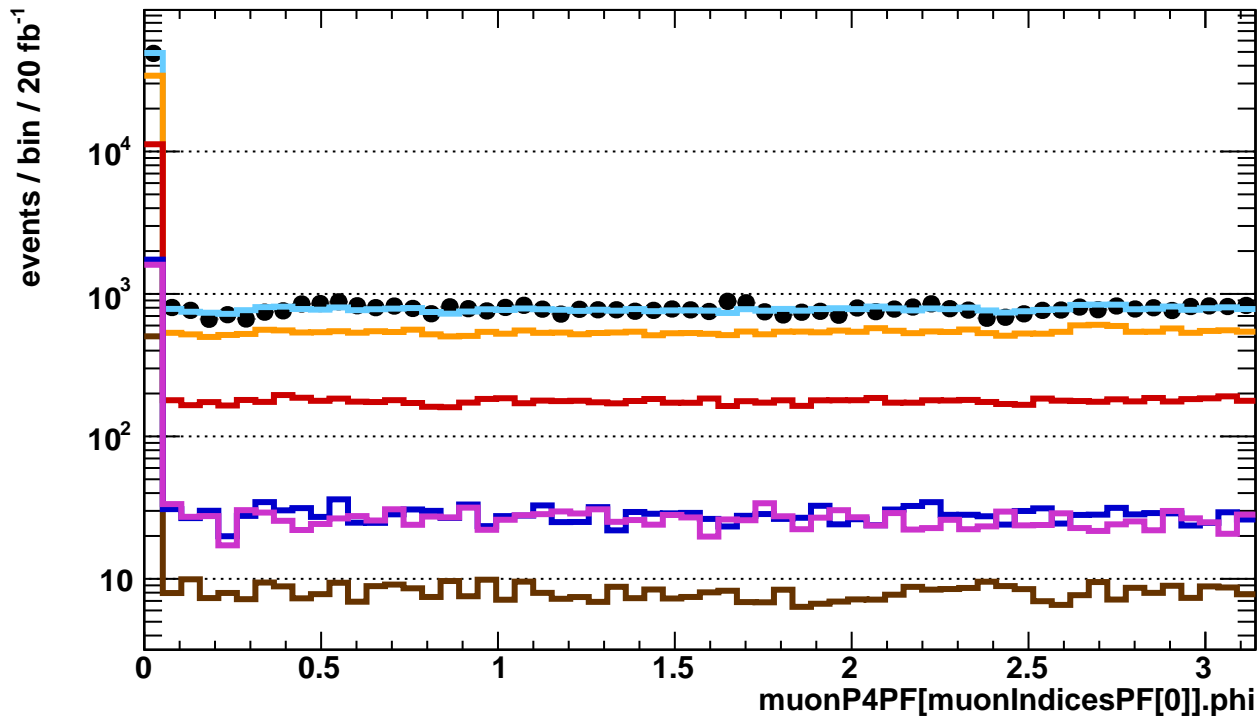




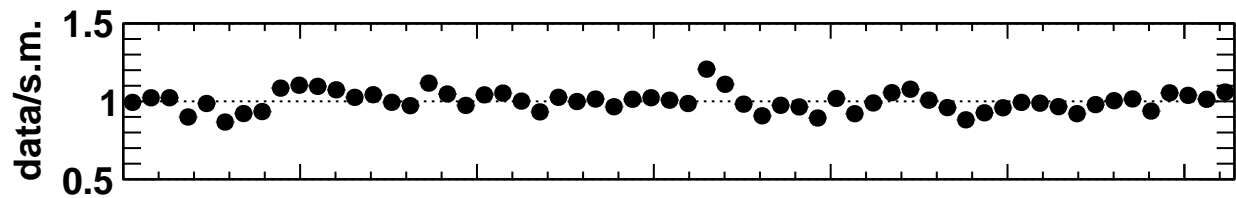
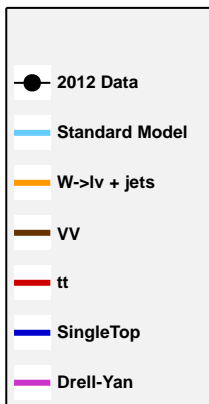


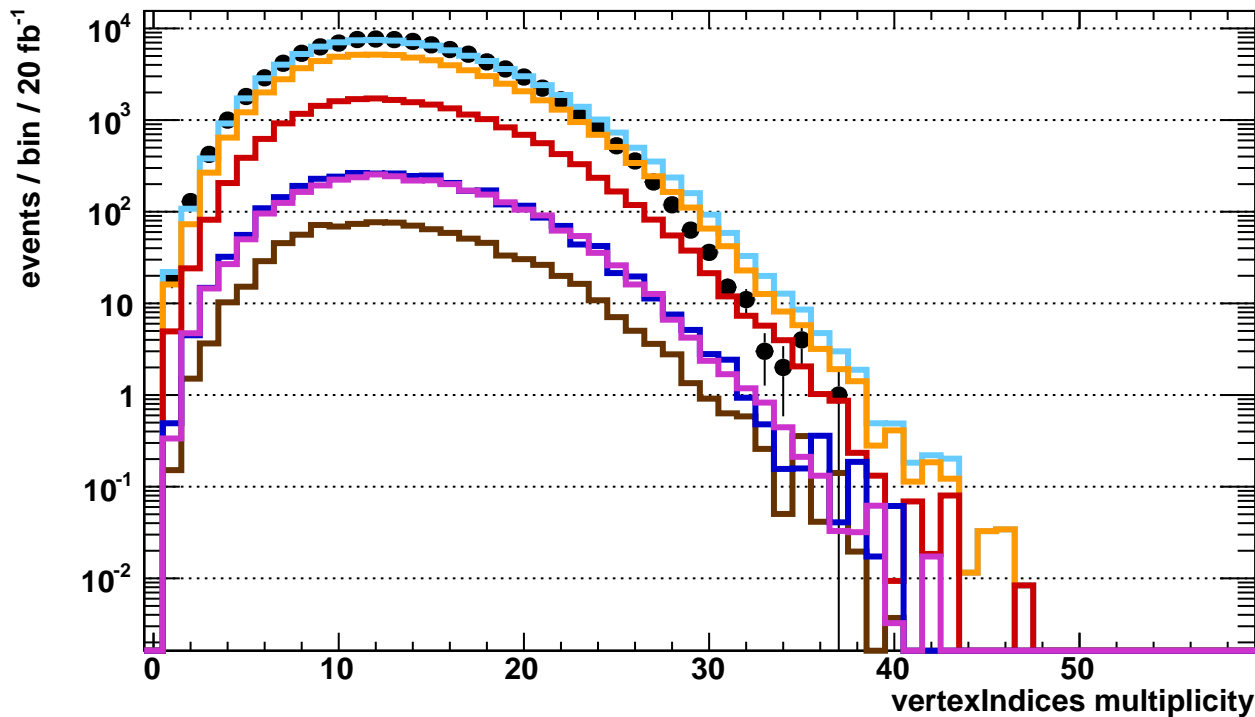
muonP4PF.eta[[0]]; muonIndicesPF	
Entries	94768
Mean	0.01361
RMS	1.102
Underflow	0
Overflow	0
Integral	9.477e+04



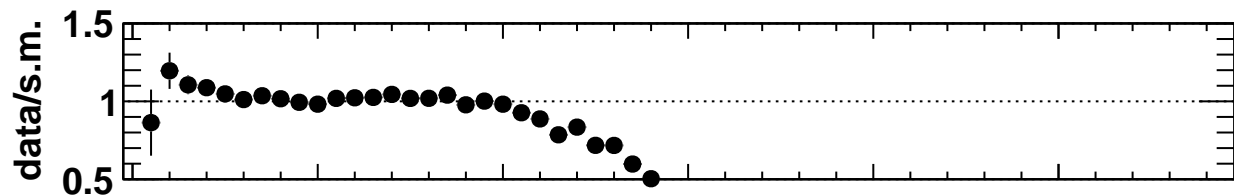
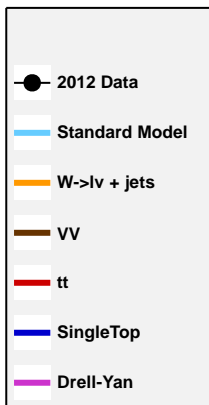


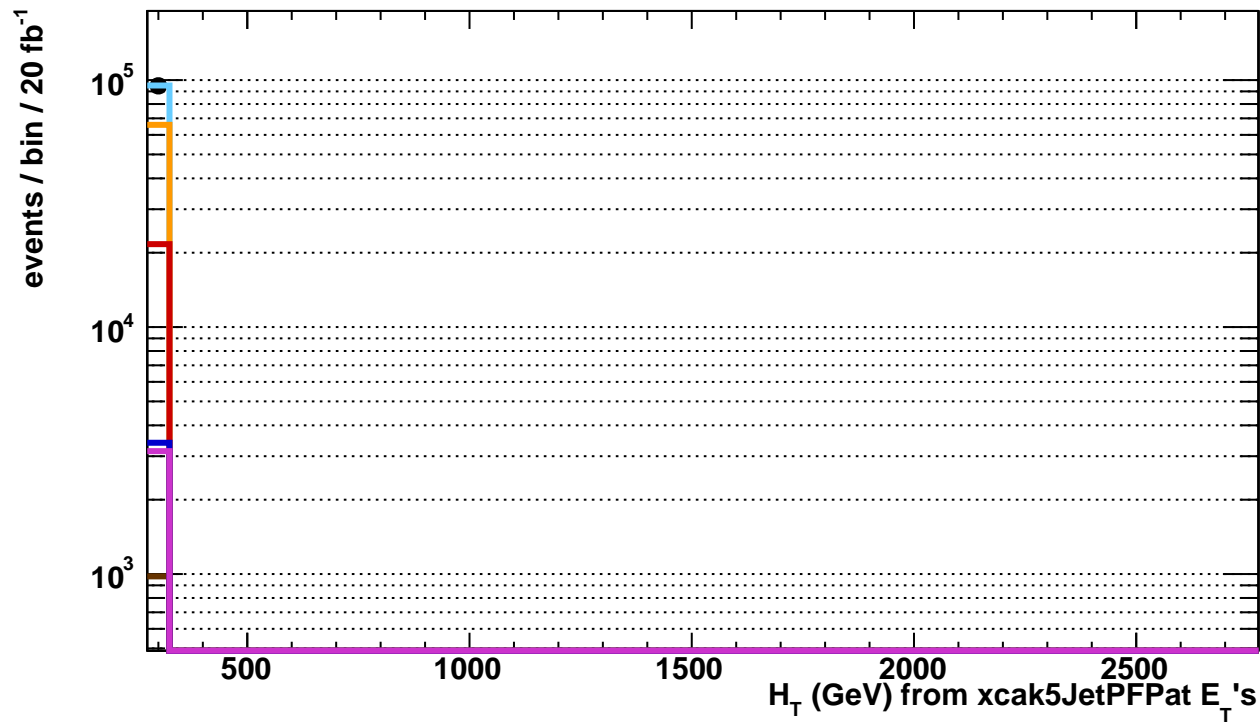
muonP4PF,phi[[0]]; muonIndicesPF	
Entries	94768
Mean	0.7902
RMS	1.003
Underflow	0
Overflow	0
Integral	9.477e+04



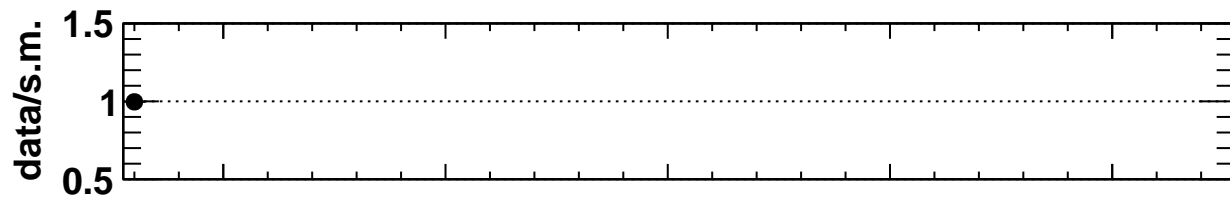


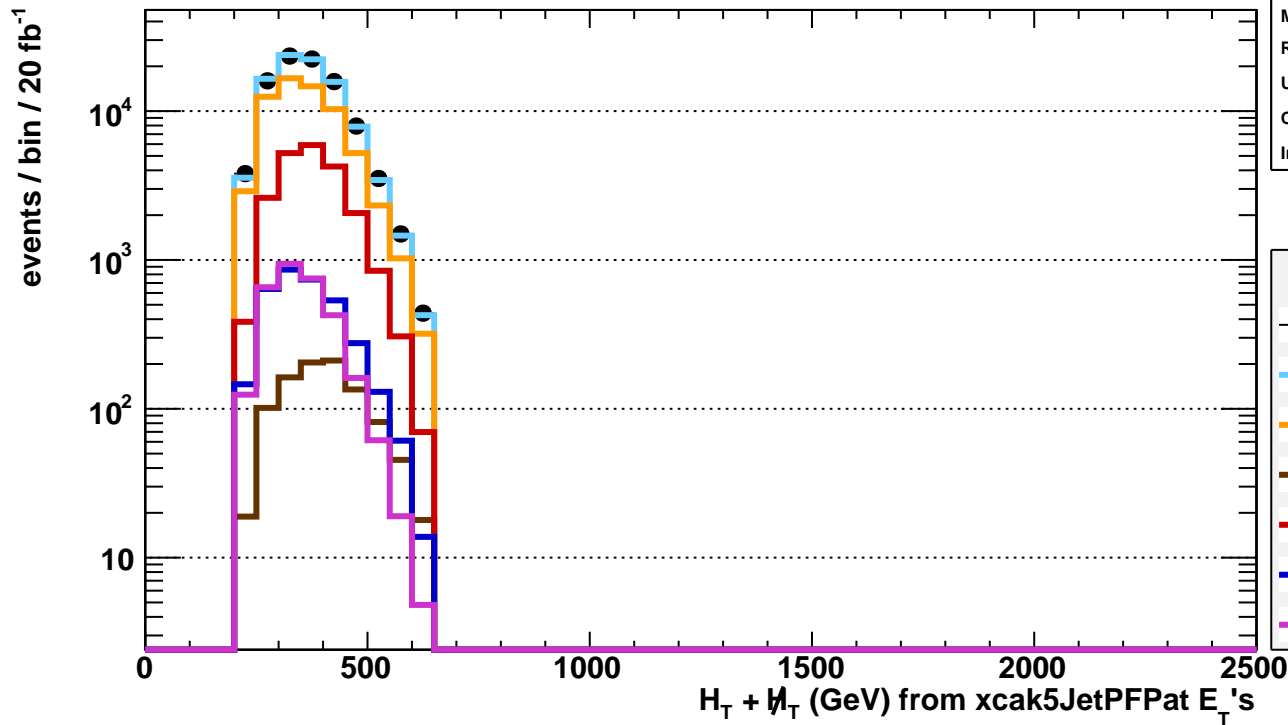
vertexIndicesMultiplicity	
Entries	94768
Mean	13.25
RMS	4.778
Underflow	0
Overflow	0
Integral	9.477e+04



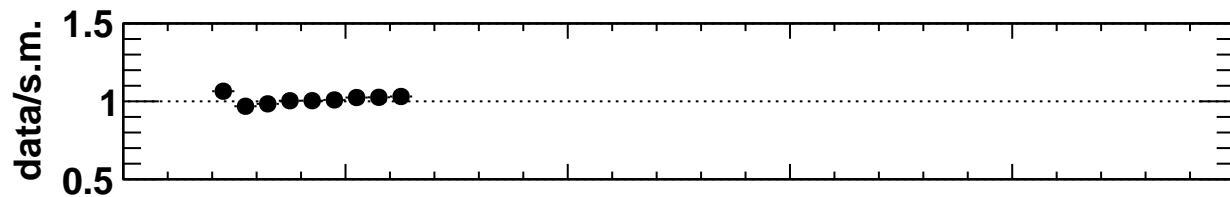
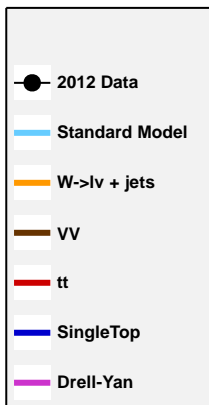


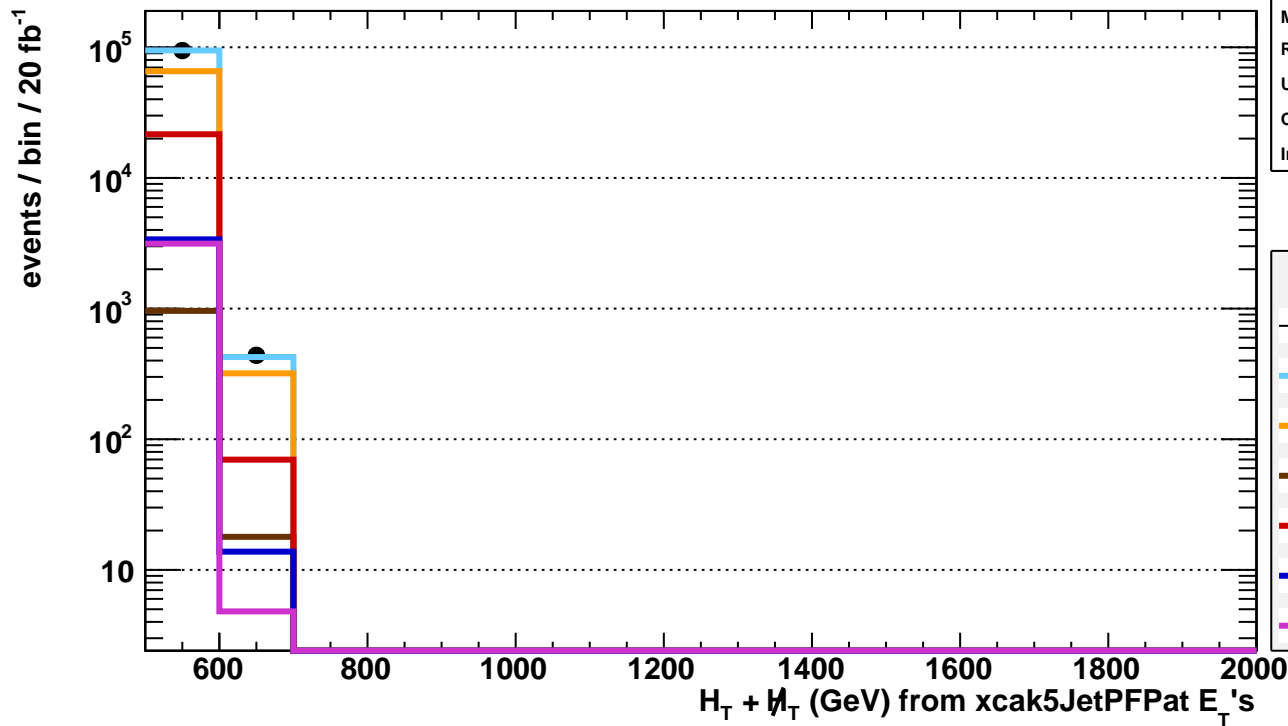
xcak5JetPFPat	
Entries	94768
Mean	300
RMS	0
Underflow	0
Overflow	0
Integral	9.477e+04



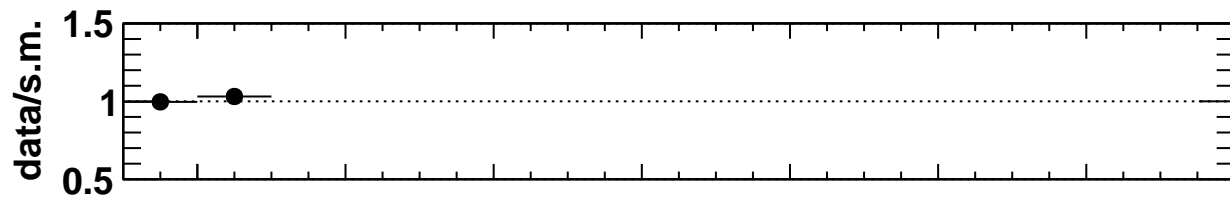
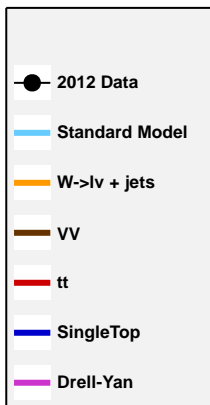


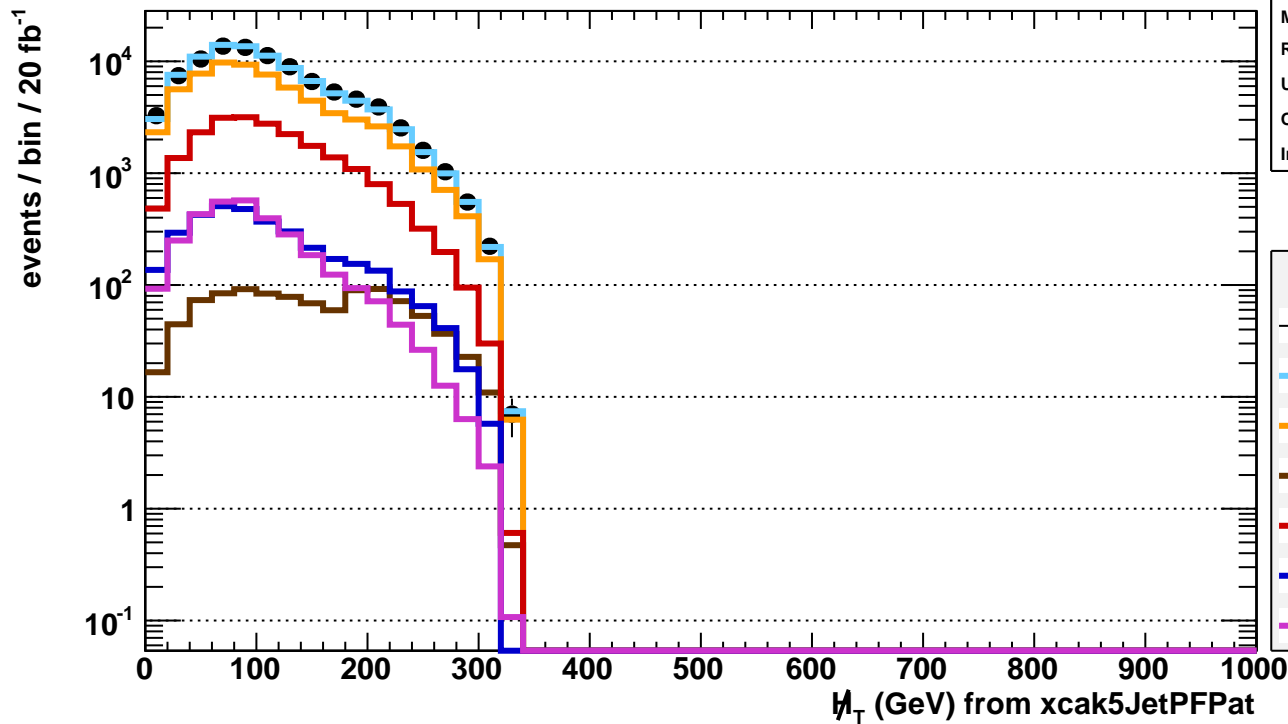
xcak5JetPFPatPlusMhtPat	
Entries	94768
Mean	366.4
RMS	76.94
Underflow	0
Overflow	0
Integral	9.477e+04



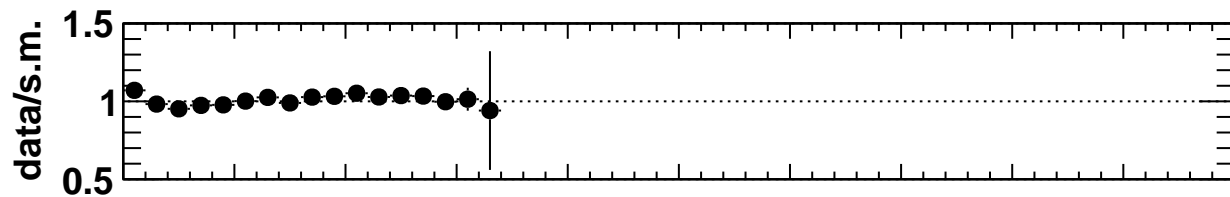
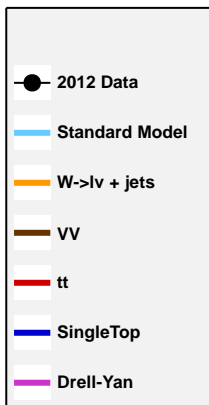


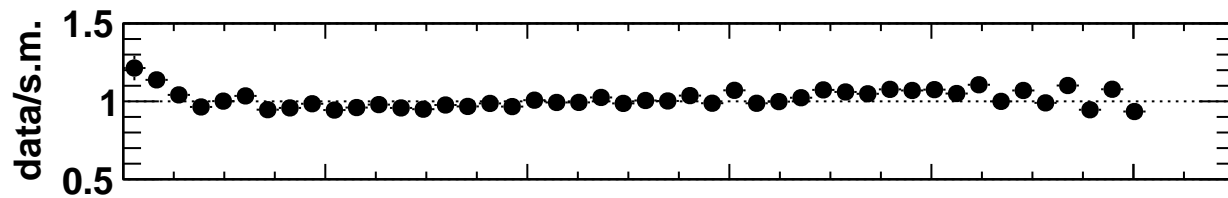
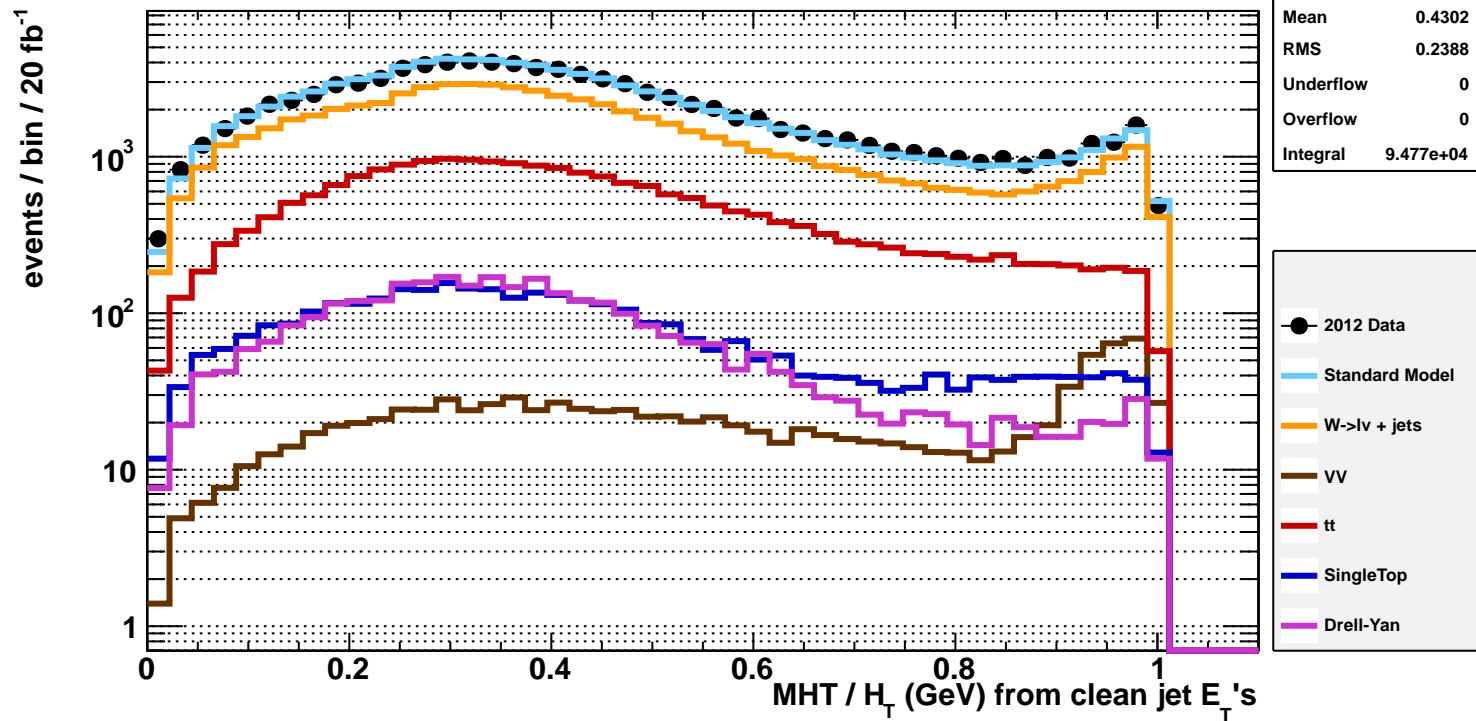
xcak5JetPFPtPlusMhtRoughPat	
Entries	94768
Mean	550.5
RMS	6.79
Underflow	0
Overflow	0
Integral	9.477e+04

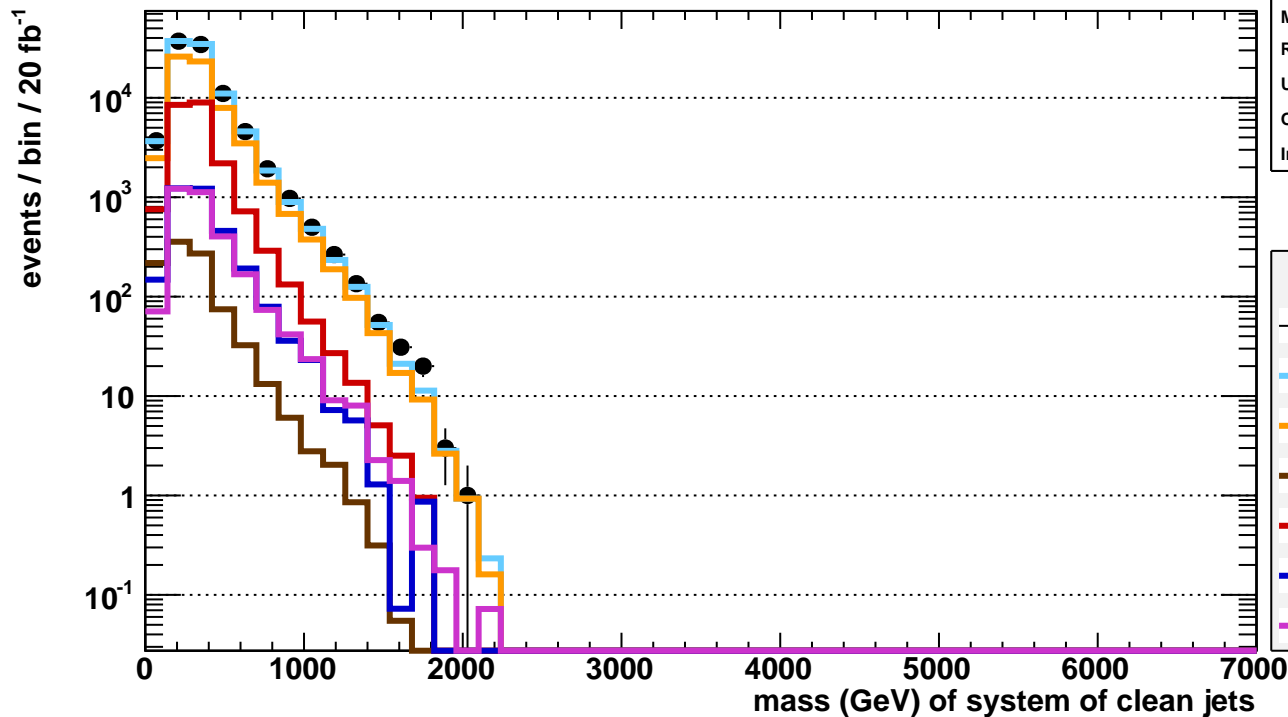




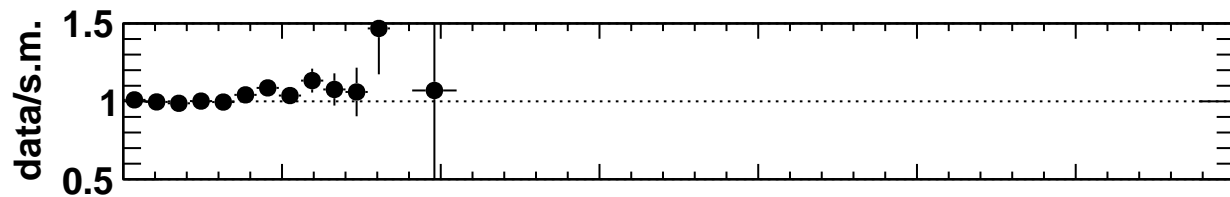
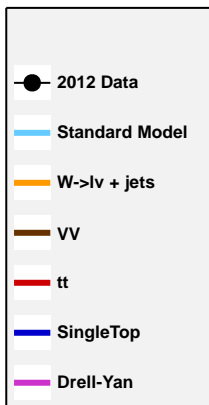
xcak5JetPFMhtPat	
Entries	94768
Mean	109.9
RMS	62.13
Underflow	0
Overflow	0
Integral	9.477e+04

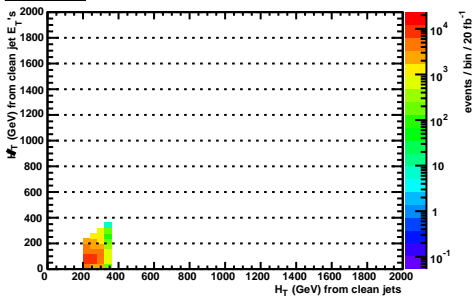
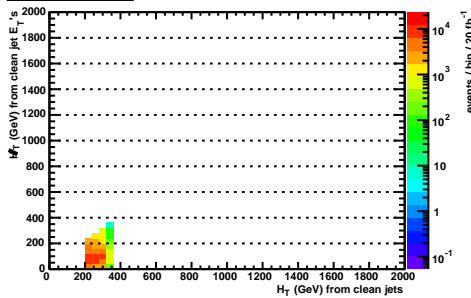
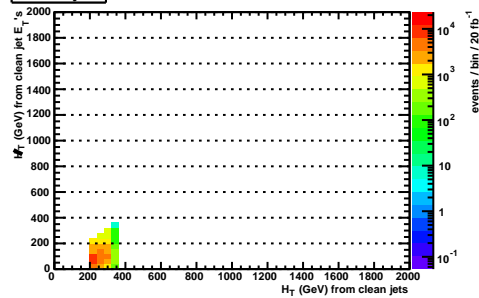
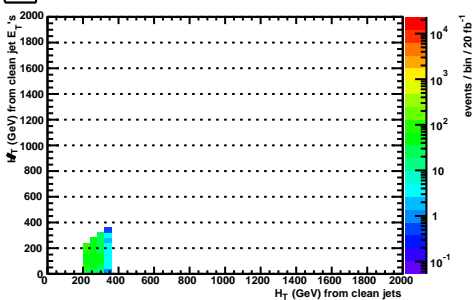
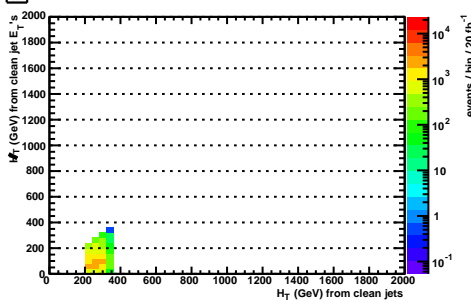
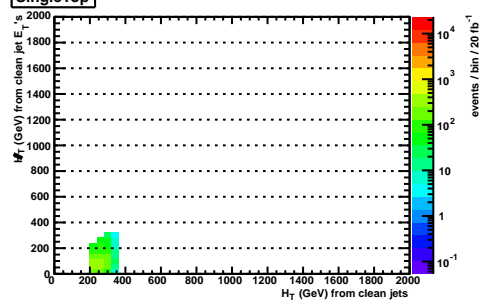
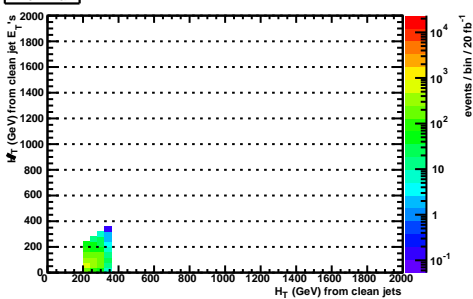


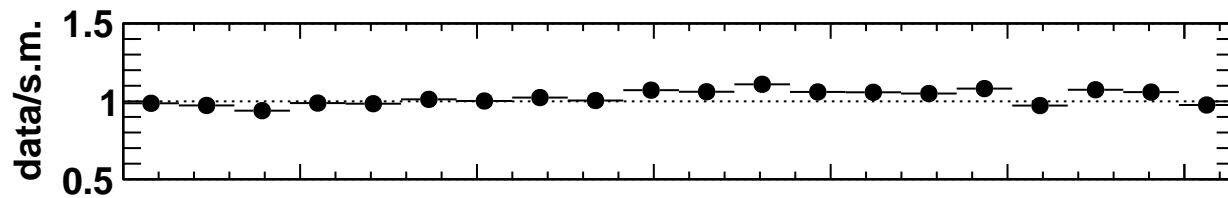
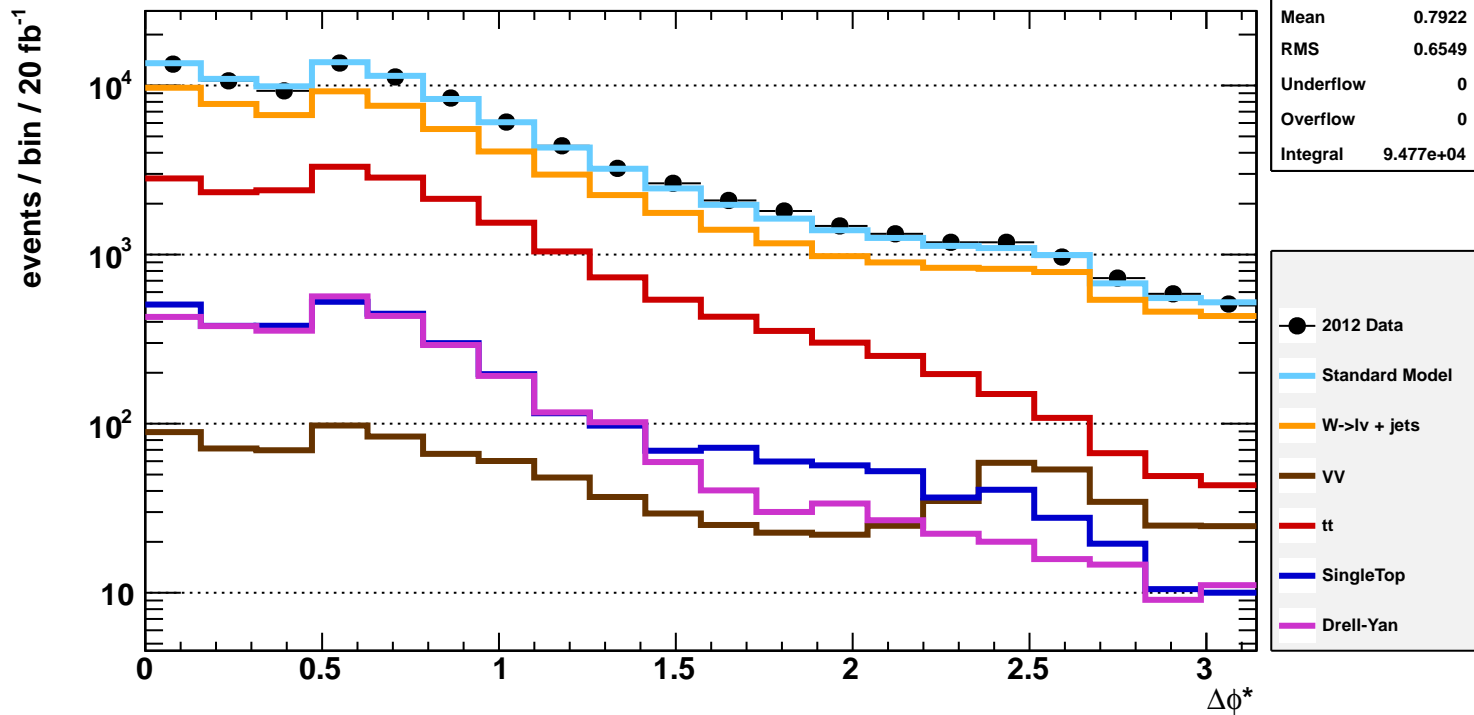


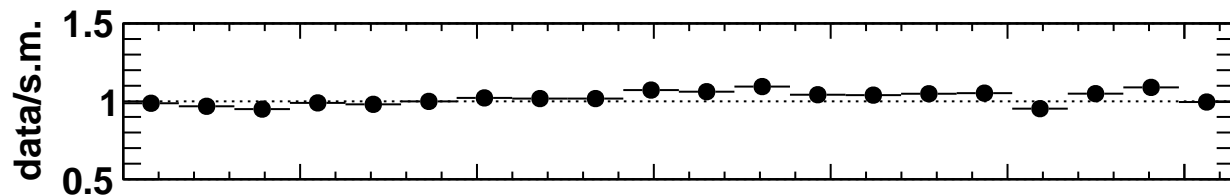
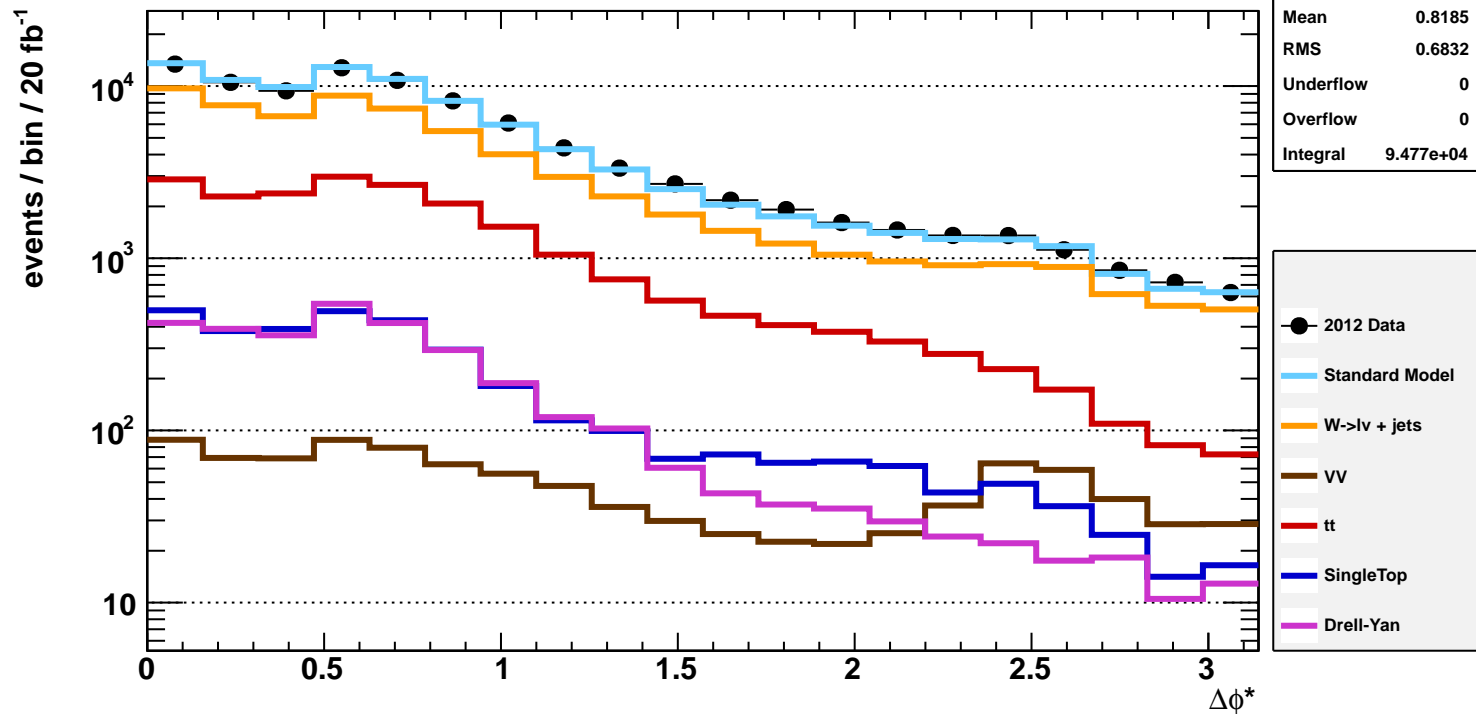


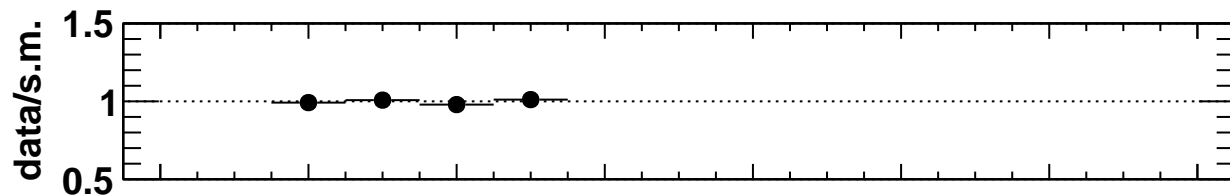
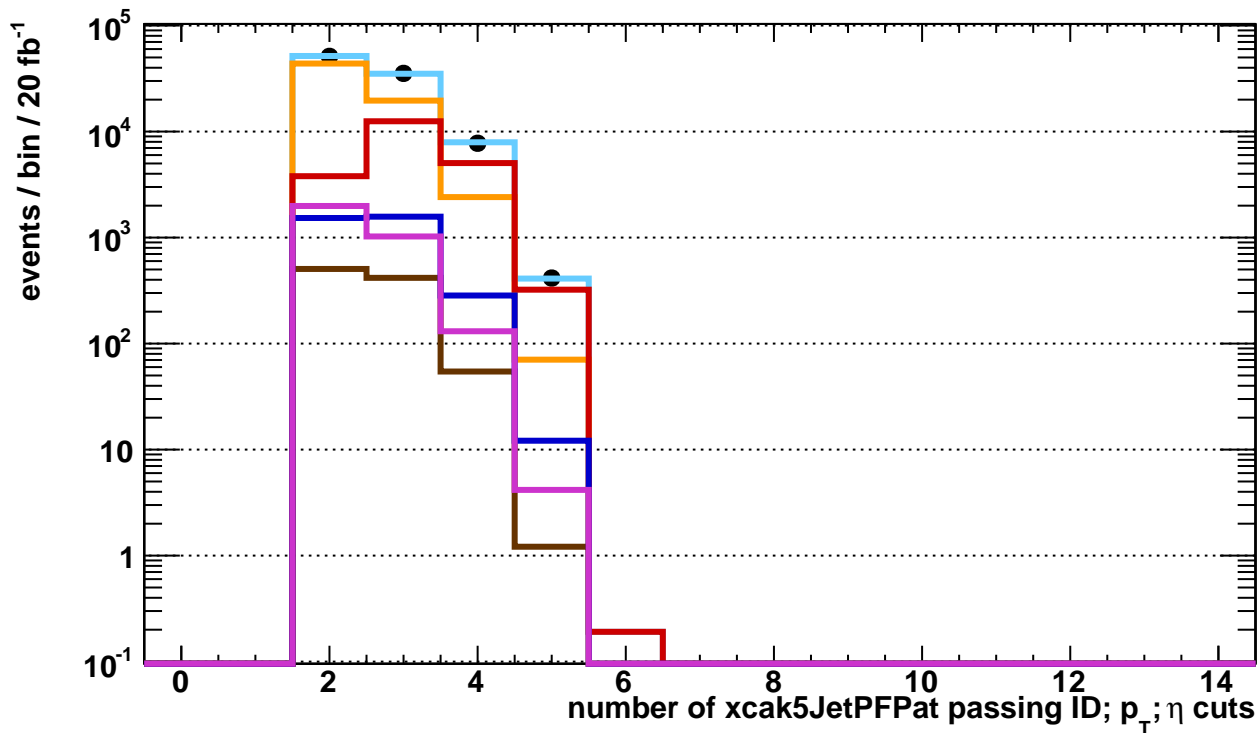
xcak5JetPFmPat	
Entries	94768
Mean	339.1
RMS	169.8
Underflow	0
Overflow	0
Integral	9.477e+04

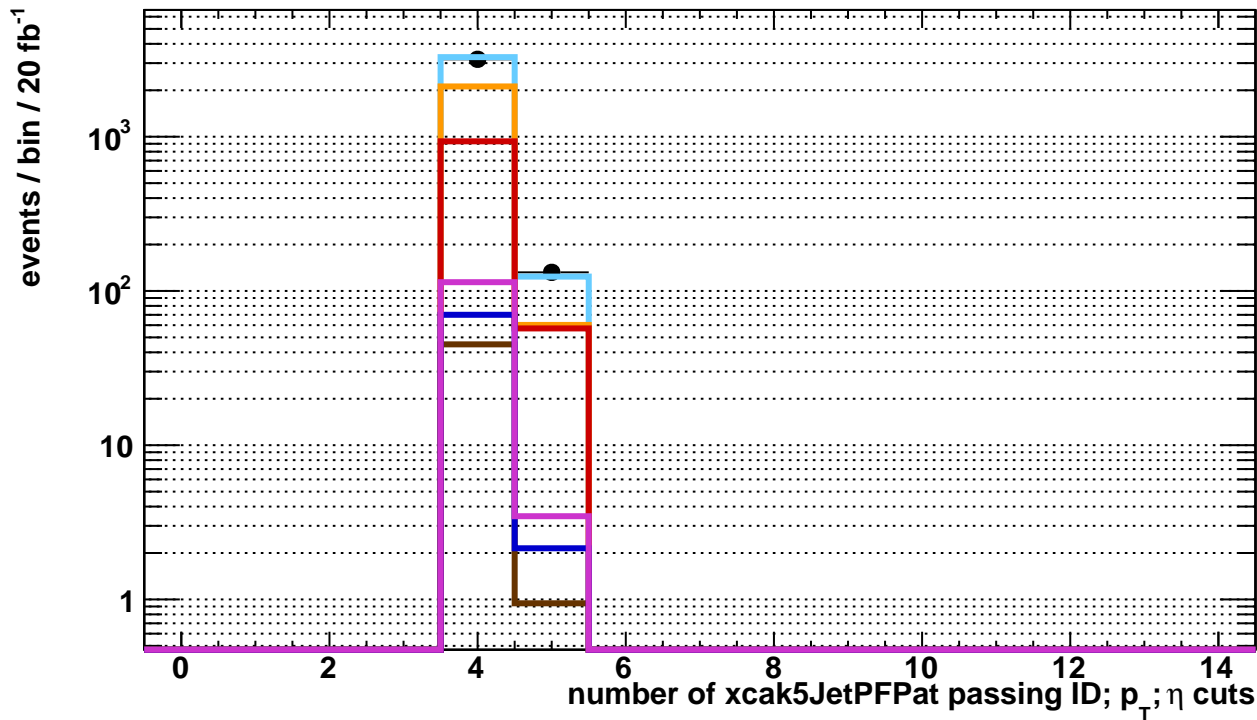


2012 Data**Standard Model****W->lv + jets****VV****tt****SingleTop****Drell-Yan**

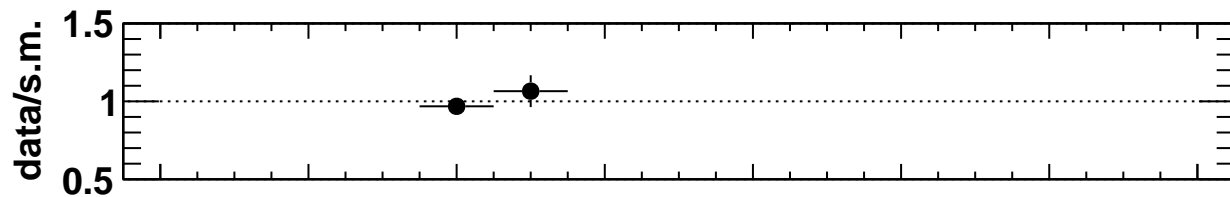
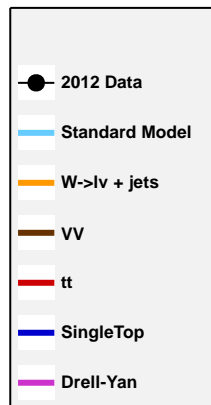


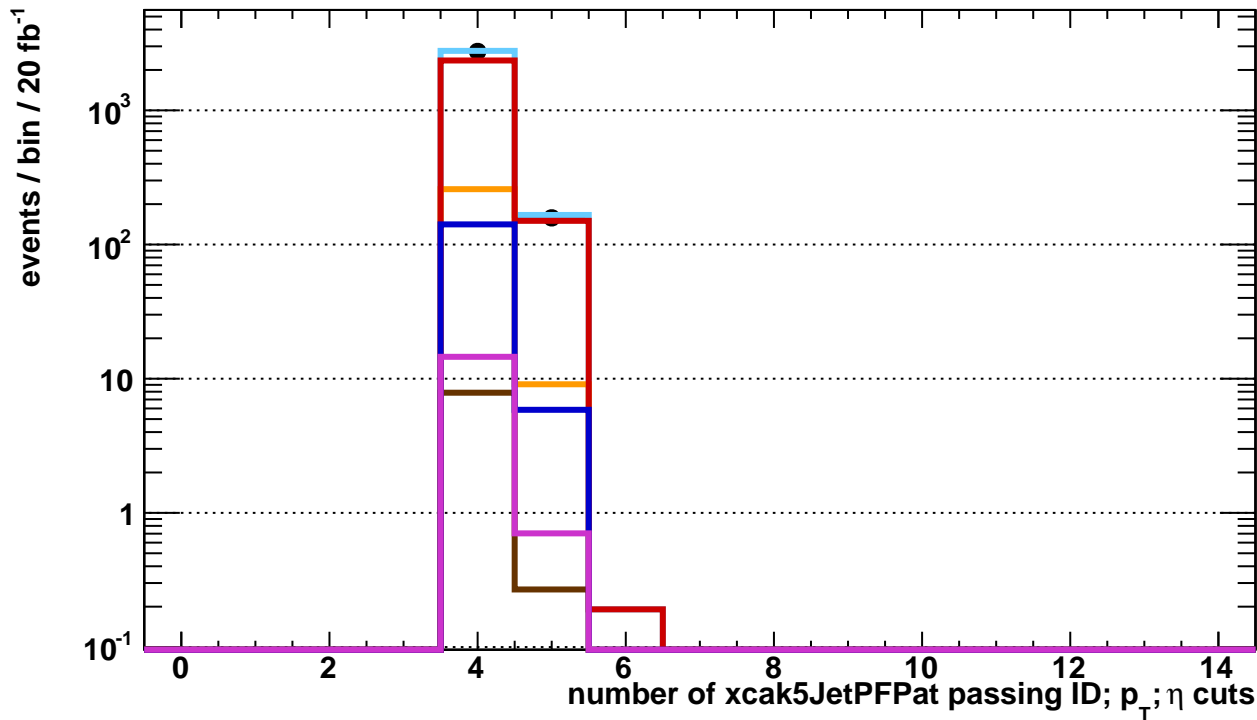




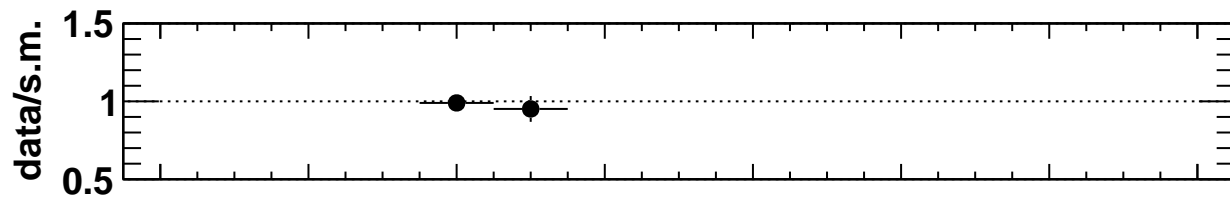
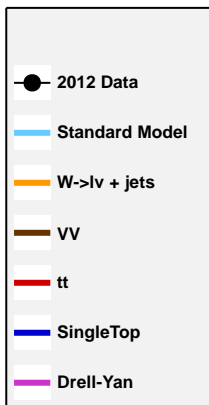


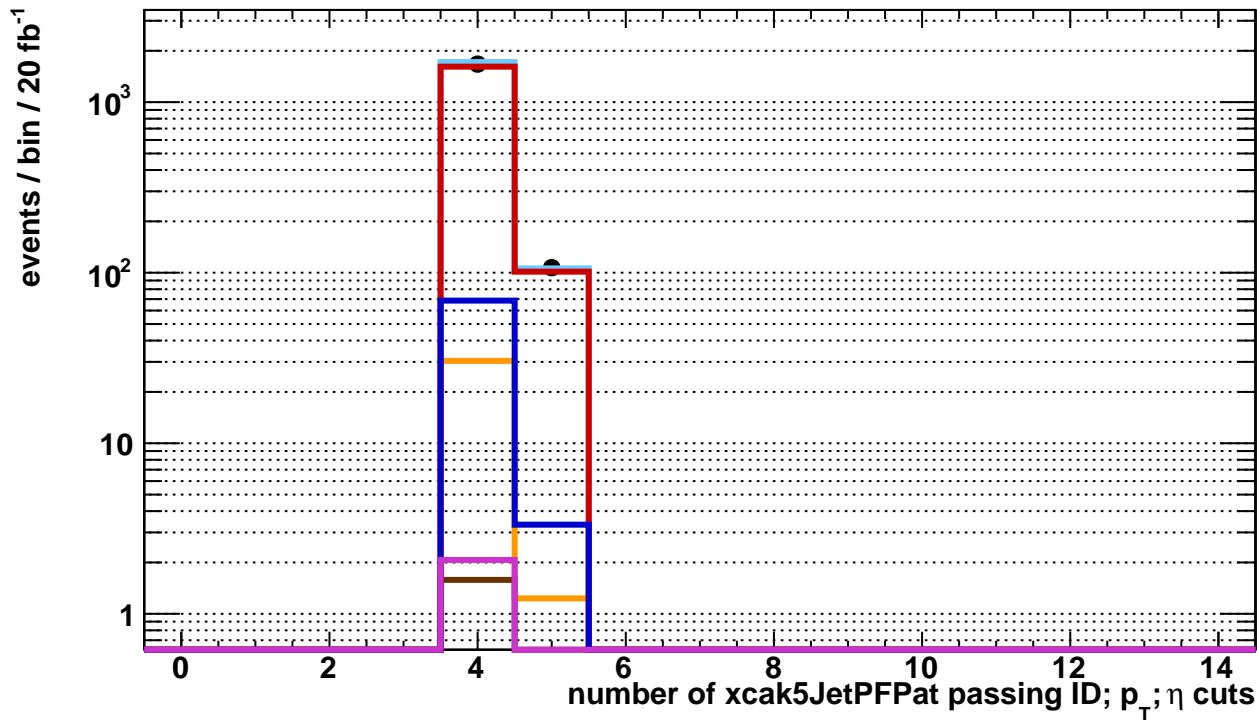
xcak5JetPFPIndicesPat_ge4j_eq0b	
Entries	3308
Mean	4.04
RMS	0.1957
Underflow	0
Overflow	0
Integral	3308



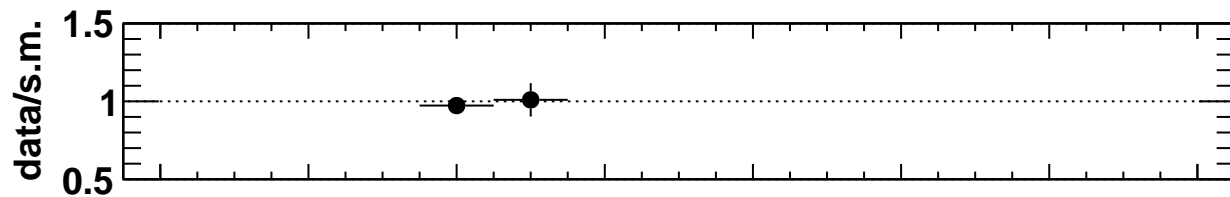
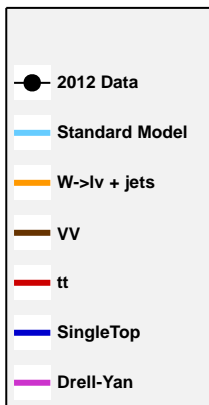


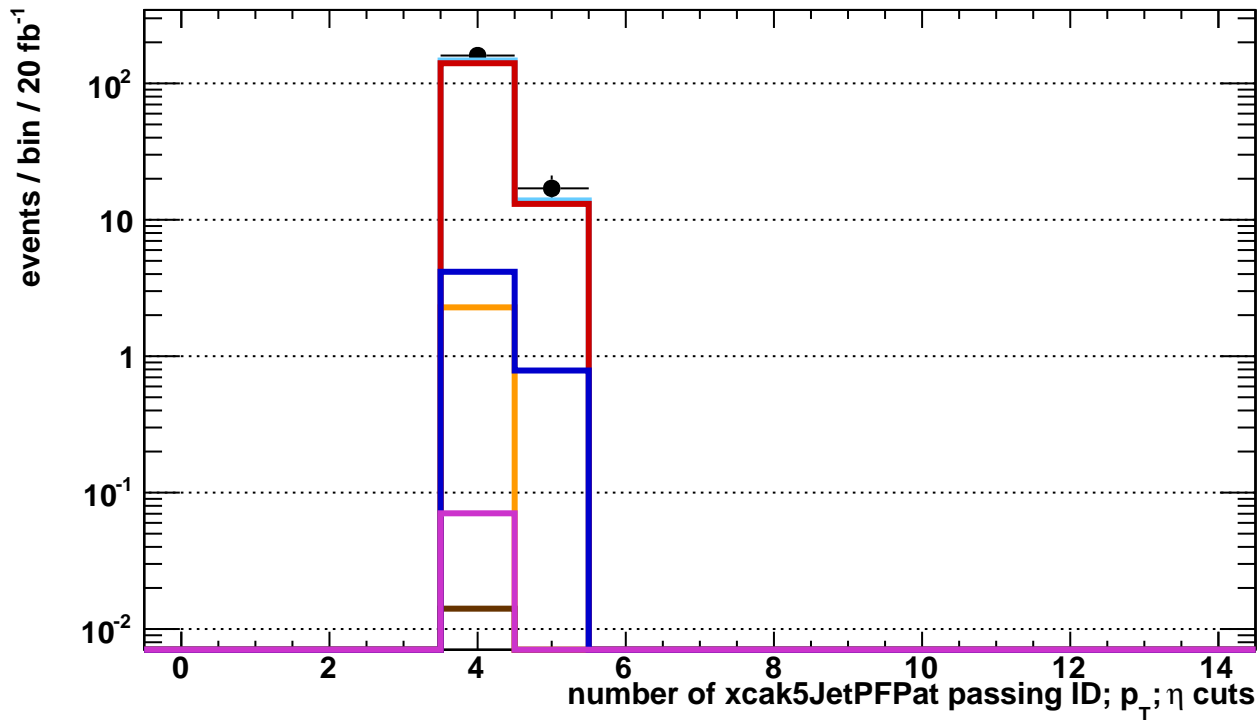
xcak5JetPFPIndicesPat_ge4j_eq1b	
Entries	2905
Mean	4.054
RMS	0.2268
Underflow	0
Overflow	0
Integral	2905



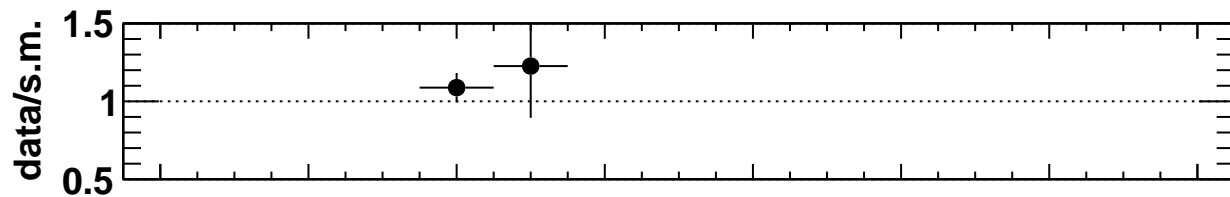
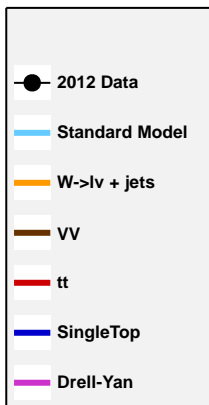


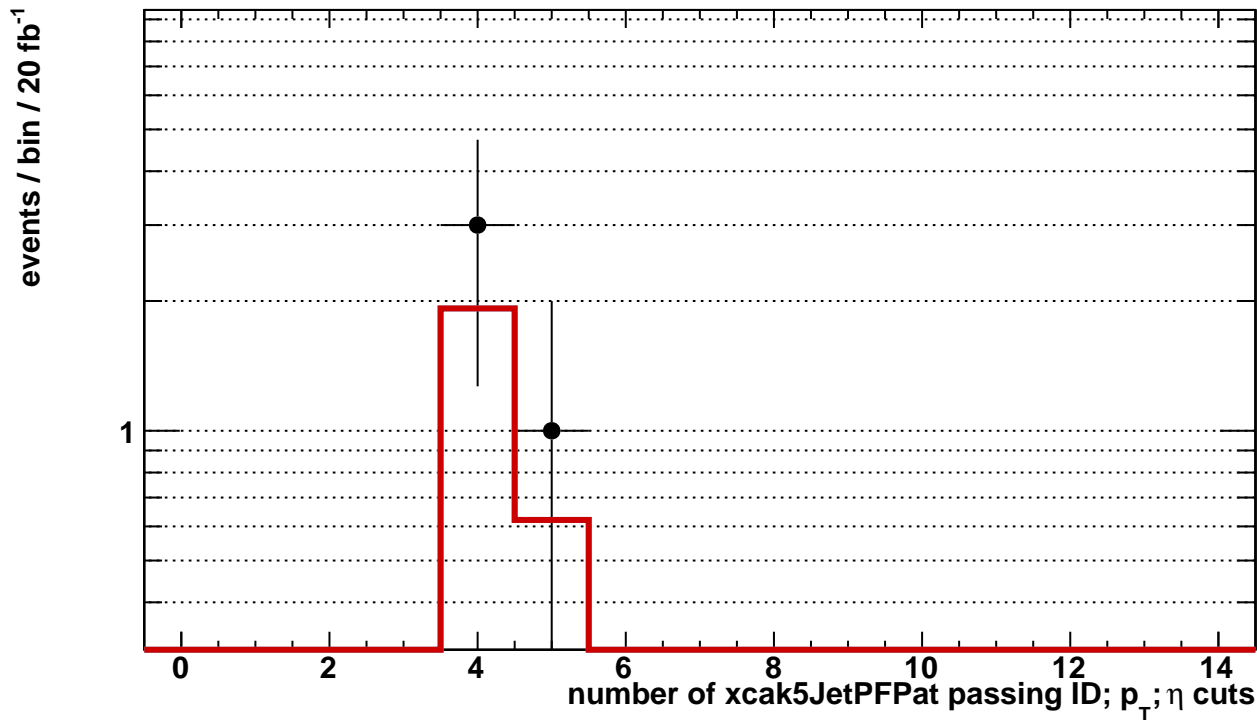
xcak5JetPFPIndicesPat_ge4j_eq2b	
Entries	1778
Mean	4.06
RMS	0.2378
Underflow	0
Overflow	0
Integral	1778



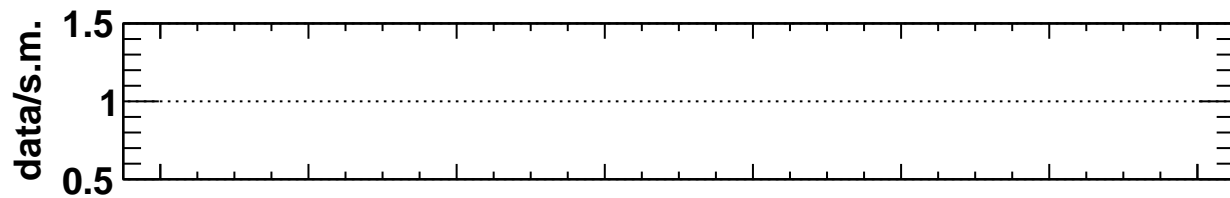
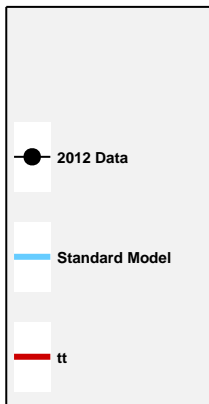


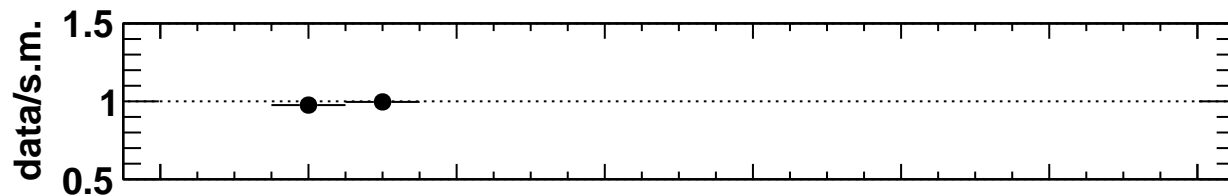
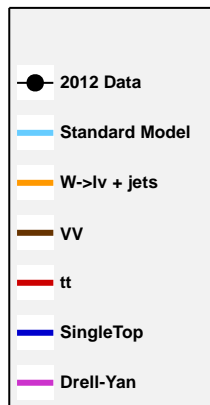
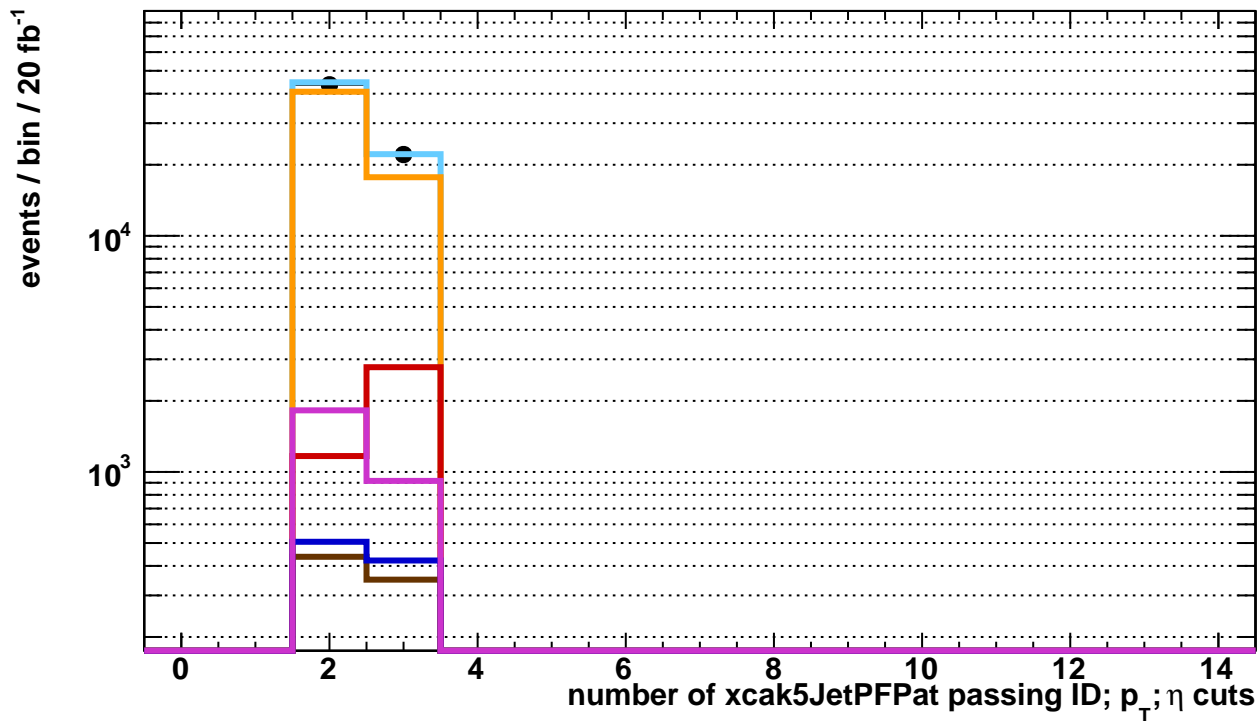
xcak5JetPFPIndicesPat_ge4j_eq3b	
Entries	177
Mean	4.096
RMS	0.2947
Underflow	0
Overflow	0
Integral	177

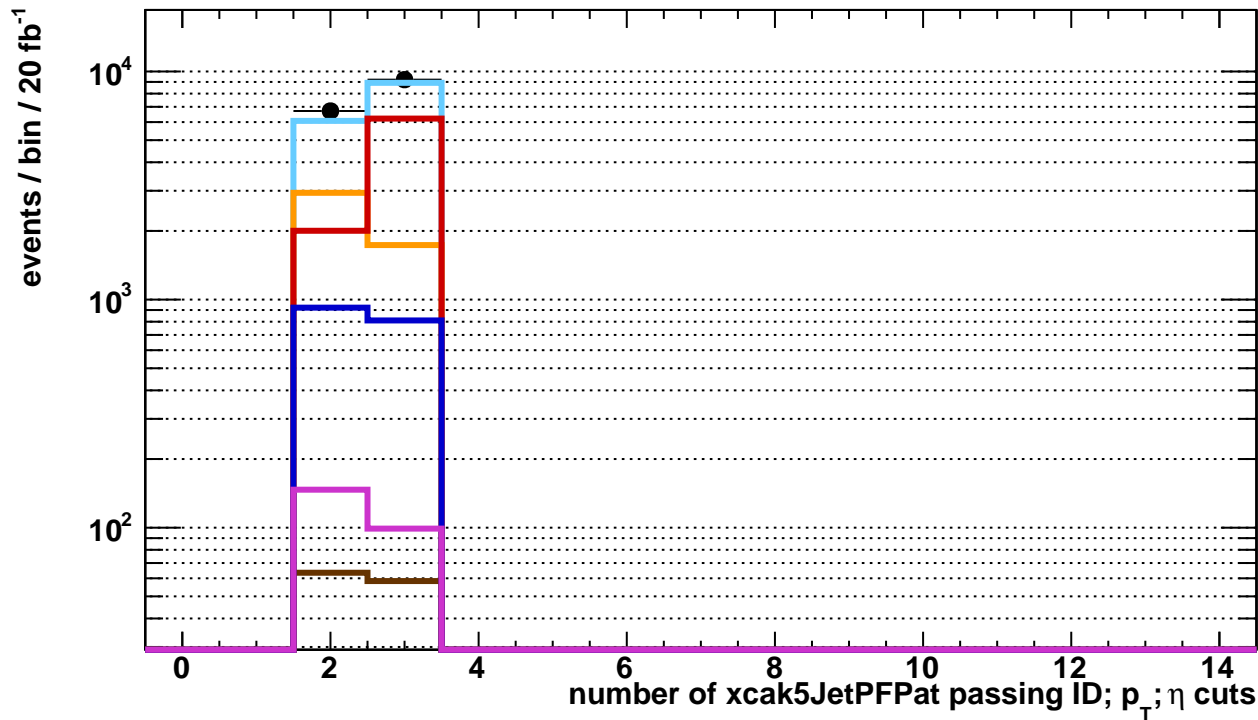




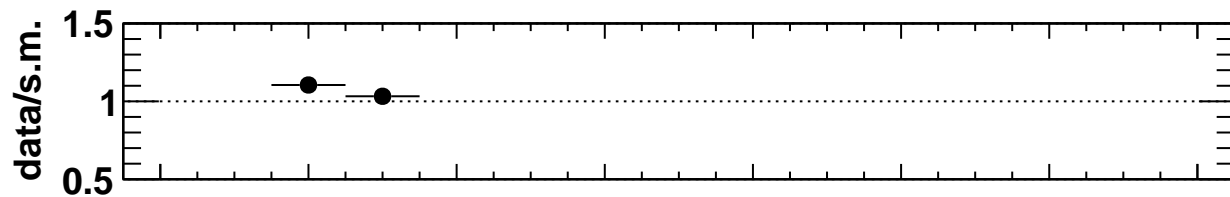
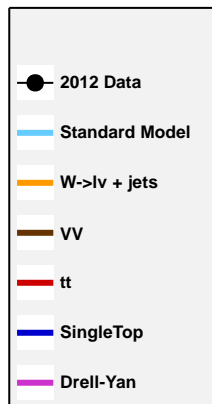
xcak5JetPFPIndicesPat_ge4j_ge4b	
Entries	4
Mean	4.25
RMS	0.433
Underflow	0
Overflow	0
Integral	4



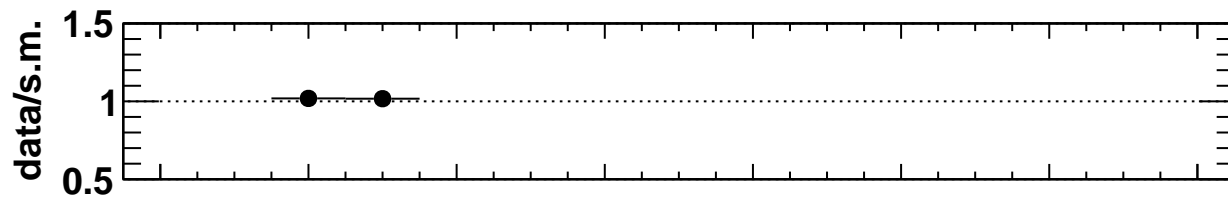
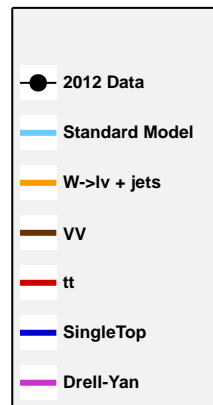
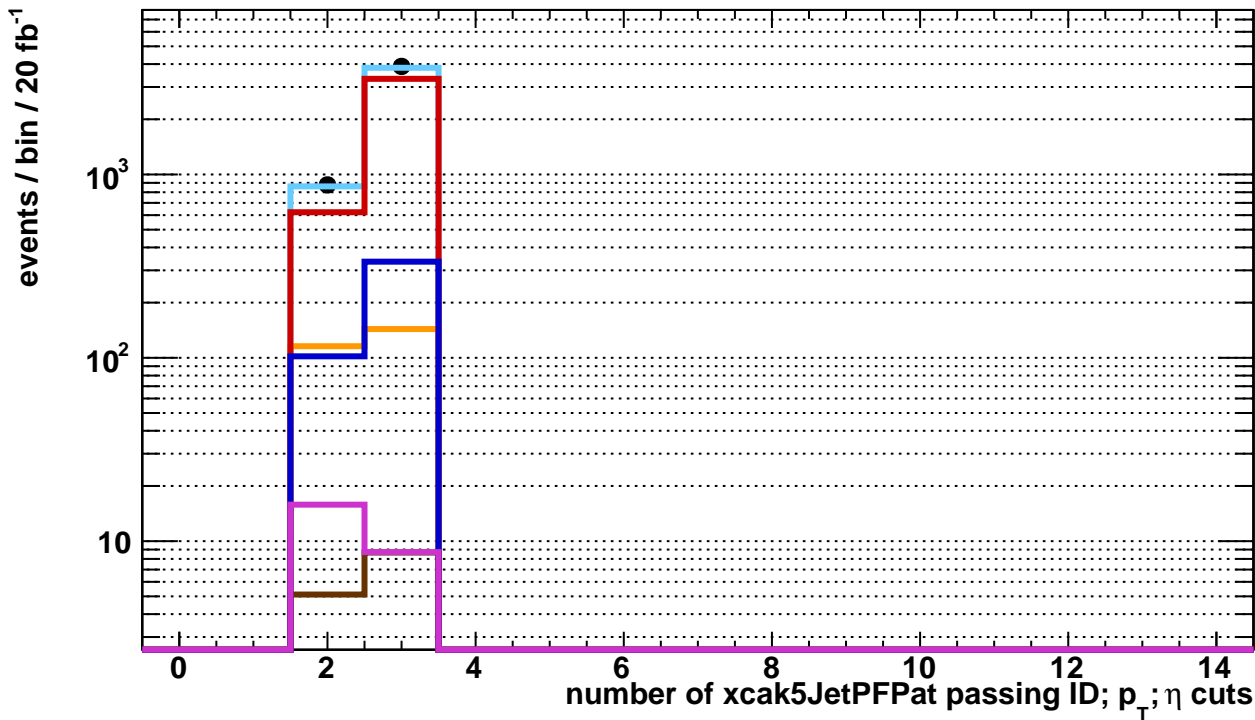




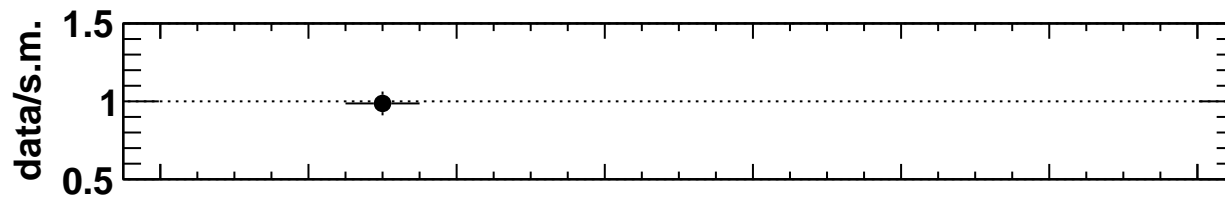
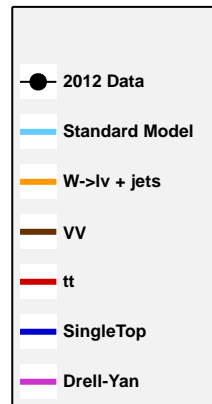
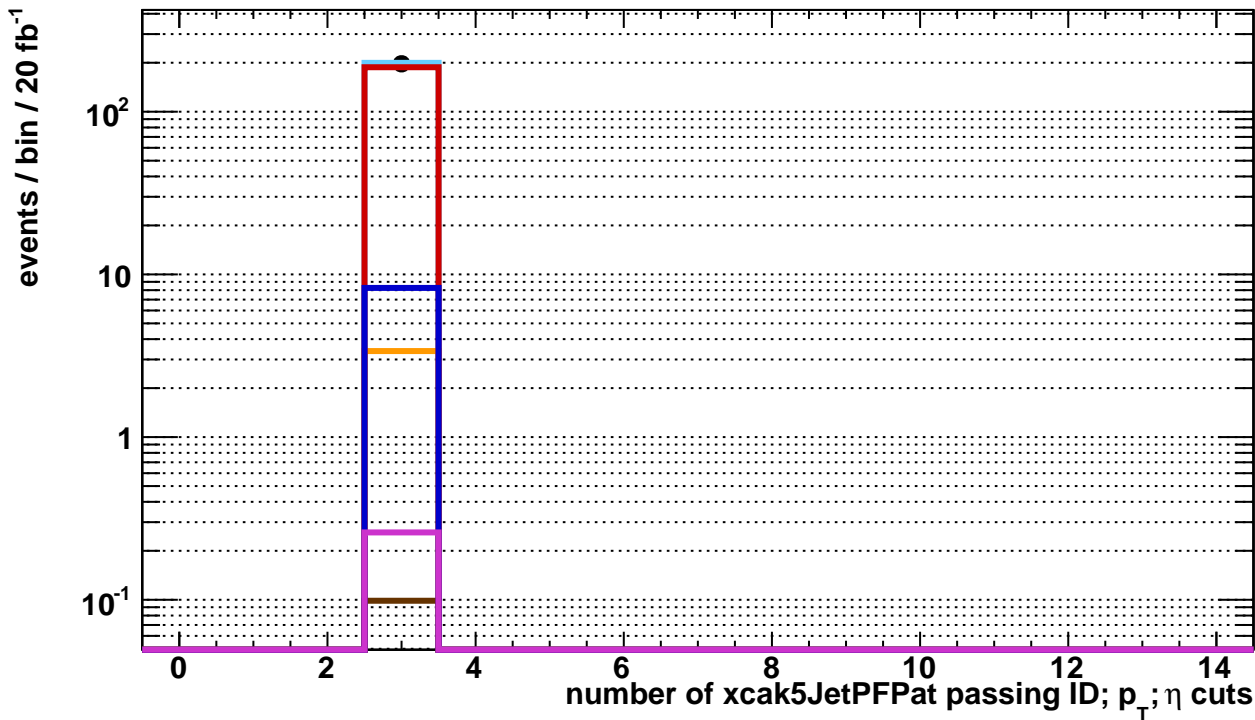
xcak5JetPFPIndicesPat_le3j_eq1b	
Entries	15919
Mean	2.578
RMS	0.4938
Underflow	0
Overflow	0
Integral	1.592e+04

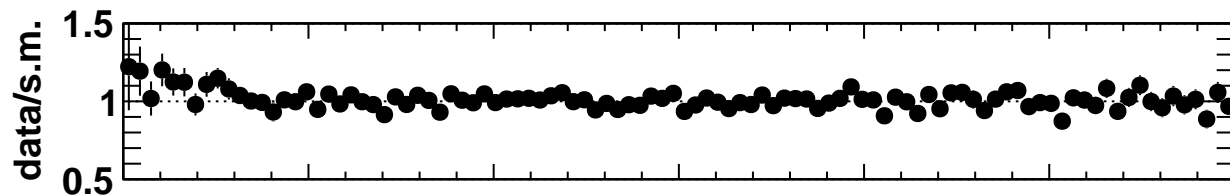
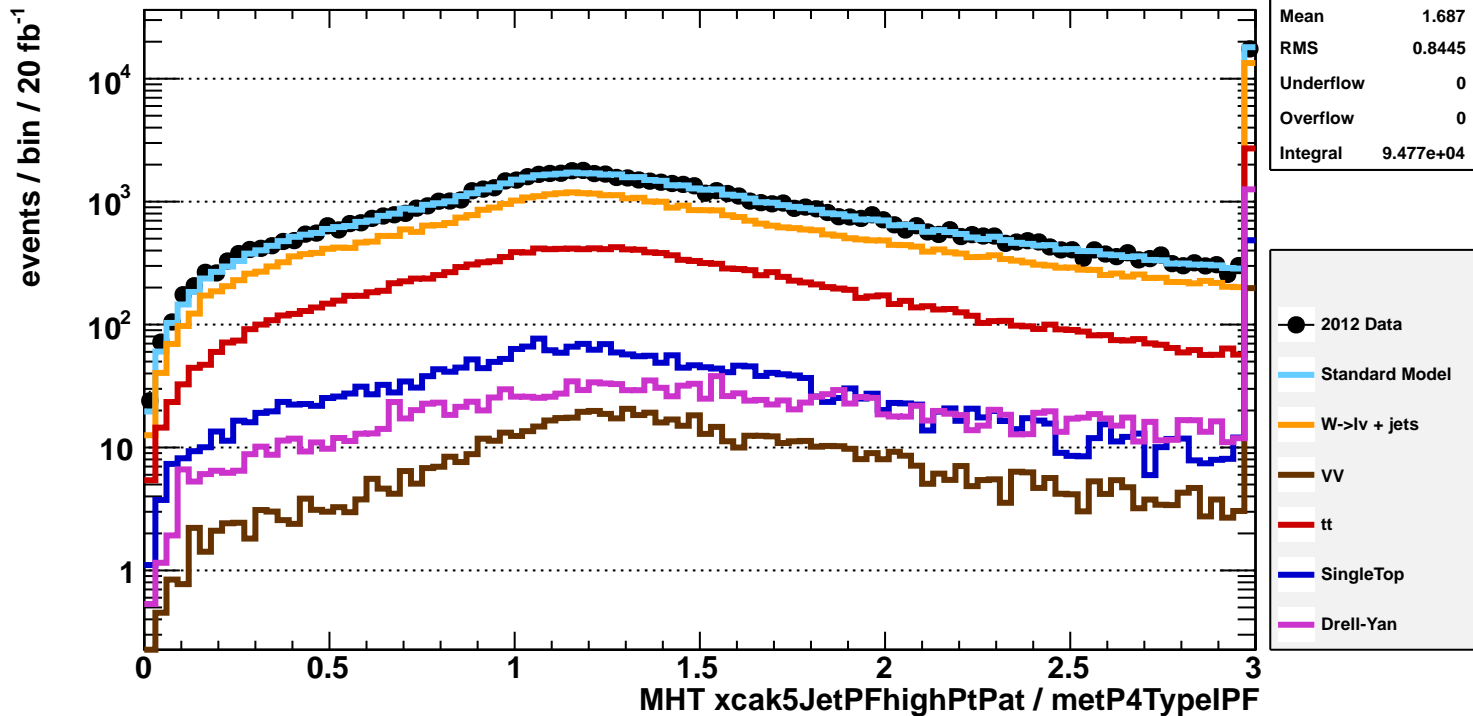


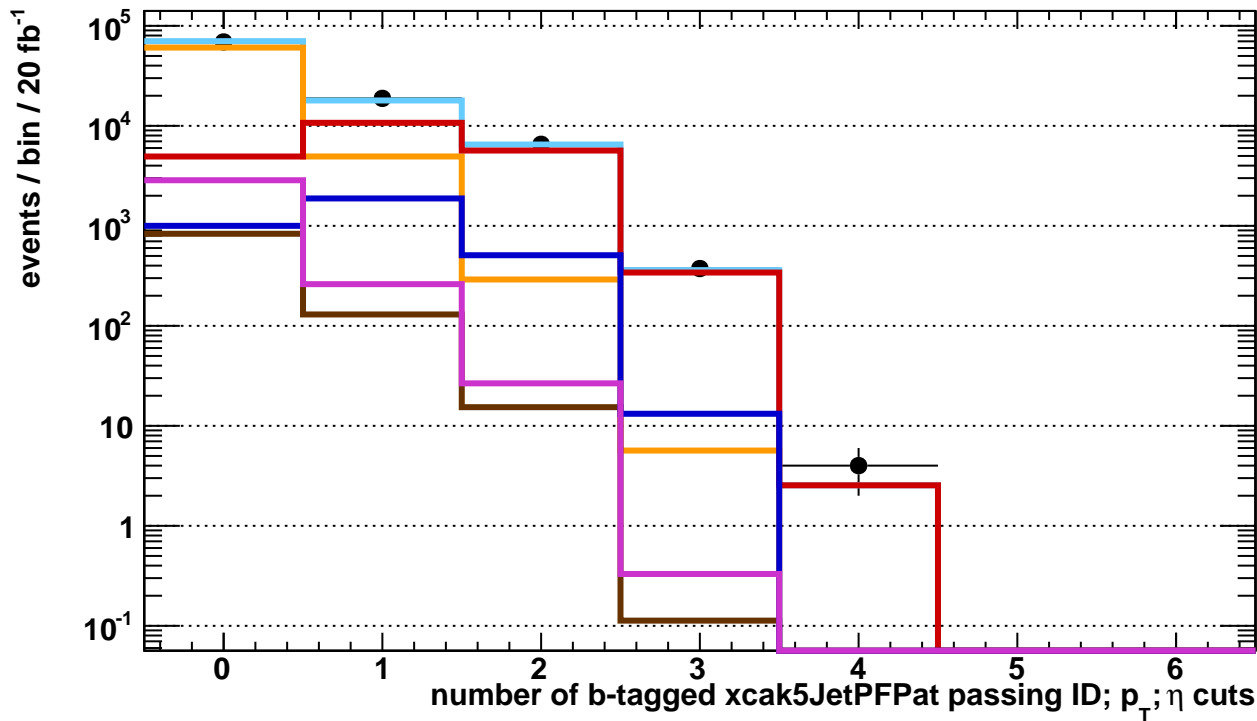
xcak5JetPFPIndicesPat_le3j_eq2b	
Entries	4761
Mean	2.816
RMS	0.3877
Underflow	0
Overflow	0
Integral	4761



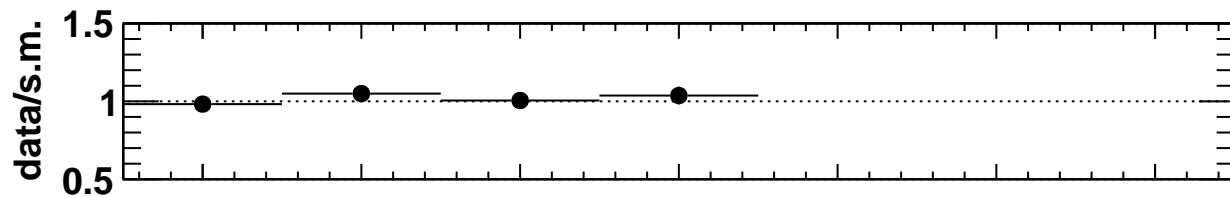
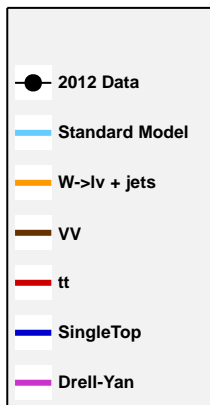
xcak5JetPFIIndicesPat_le3j_eq3b	
Entries	197
Mean	3
RMS	0
Underflow	0
Overflow	0
Integral	197

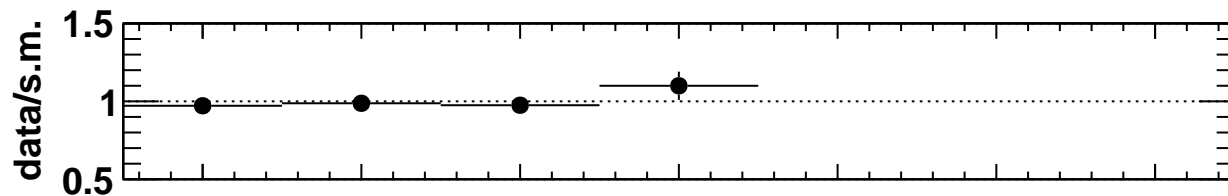
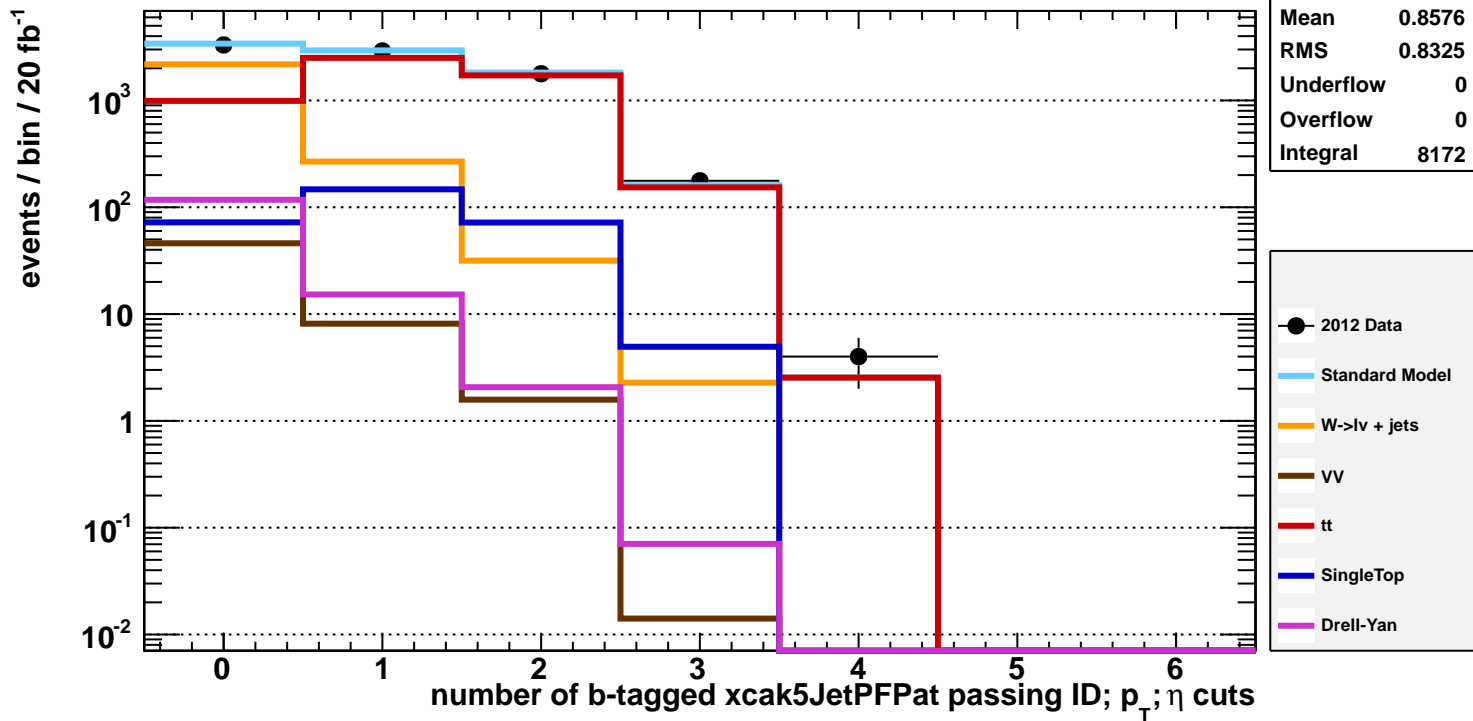


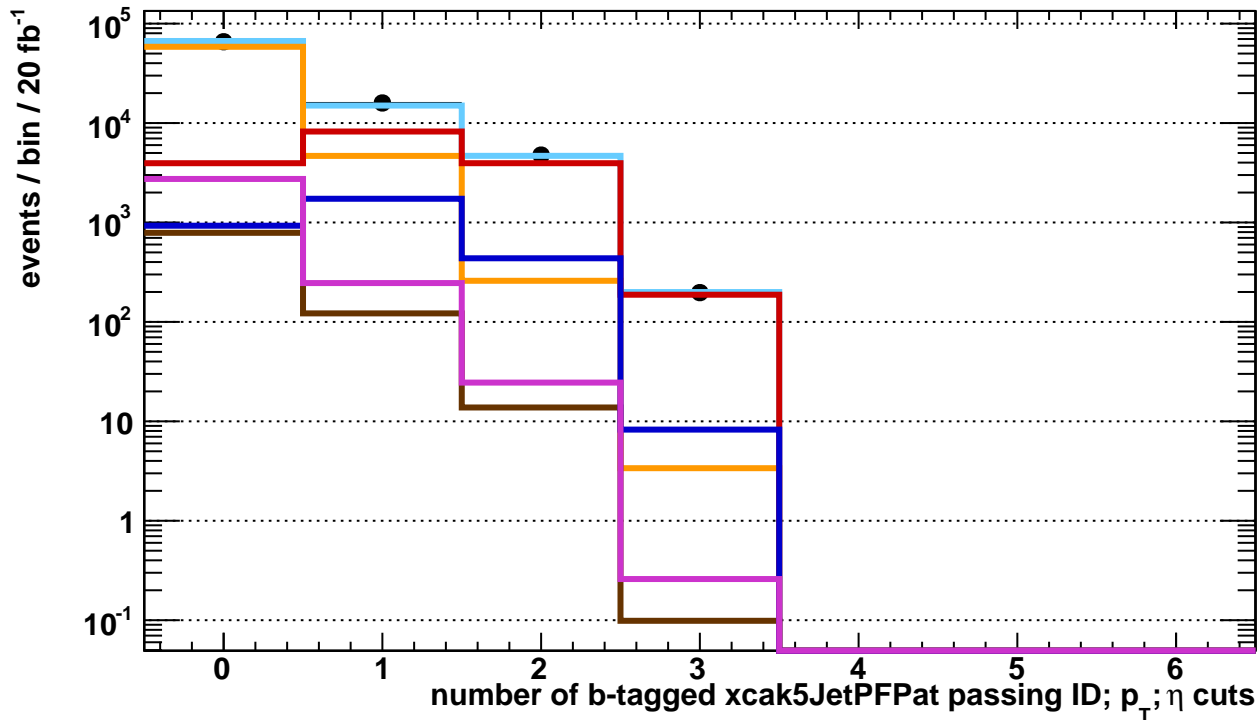




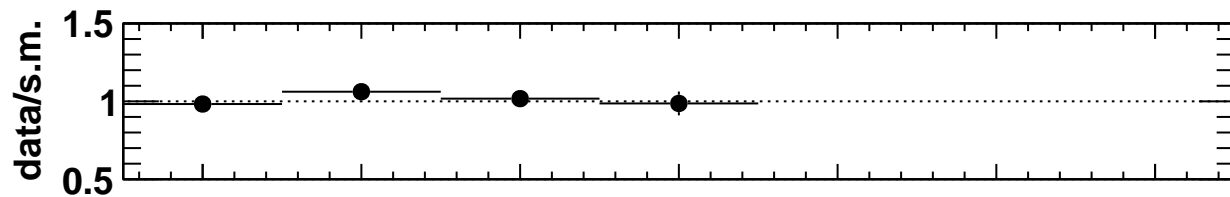
xcak5JetPFPIndicesBtagged2Pat	
Entries	94768
Mean	0.3486
RMS	0.6239
Underflow	0
Overflow	0
Integral	9.477e+04

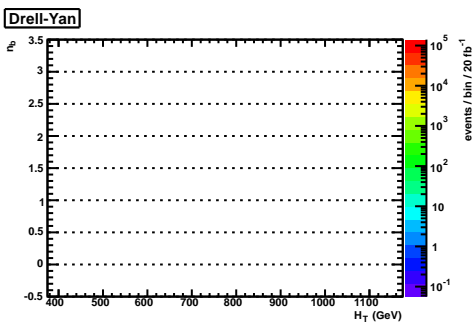
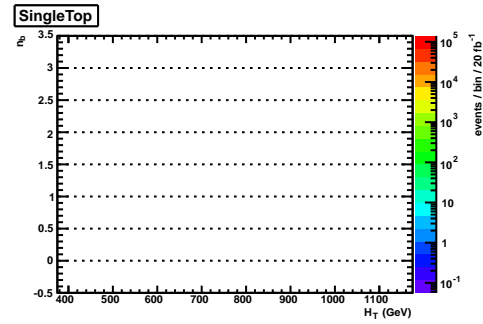
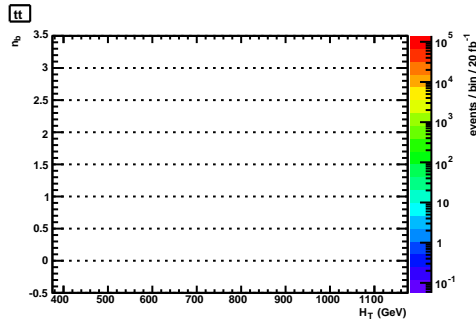
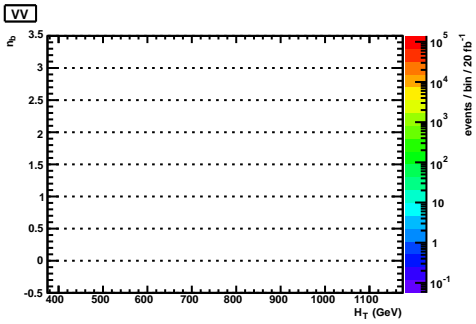
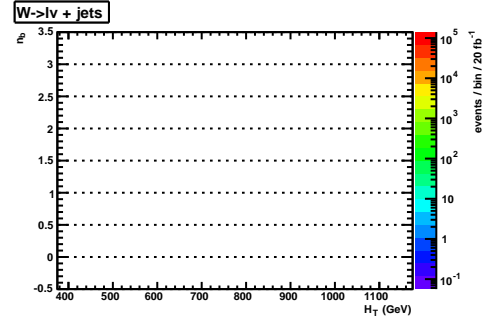
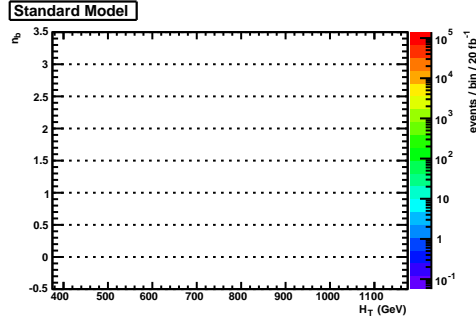
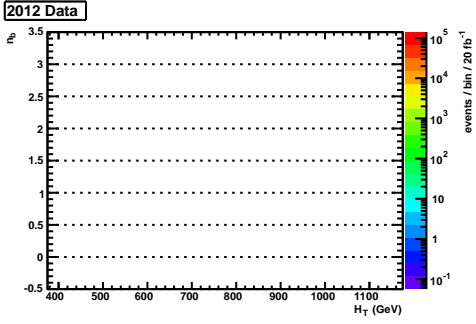


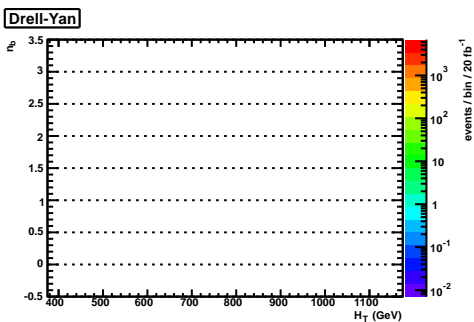
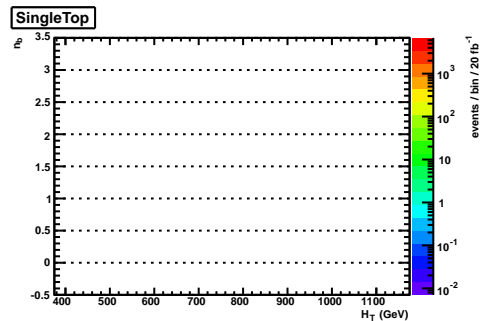
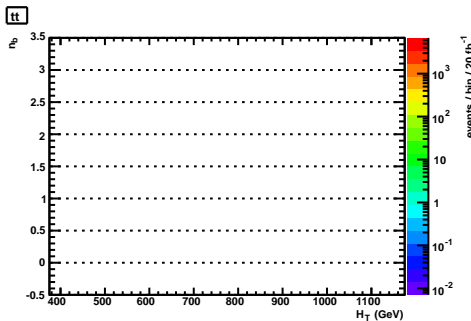
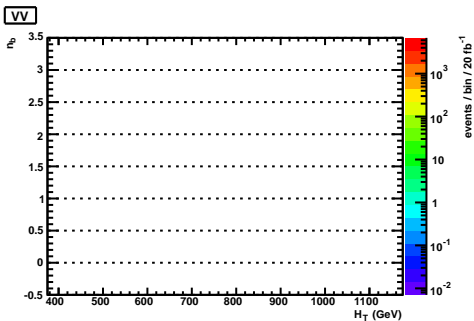
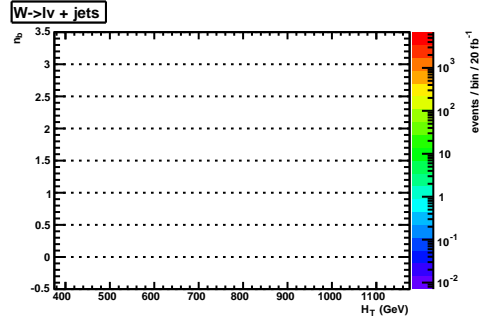
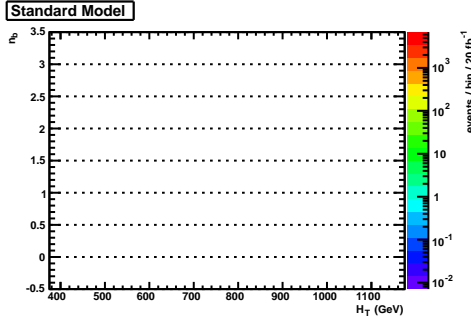
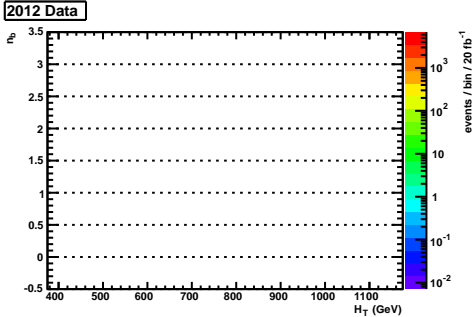


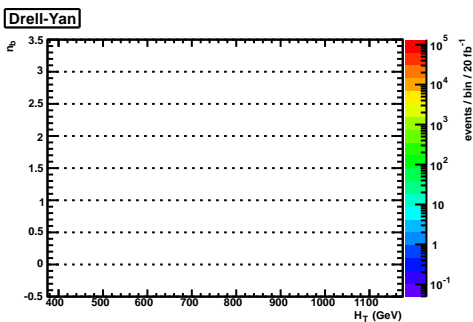
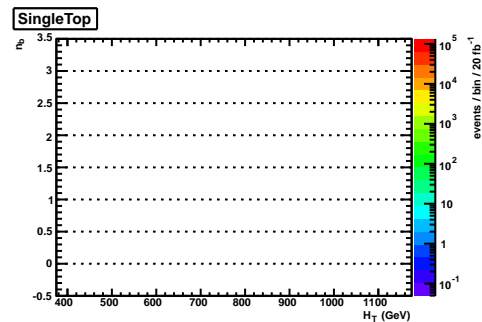
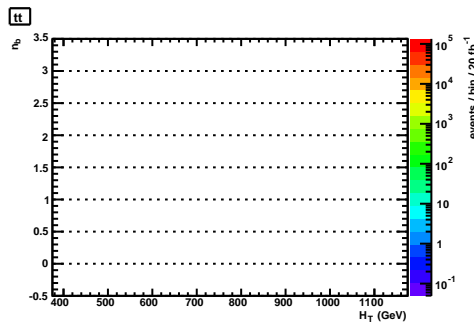
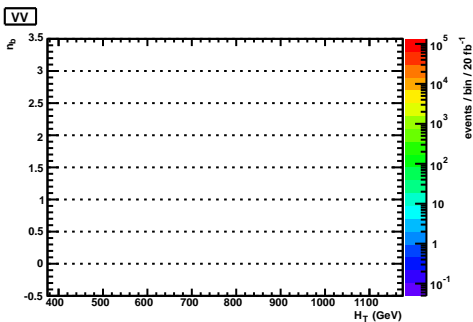
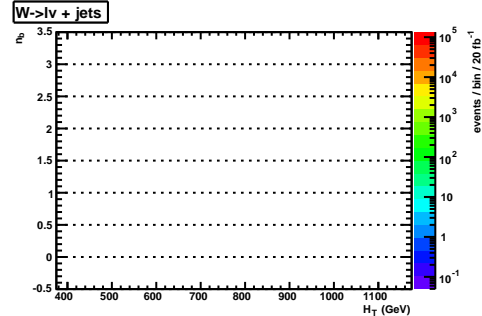
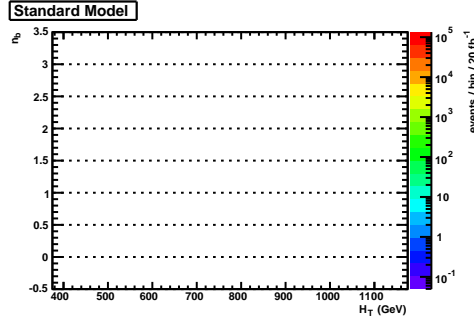
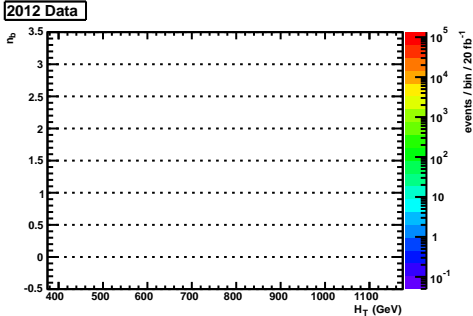


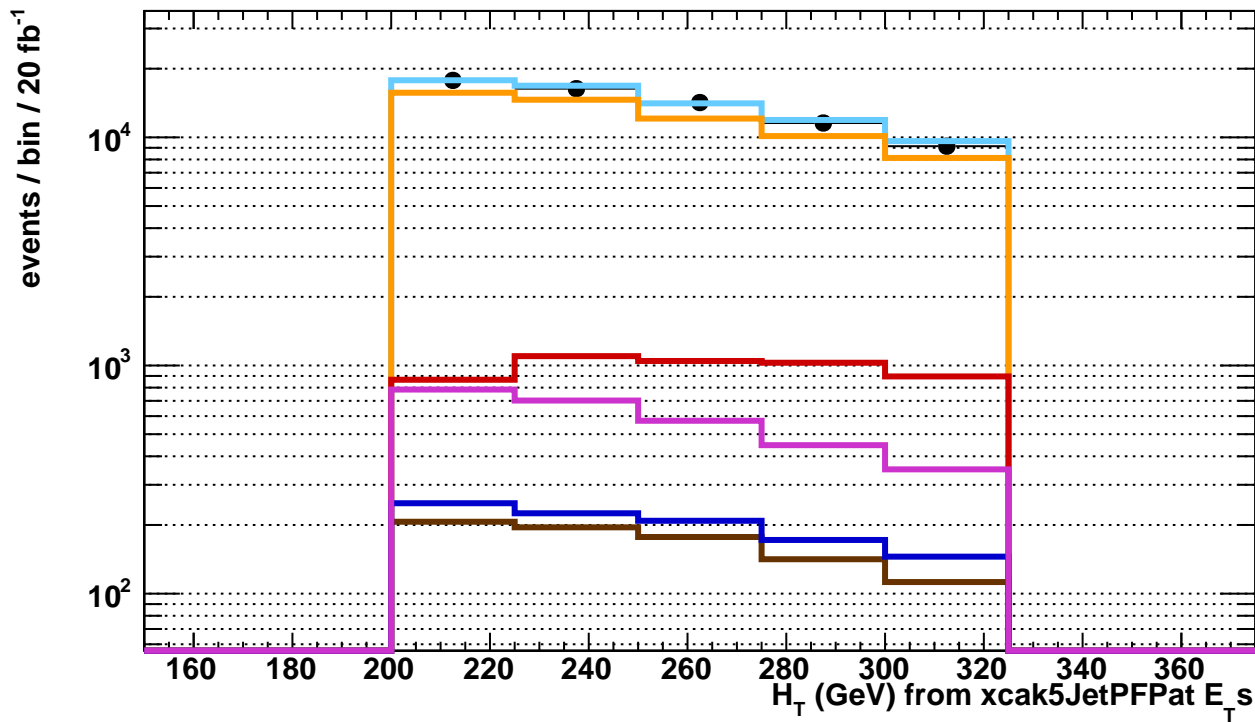
xcak5JetPFPIndicesBtagged2Pat_le3j	
Entries	86596
Mean	0.3006
RMS	0.5778
Underflow	0
Overflow	0
Integral	8.66e+04



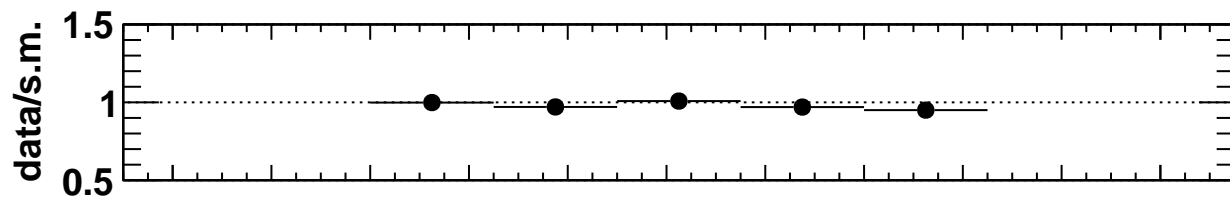
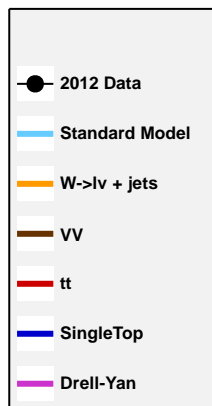


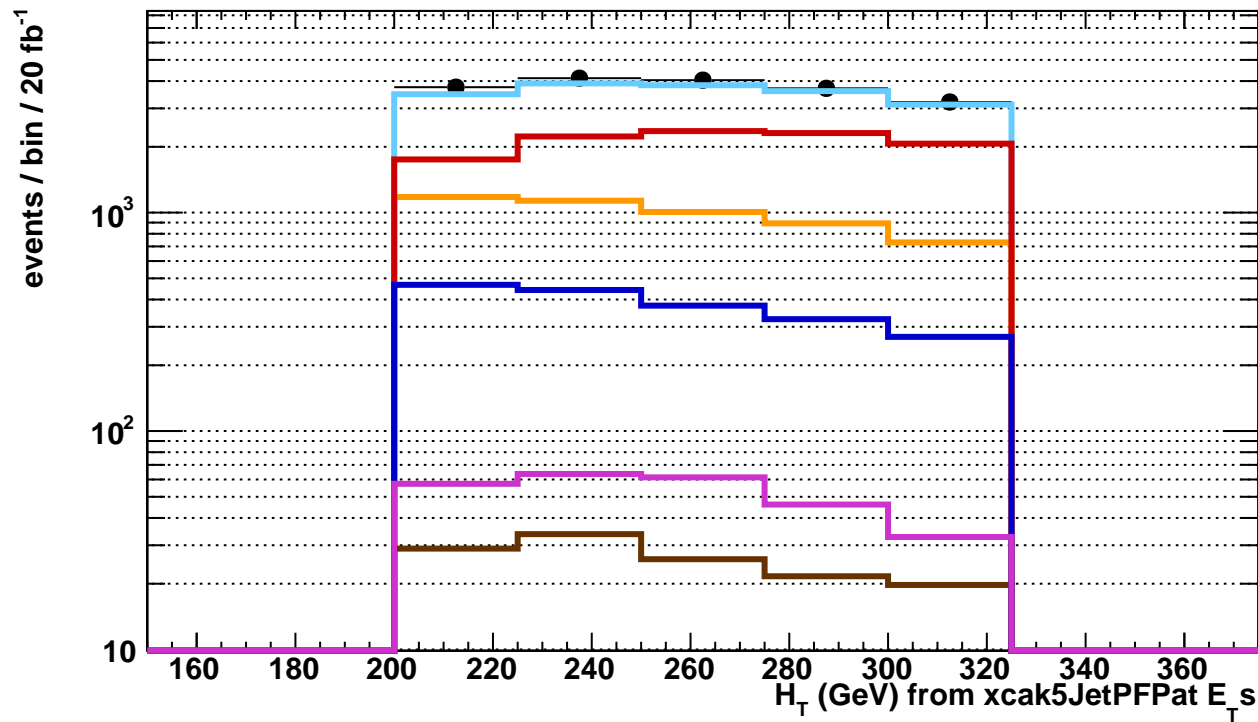




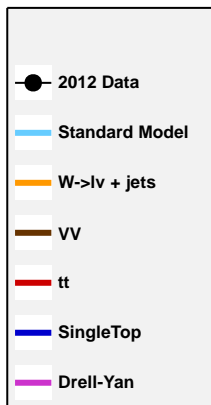


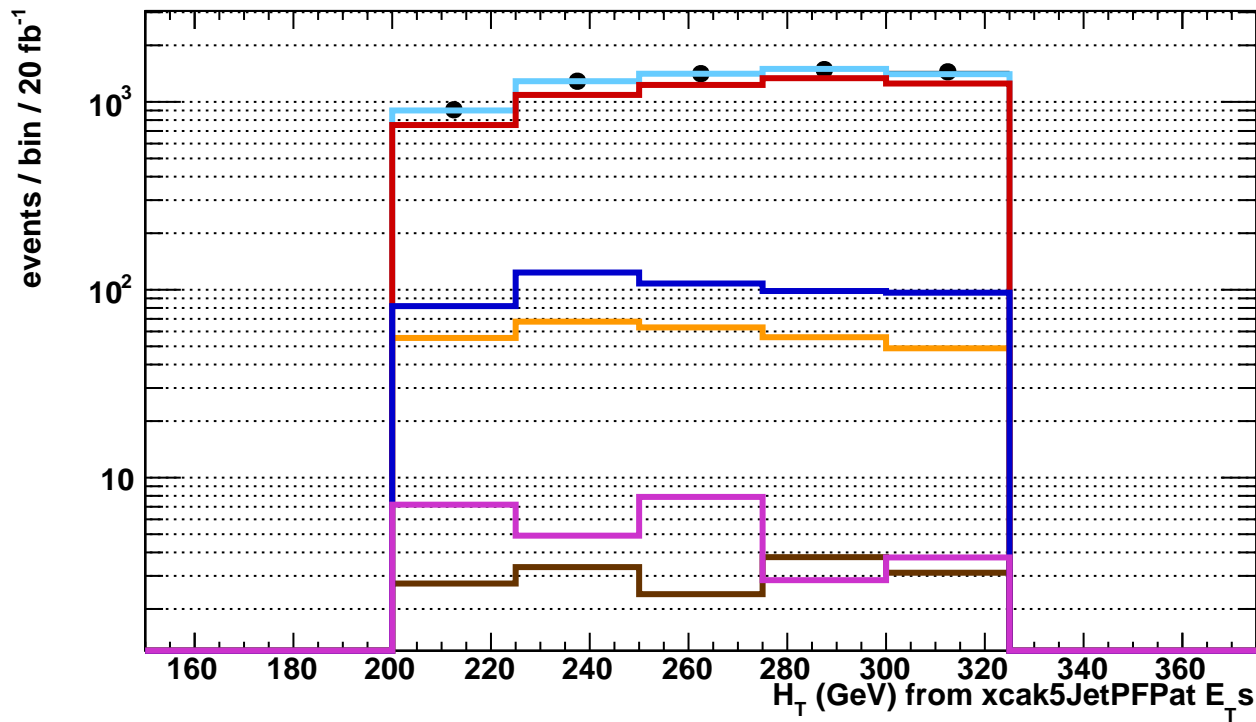
xcak5JetPFSumETPat_eq0b	
Entries	69027
Mean	254.2
RMS	34.75
Underflow	0
Overflow	0
Integral	6.903e+04



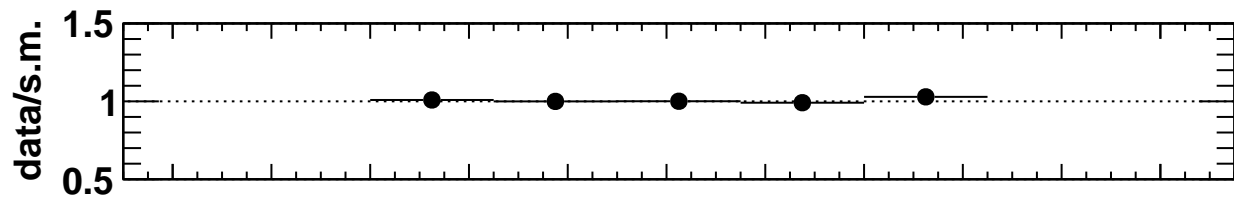
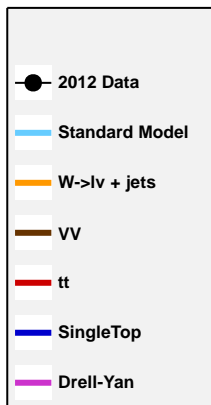


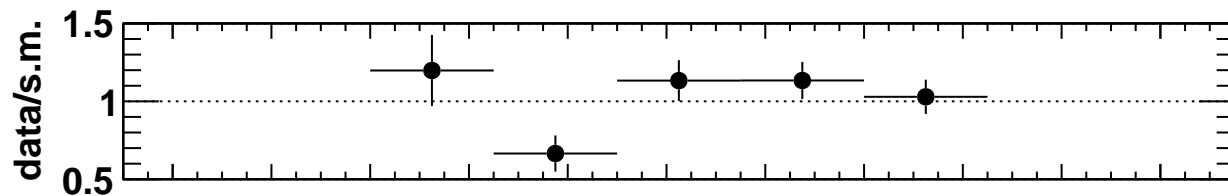
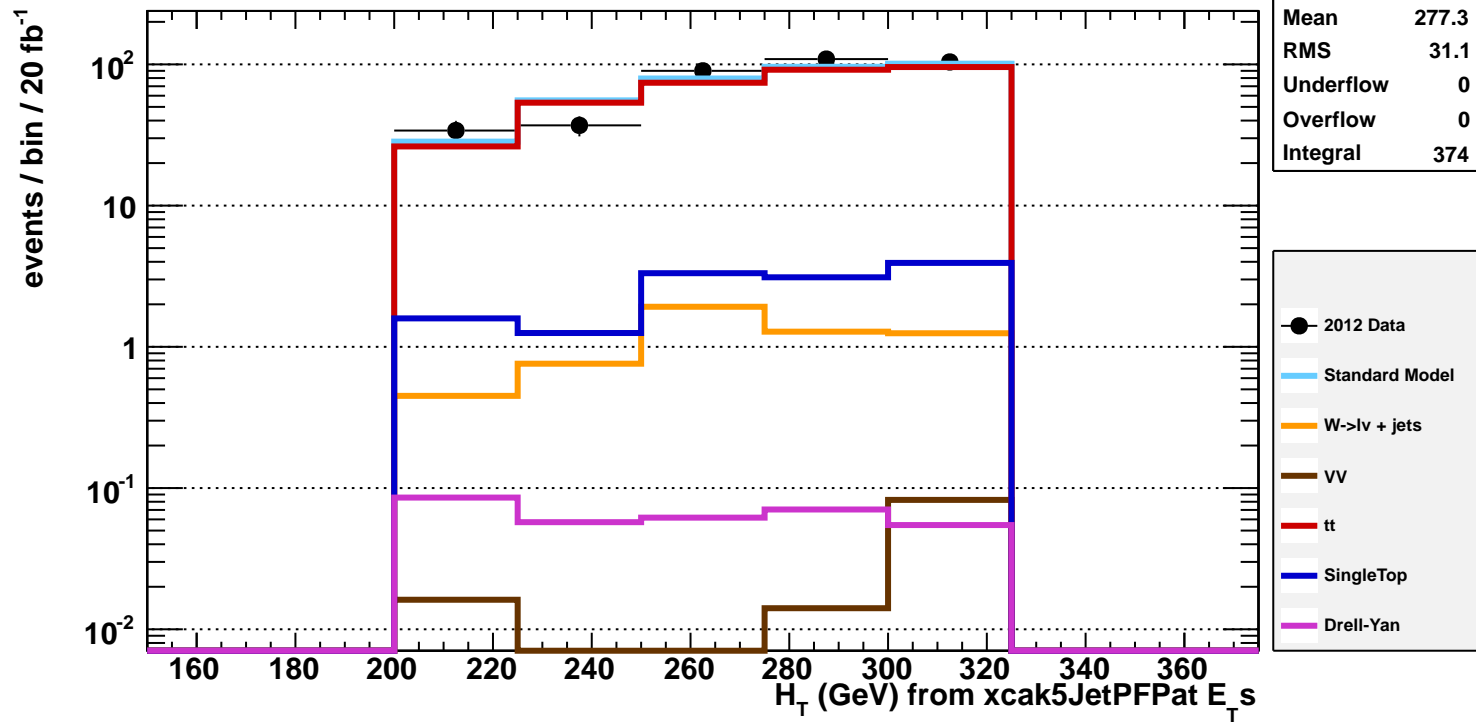
xcak5JetPFSumETPat_eq1b	
Entries	18824
Mean	260.5
RMS	34.89
Underflow	0
Overflow	0
Integral	1.882e+04

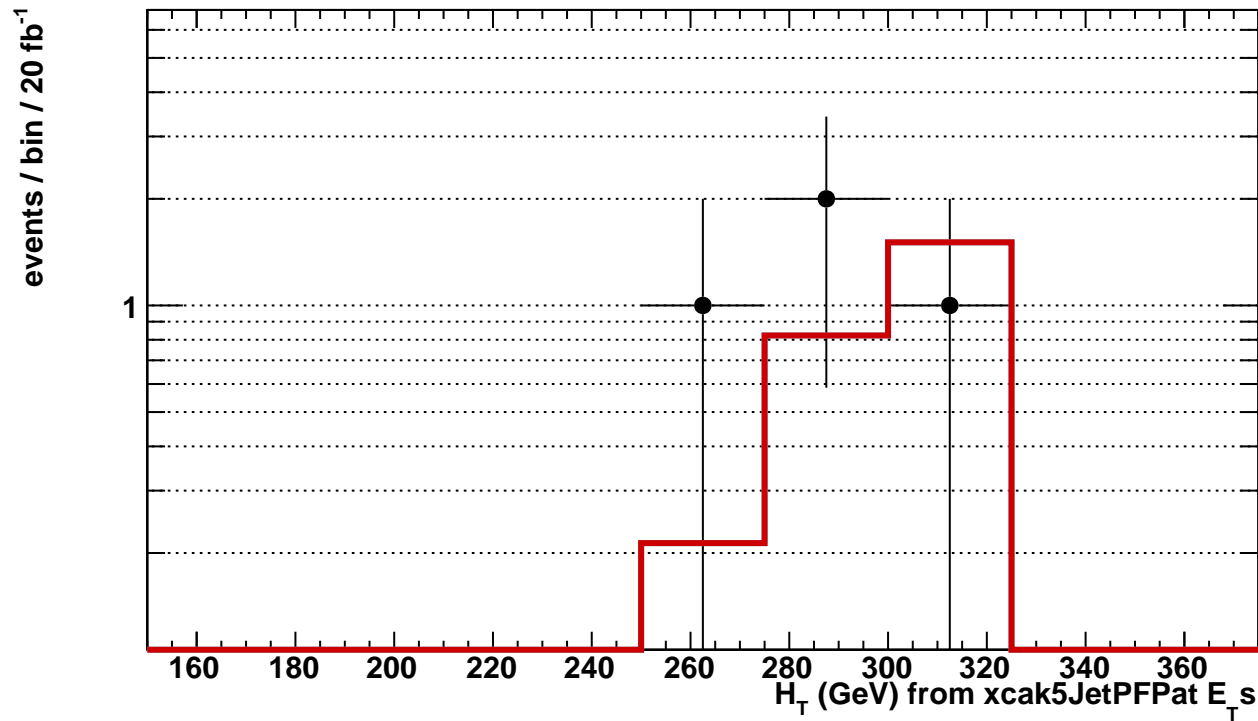




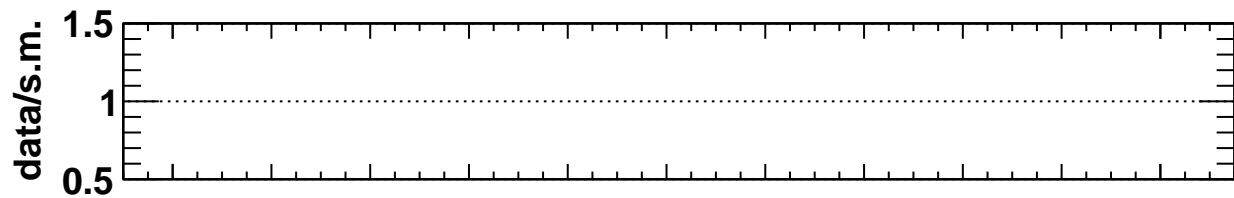
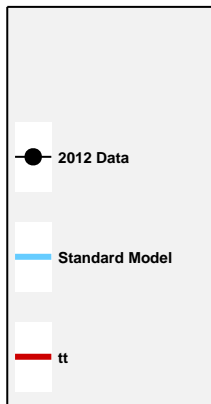
xcak5JetPFSumETPat_eq2b	
Entries	6539
Mean	267.6
RMS	34.11
Underflow	0
Overflow	0
Integral	6539





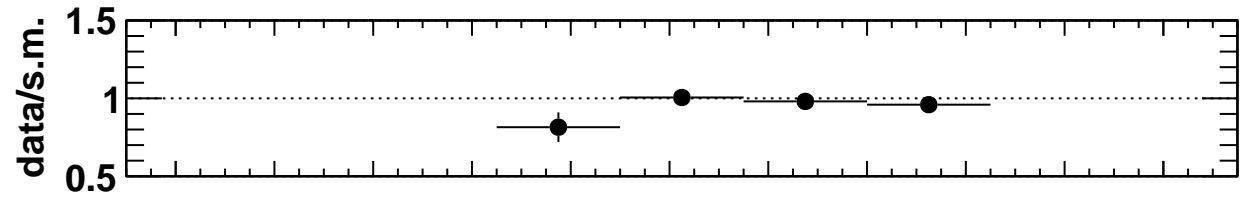
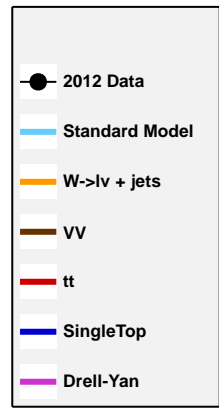
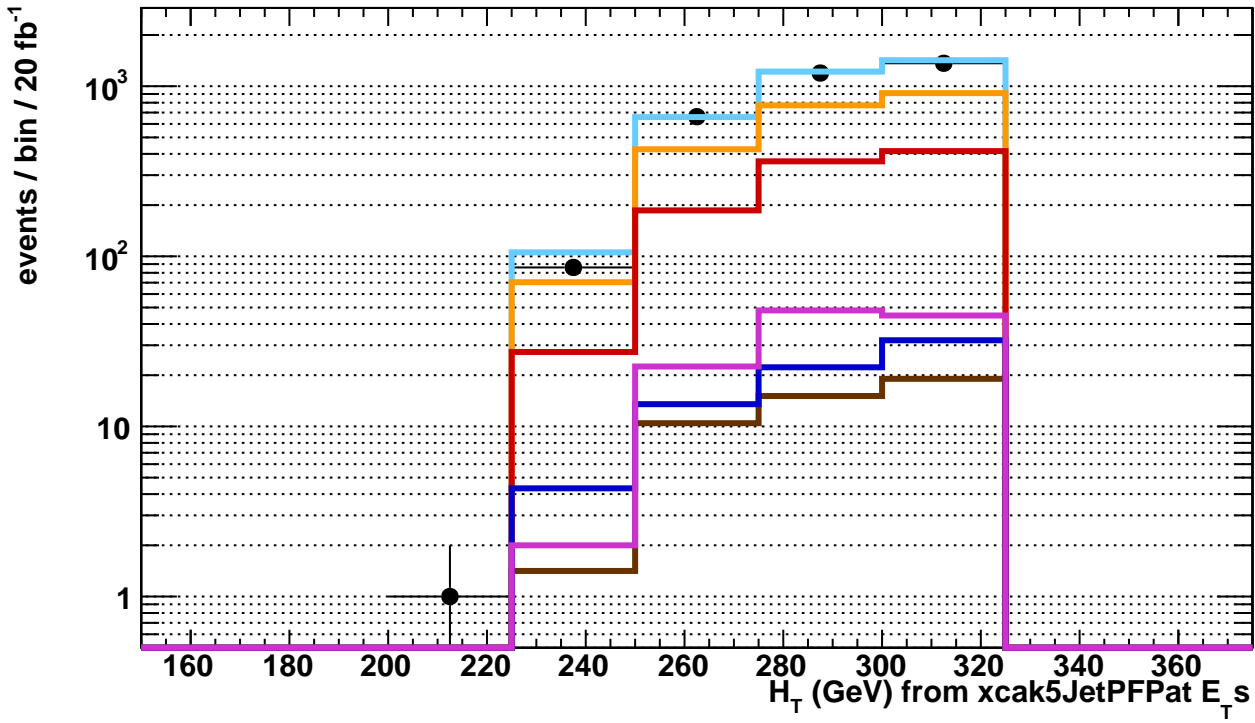


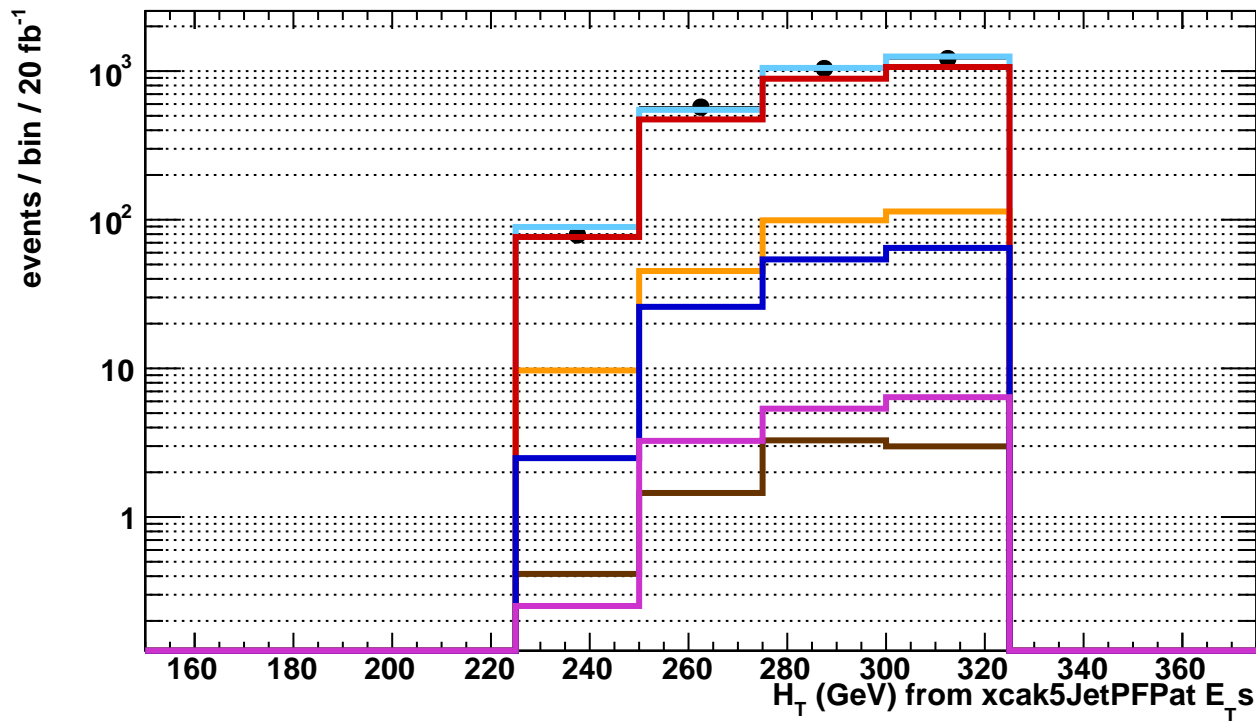
xcak5JetPFSumEIPat_ge4b	
Entries	4
Mean	285.3
RMS	17.92
Underflow	0
Overflow	0
Integral	4



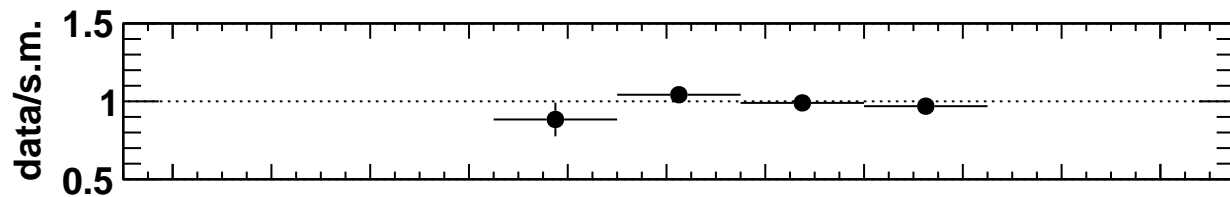
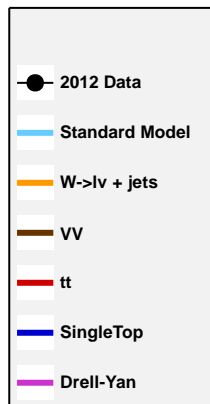
xcak5JetPFSumEtPat_ge4j_eq0b

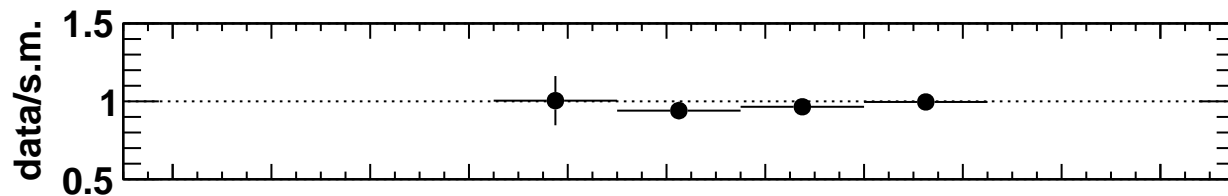
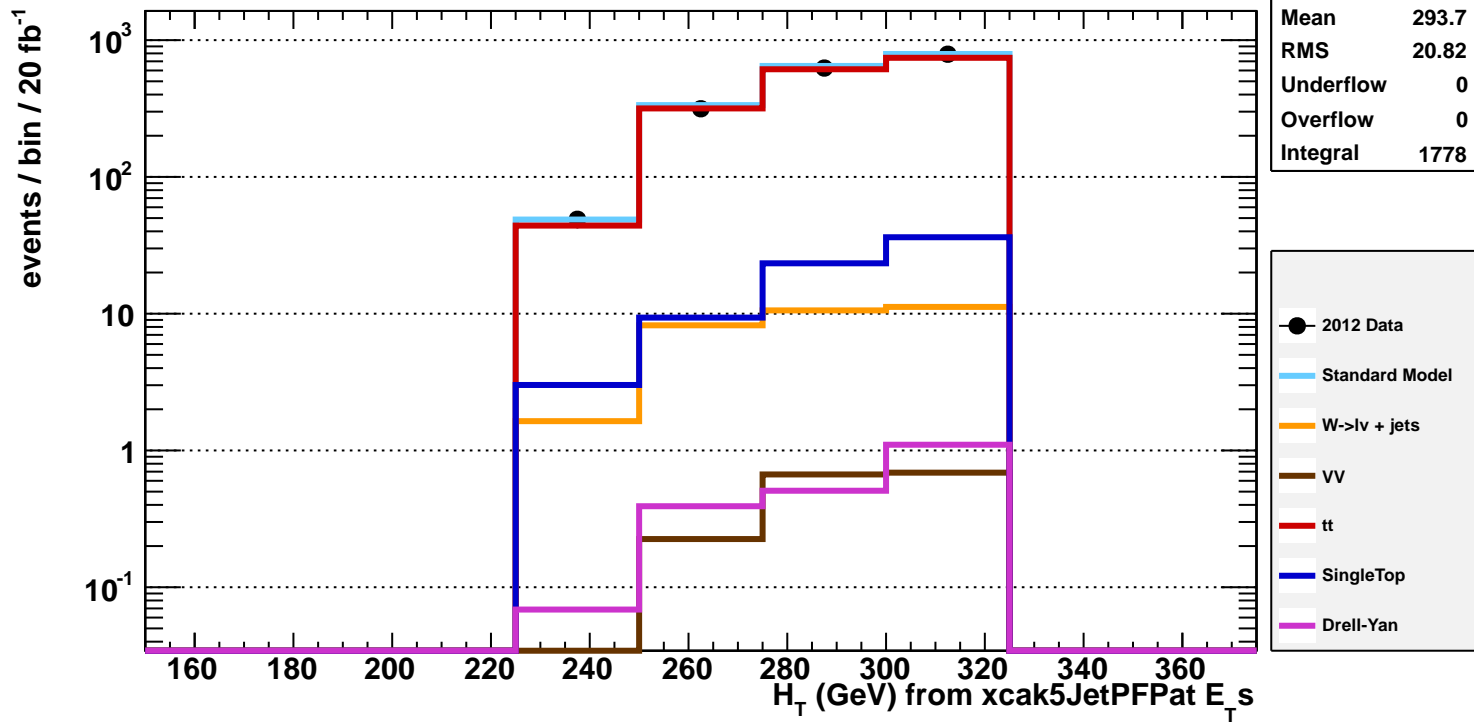
Entries	3308
Mean	292.3
RMS	21.08
Underflow	0
Overflow	0
Integral	3308

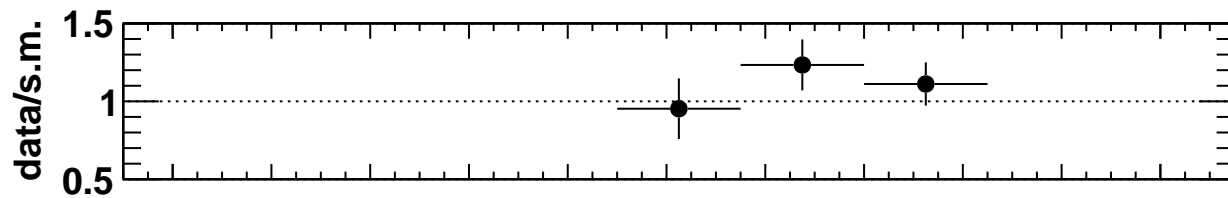
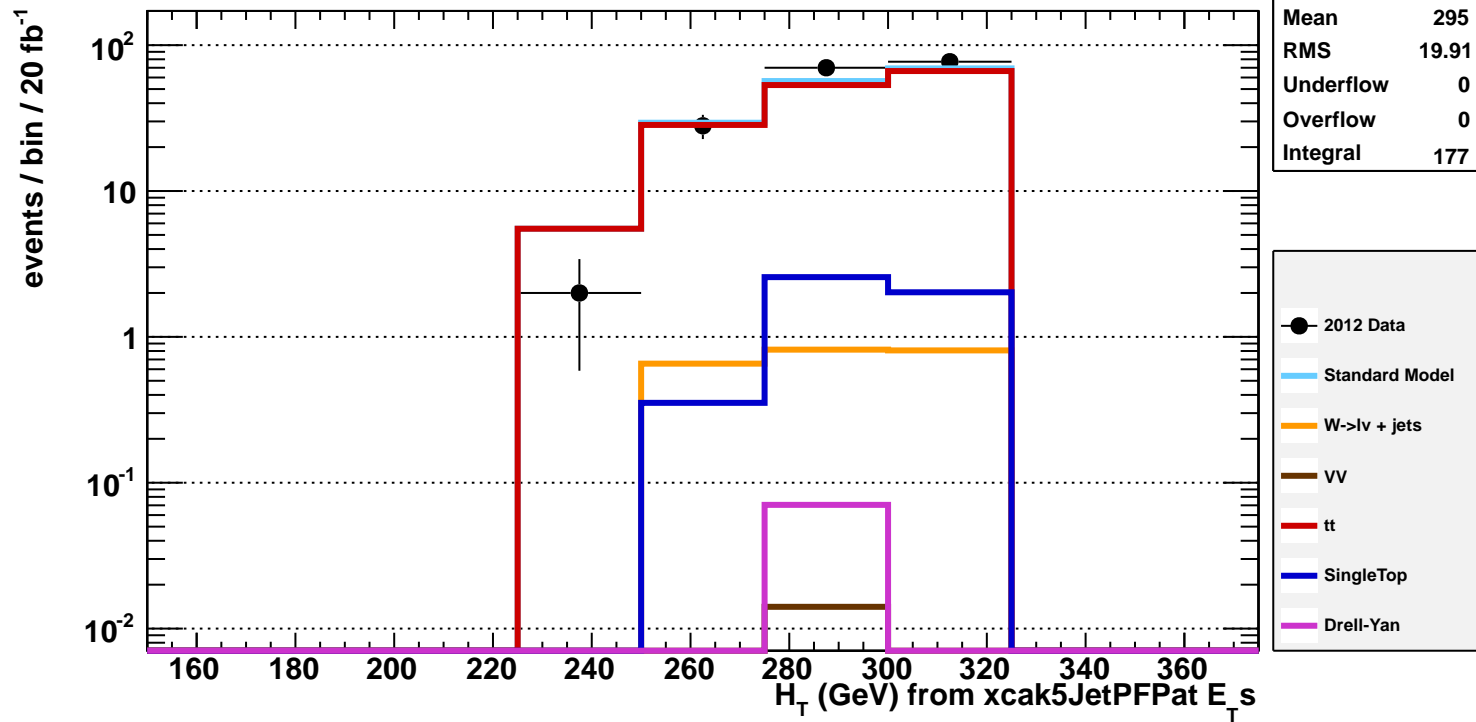


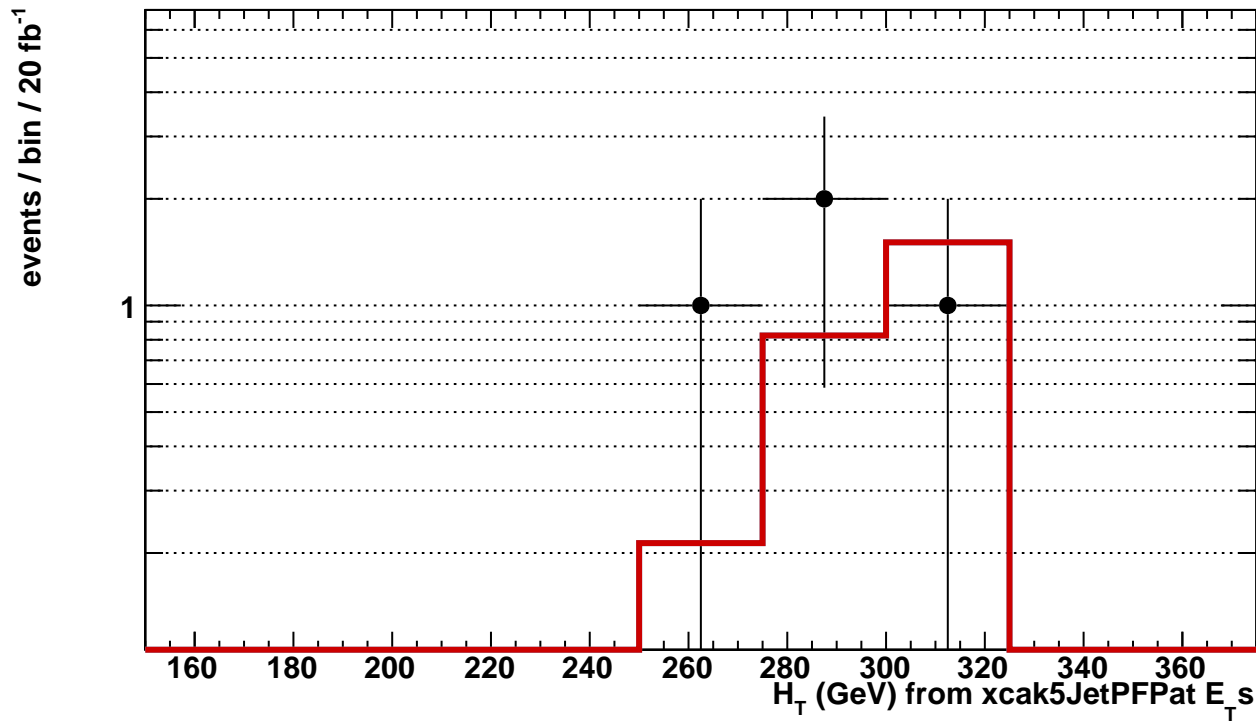


xcak5JetPFPatSumEtPat_ge4j_eq1b	
Entries	2905
Mean	292.9
RMS	20.91
Underflow	0
Overflow	0
Integral	2905



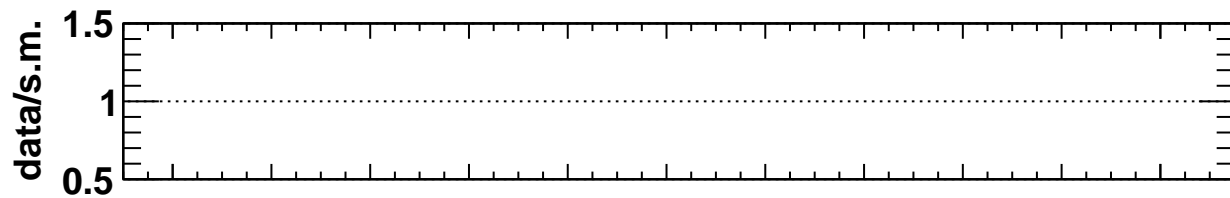
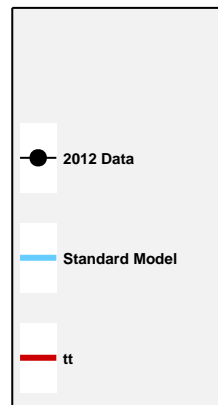


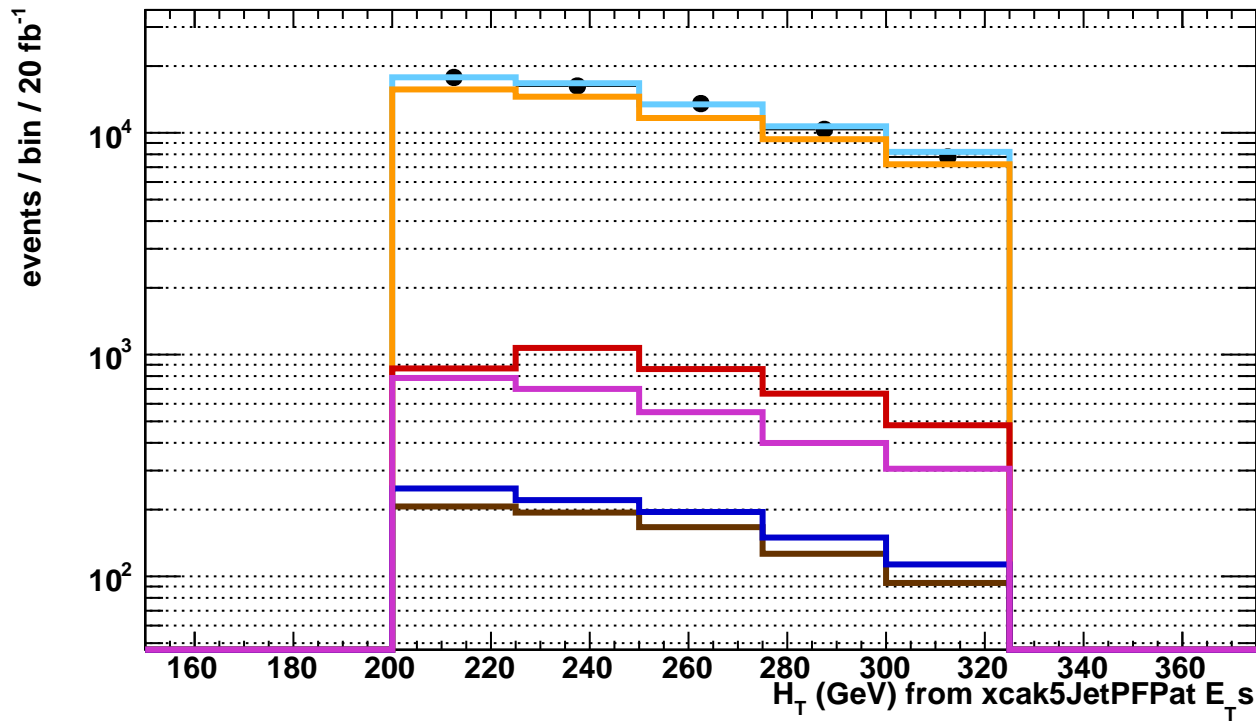




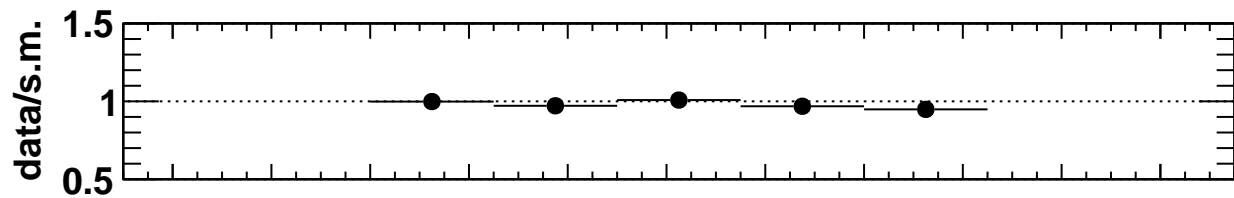
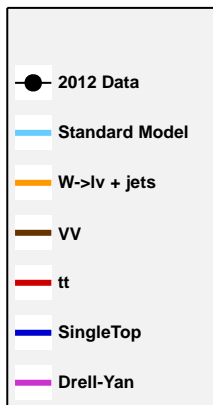
xcak5JetPFSumEtPat_ge4j_ge4b

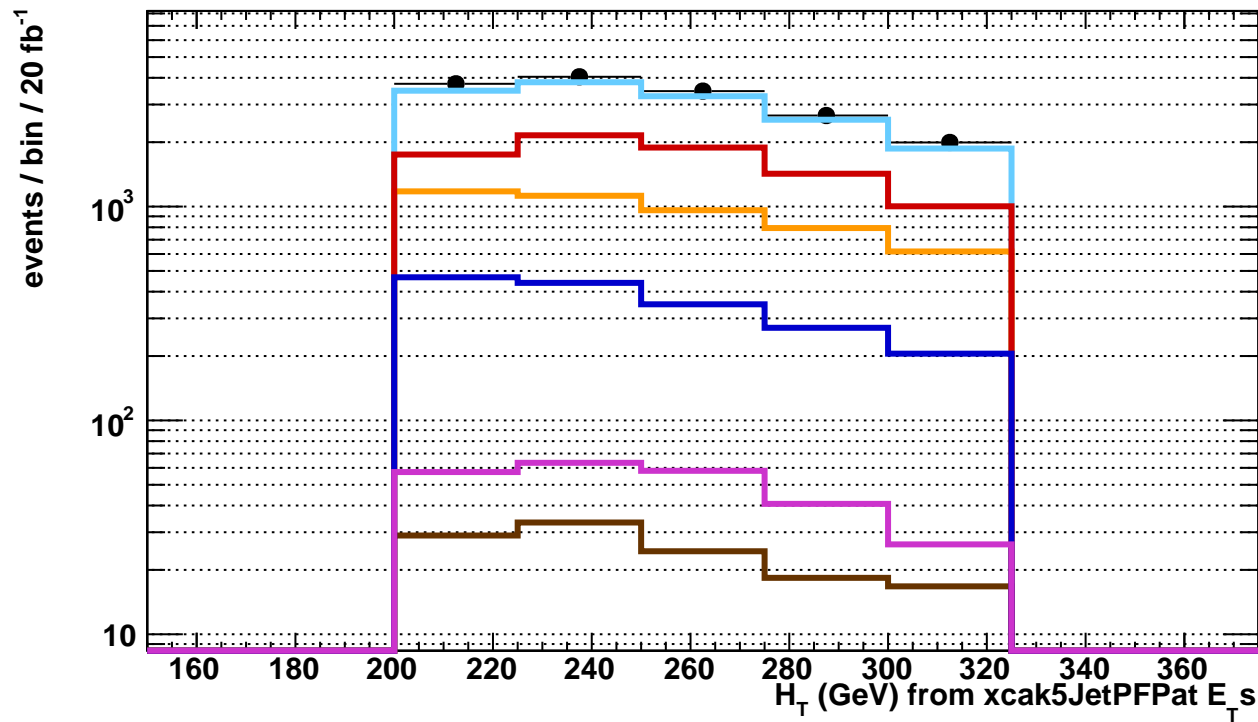
Entries	4
Mean	285.3
RMS	17.92
Underflow	0
Overflow	0
Integral	4



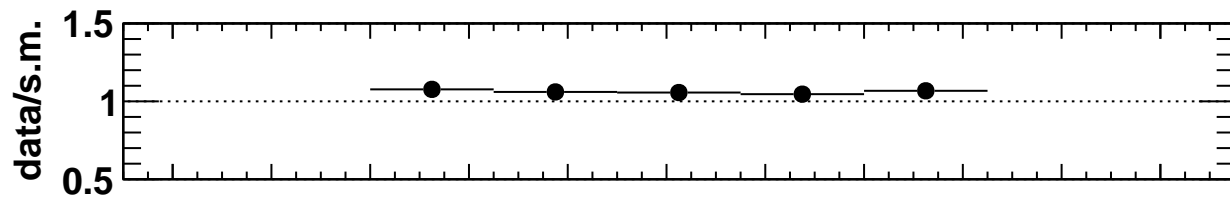
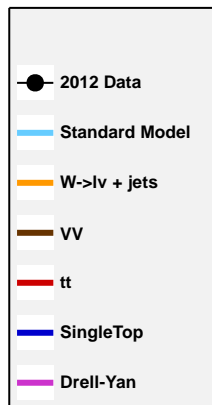


xcak5JetPFSumEtPat_le3j_eq0b	
Entries	65719
Mean	252.3
RMS	34.2
Underflow	0
Overflow	0
Integral	6.572e+04

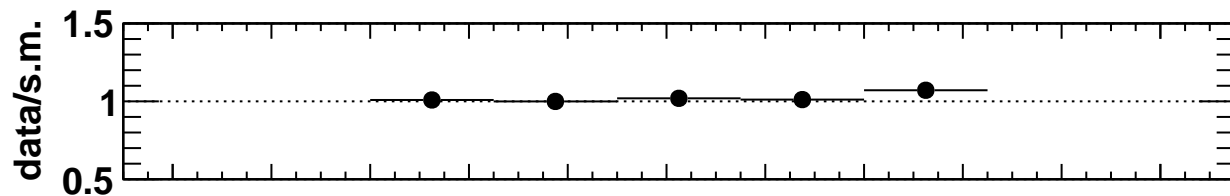
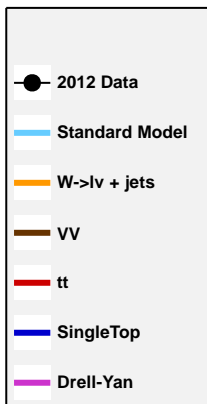
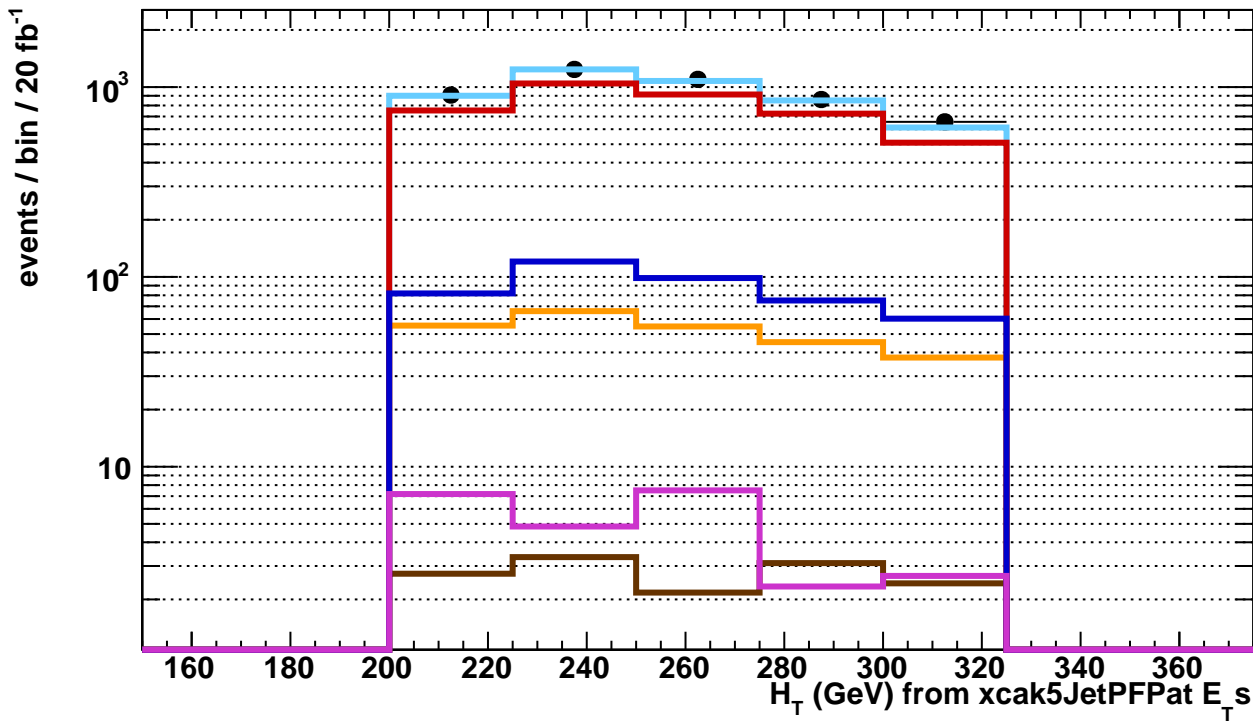


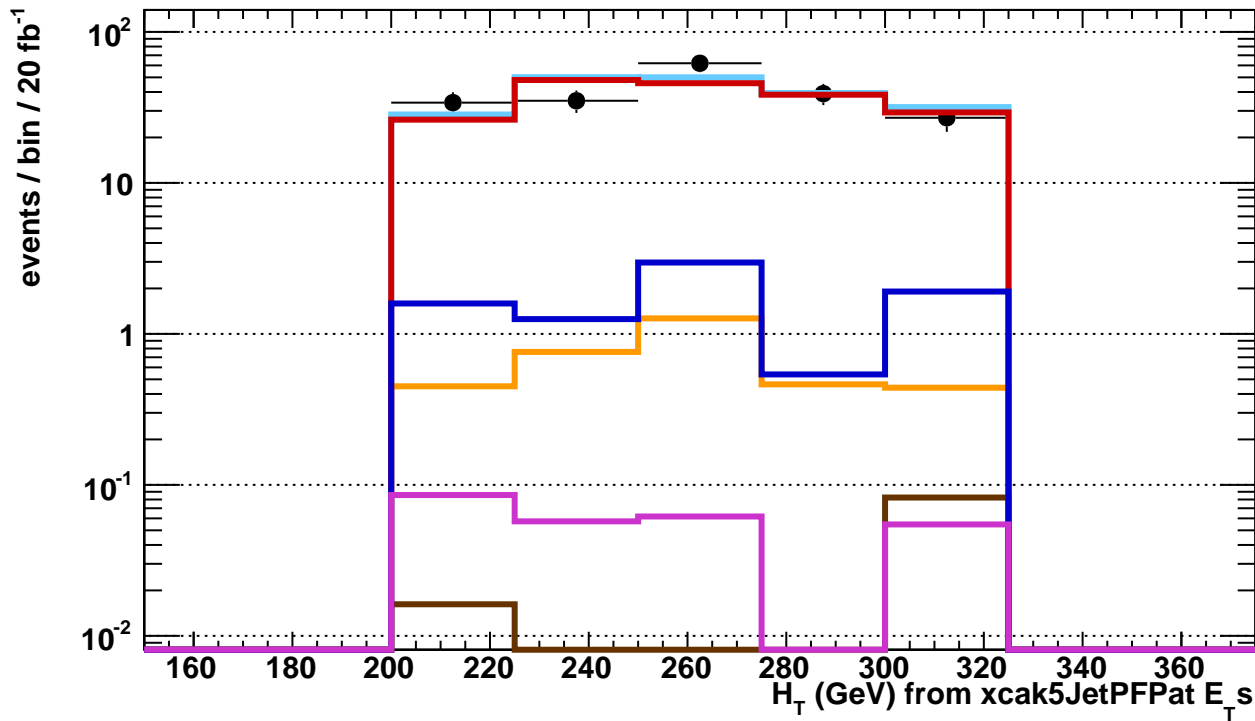


xcak5JetPFSumEtPat_le3j_eq1b	
Entries	15919
Mean	254.6
RMS	33.66
Underflow	0
Overflow	0
Integral	1.592e+04

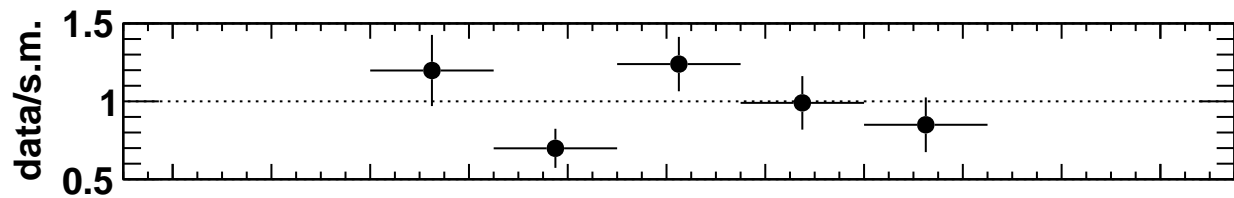
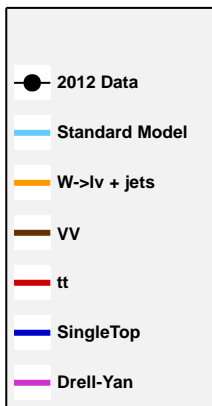


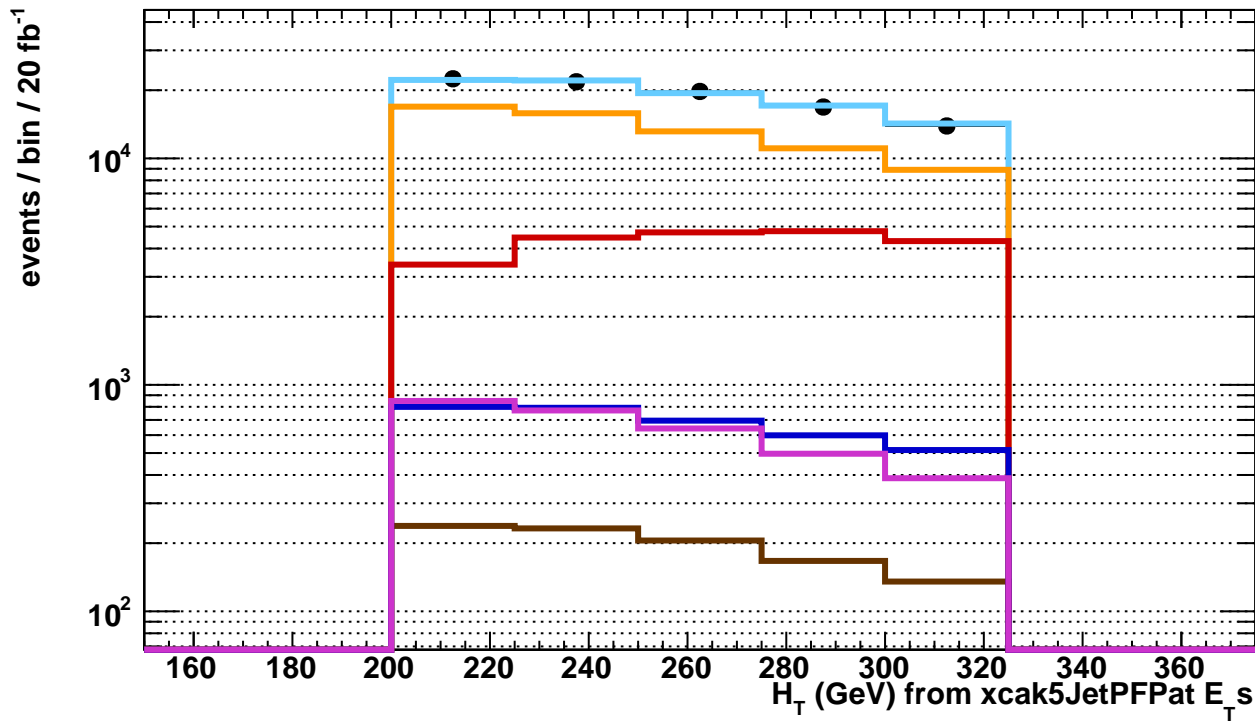
xcak5JetPFSumEtPat_le3j_eq2b	
Entries	4761
Mean	257.8
RMS	32.96
Underflow	0
Overflow	0
Integral	4761



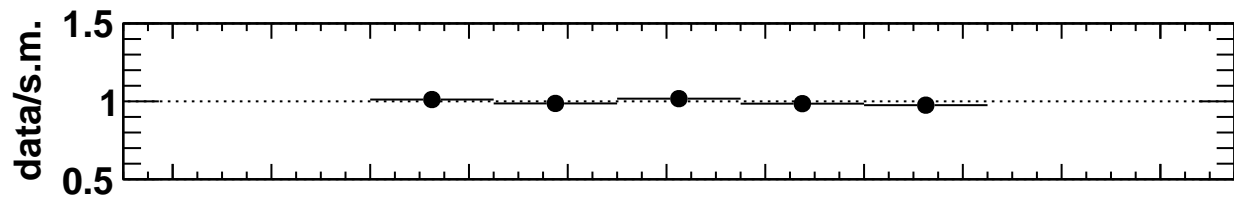


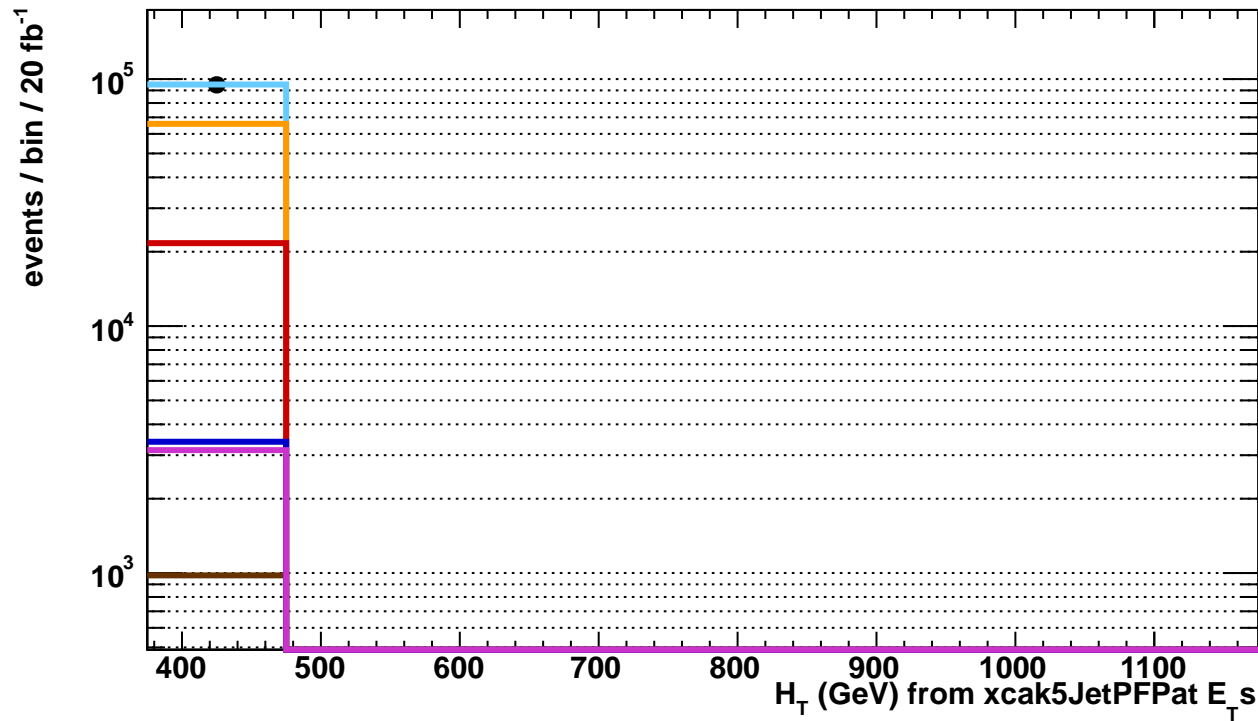
xcak5JetPFSumEtPat_le3_eq3b	
Entries	197
Mean	261.4
RMS	30.75
Underflow	0
Overflow	0
Integral	197



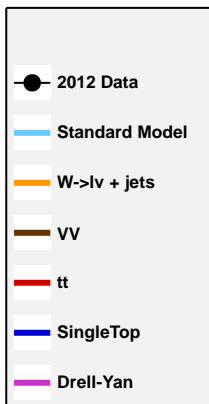


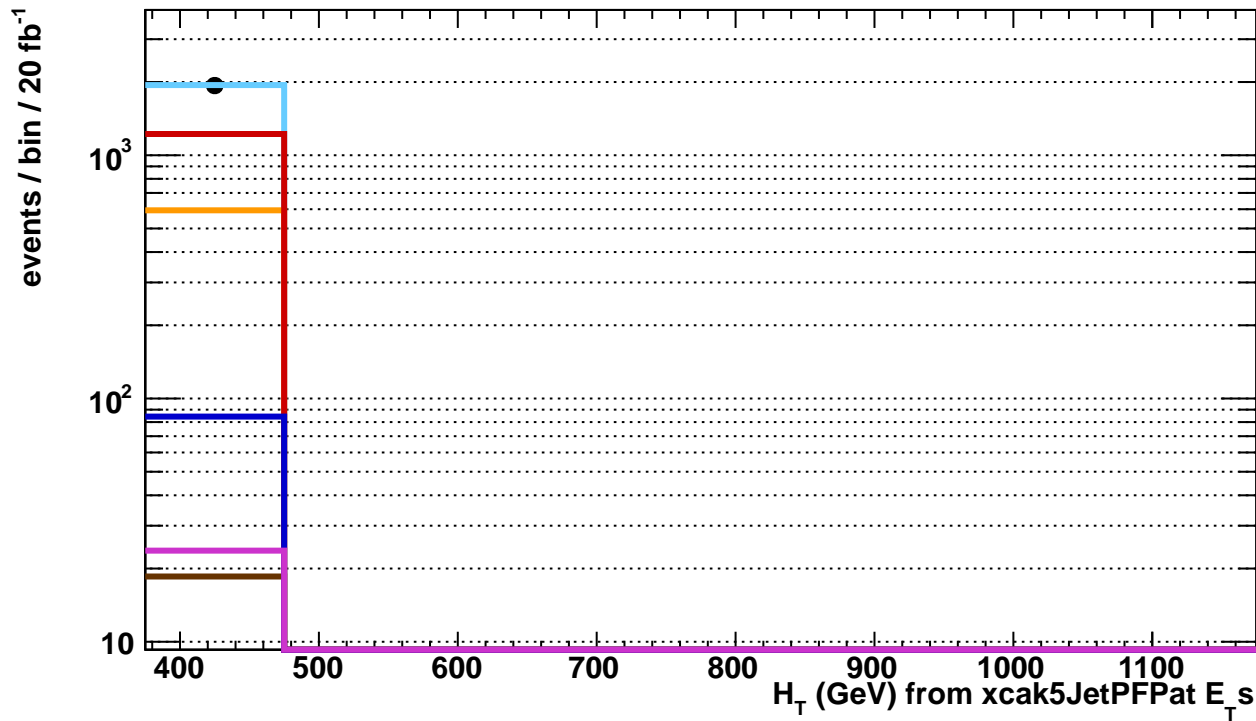
xcak5JetPFSumEtPat	
Entries	94768
Mean	256.5
RMS	34.97
Underflow	0
Overflow	0
Integral	9.477e+04



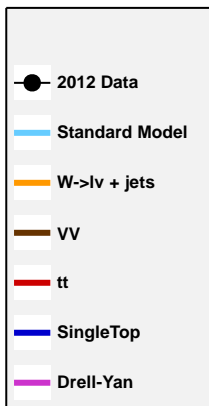


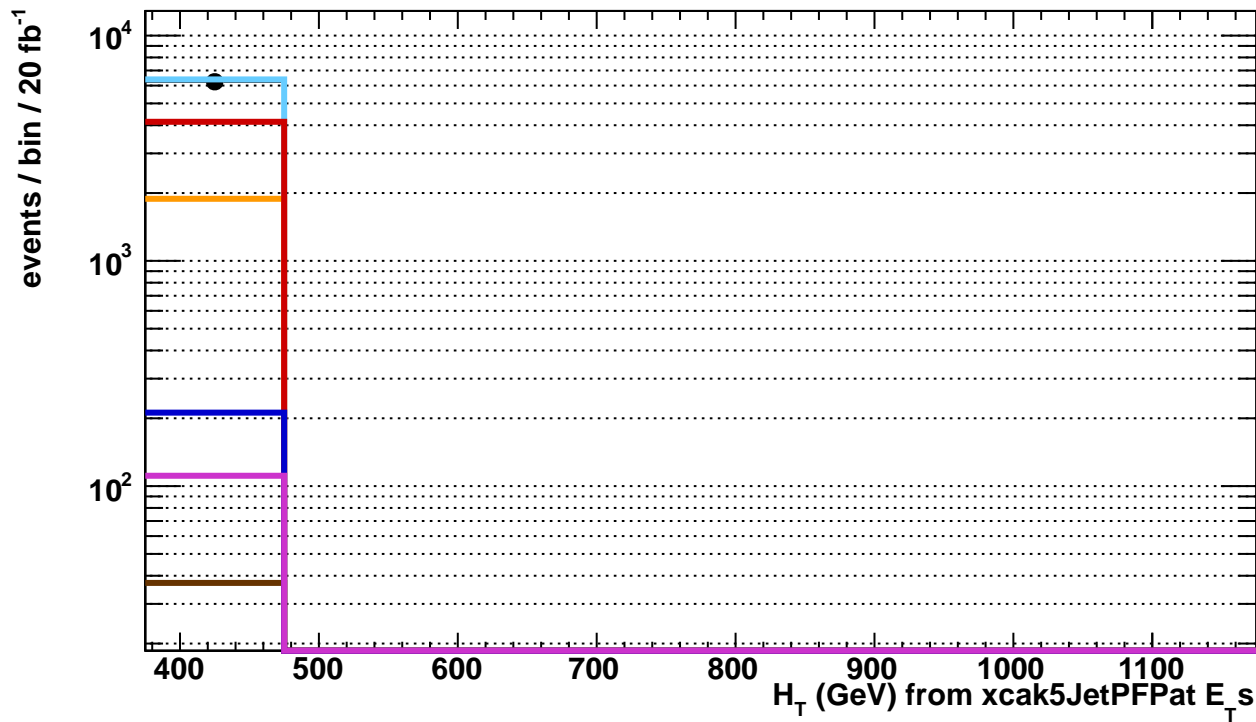
xcak5JetPFSumEtPat	
Entries	94768
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	9.477e+04



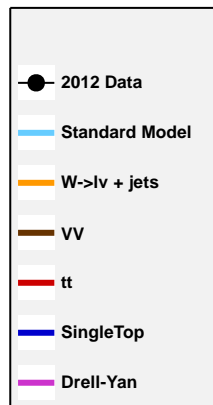


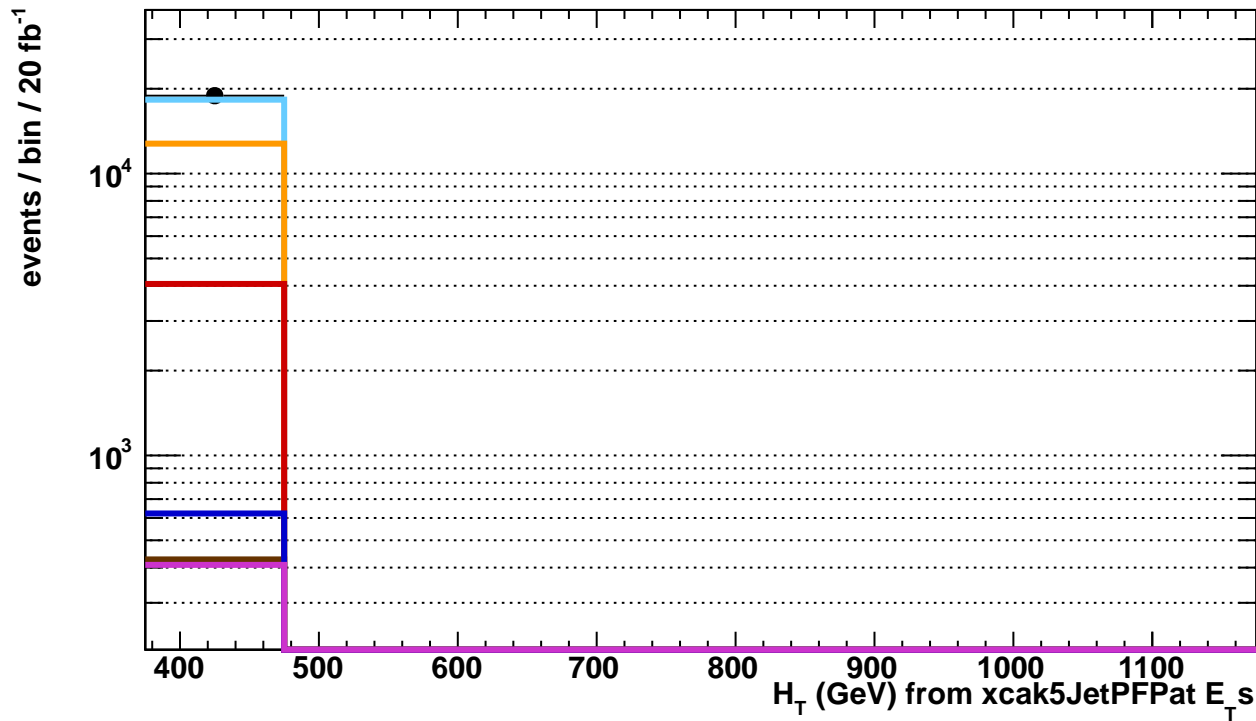
xcak5JetPFPatSumEtPat_ge4J_aTge55	
Entries	1934
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1934





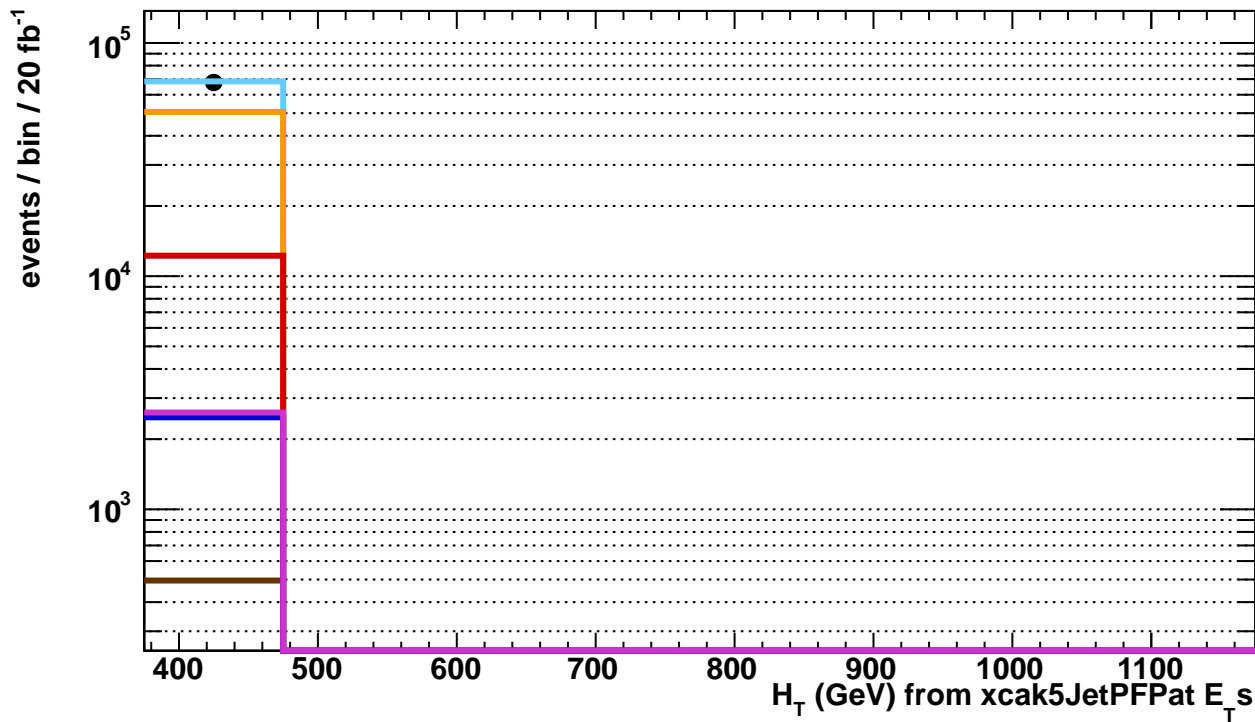
xcak5JetPFSumEtPat_ge4j_aTl55	
Entries	6238
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6238



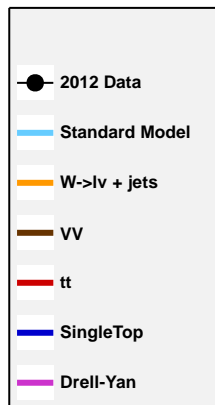


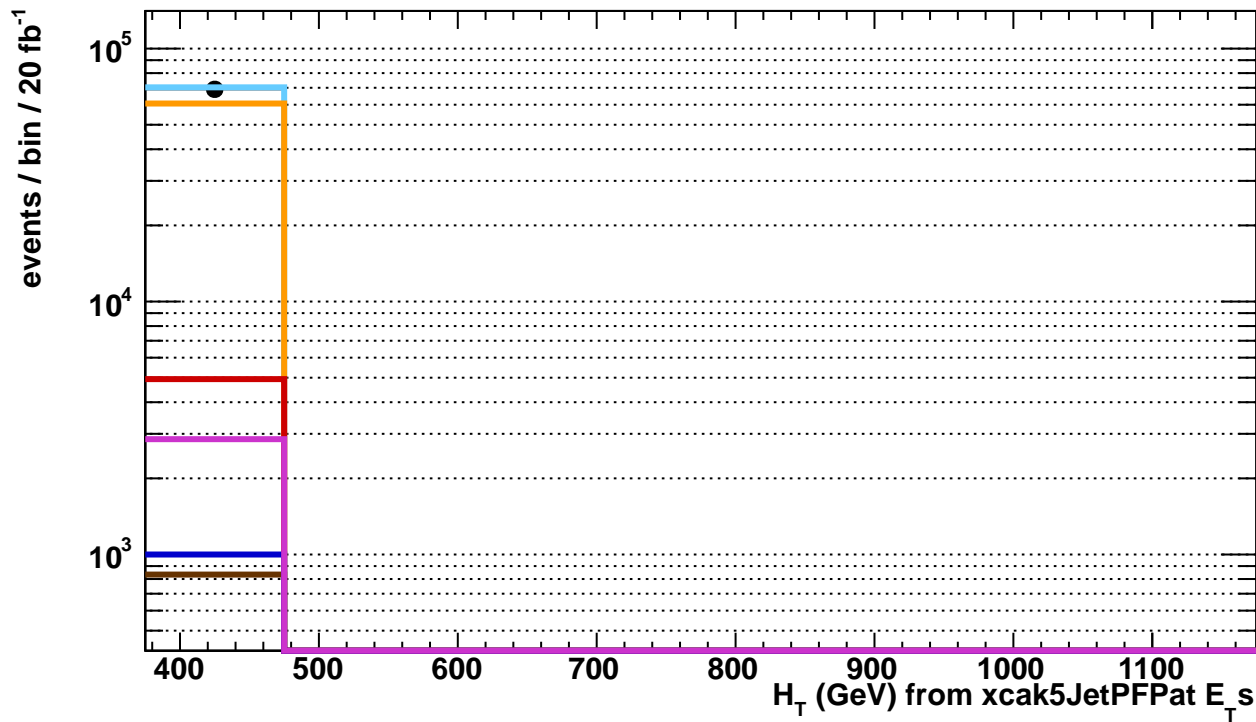
xcak5JetPFSumEtPat_le3j_aTge55	
Entries	18895
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.89e+04

2012 Data	
Standard Model	
W->lv + jets	
VV	
tt	
SingleTop	
Drell-Yan	

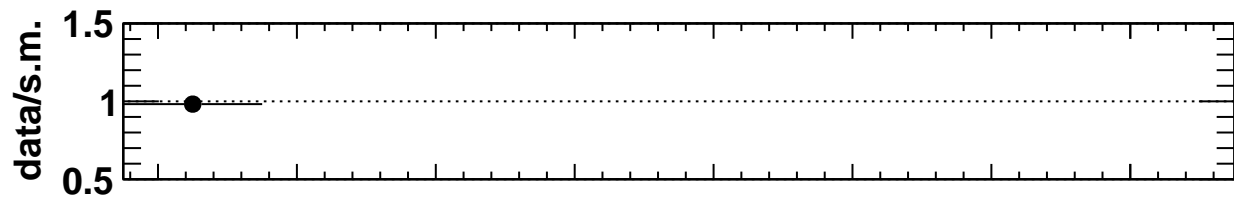
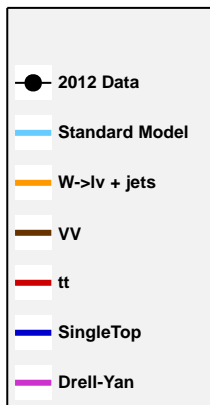


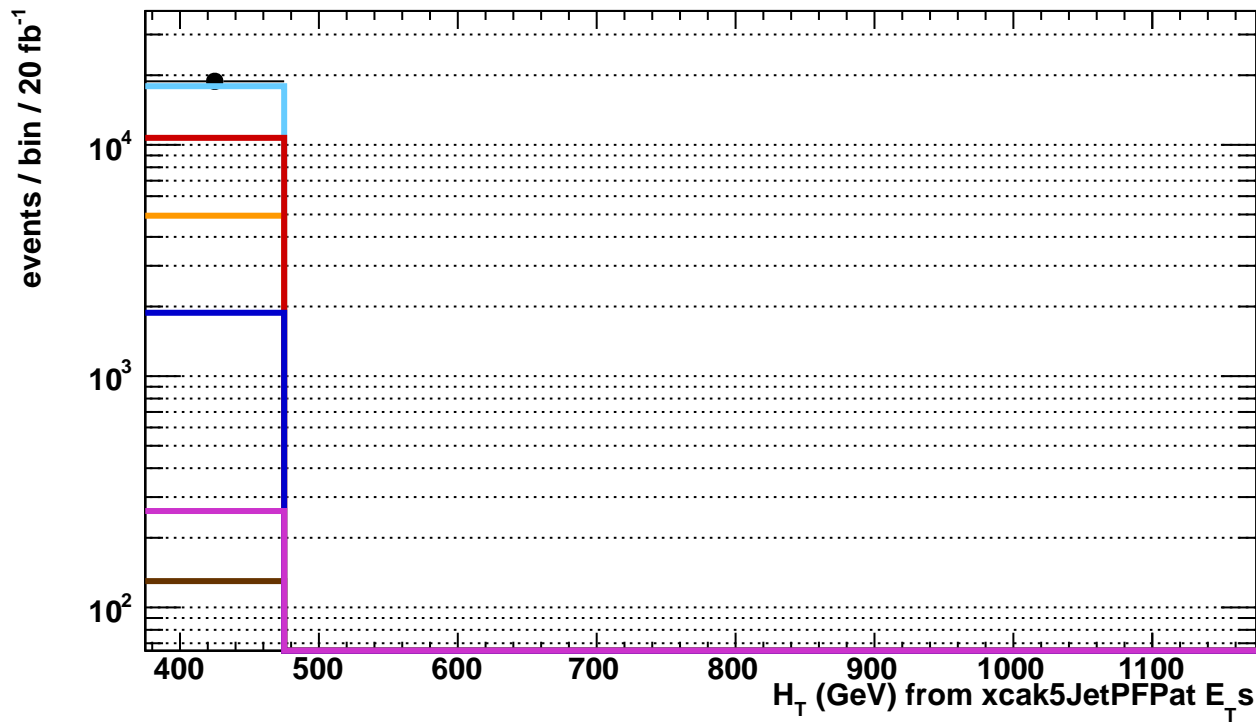
xcak5JetPFSumEtPat_le3j_aTl55	
Entries	67701
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.77e+04



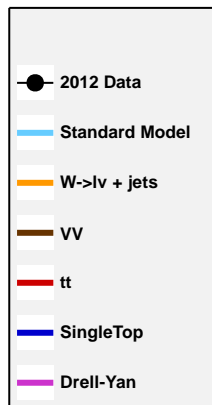


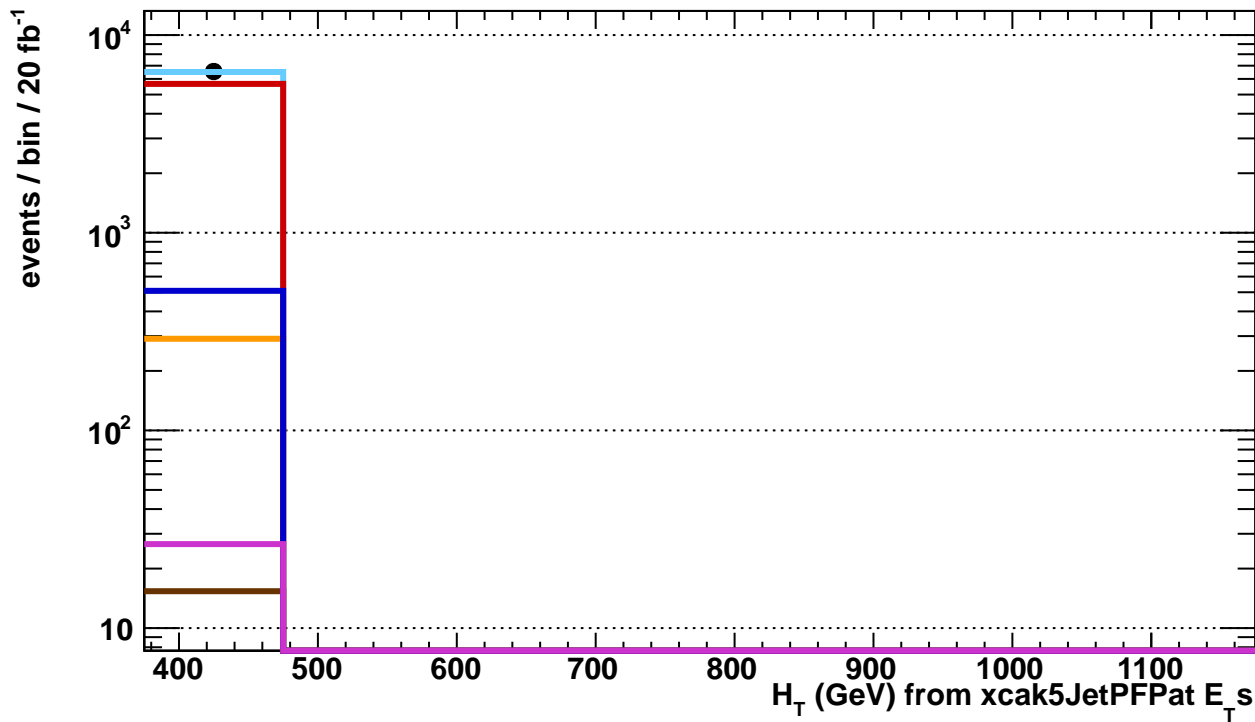
xcak5JetPFSumETPat_eq0b	
Entries	69027
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.903e+04



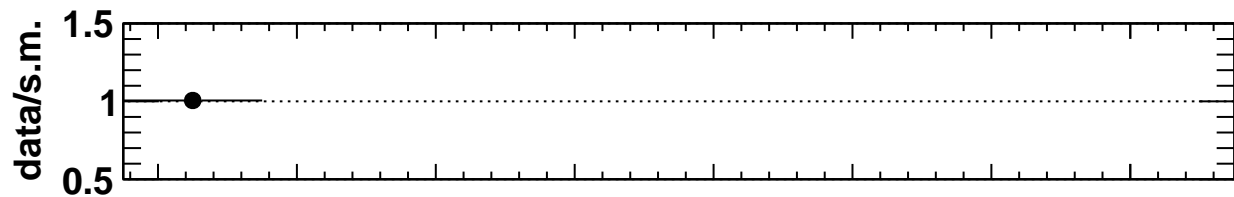
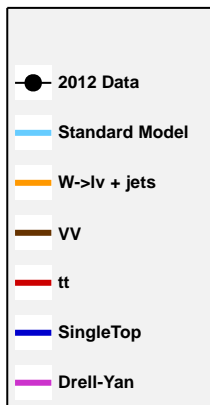


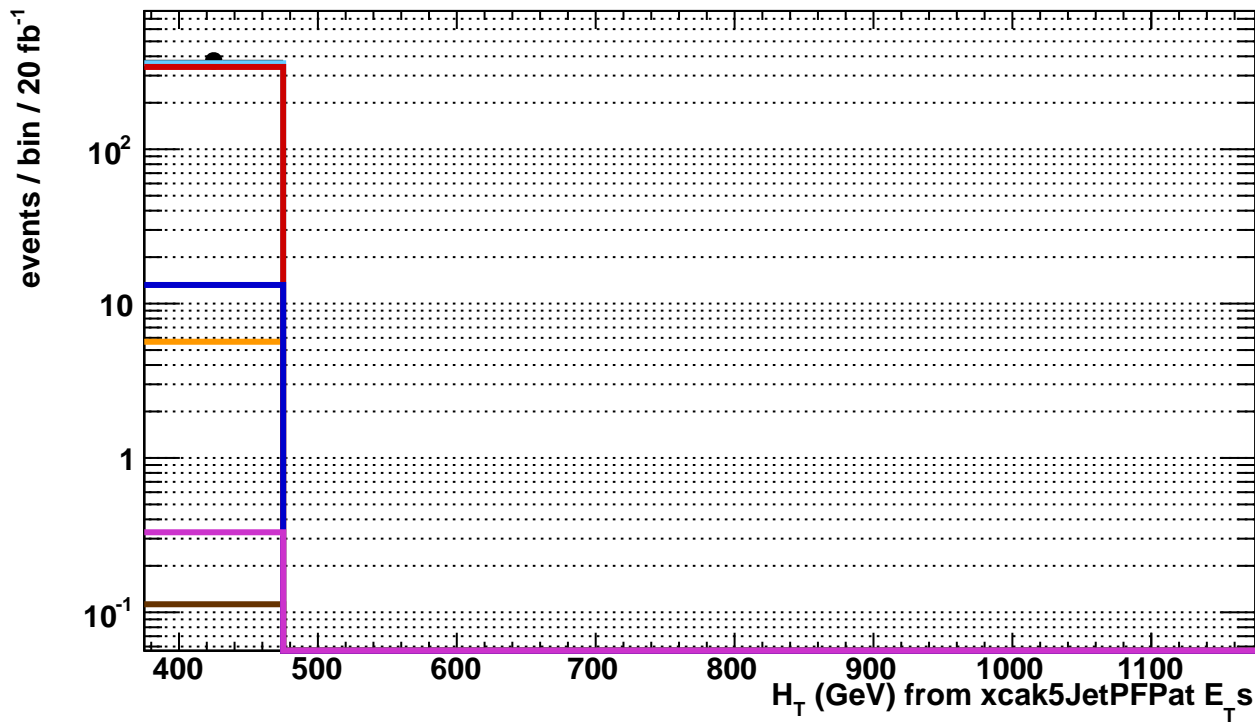
xcak5JetPFSumETPat_eq1b	
Entries	18824
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.882e+04



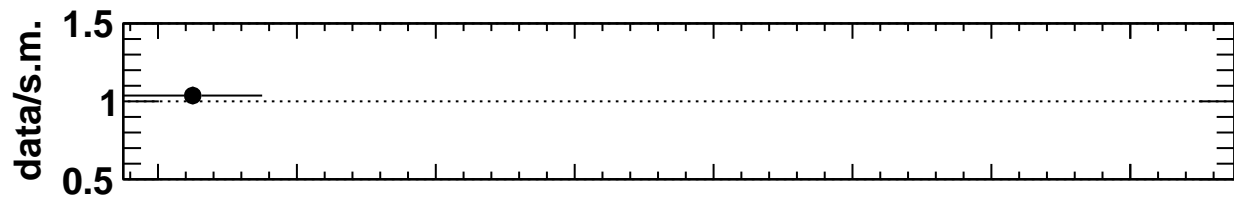
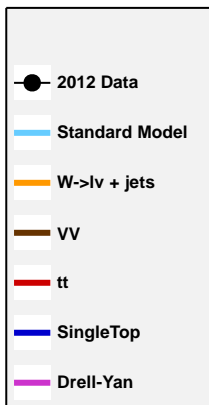


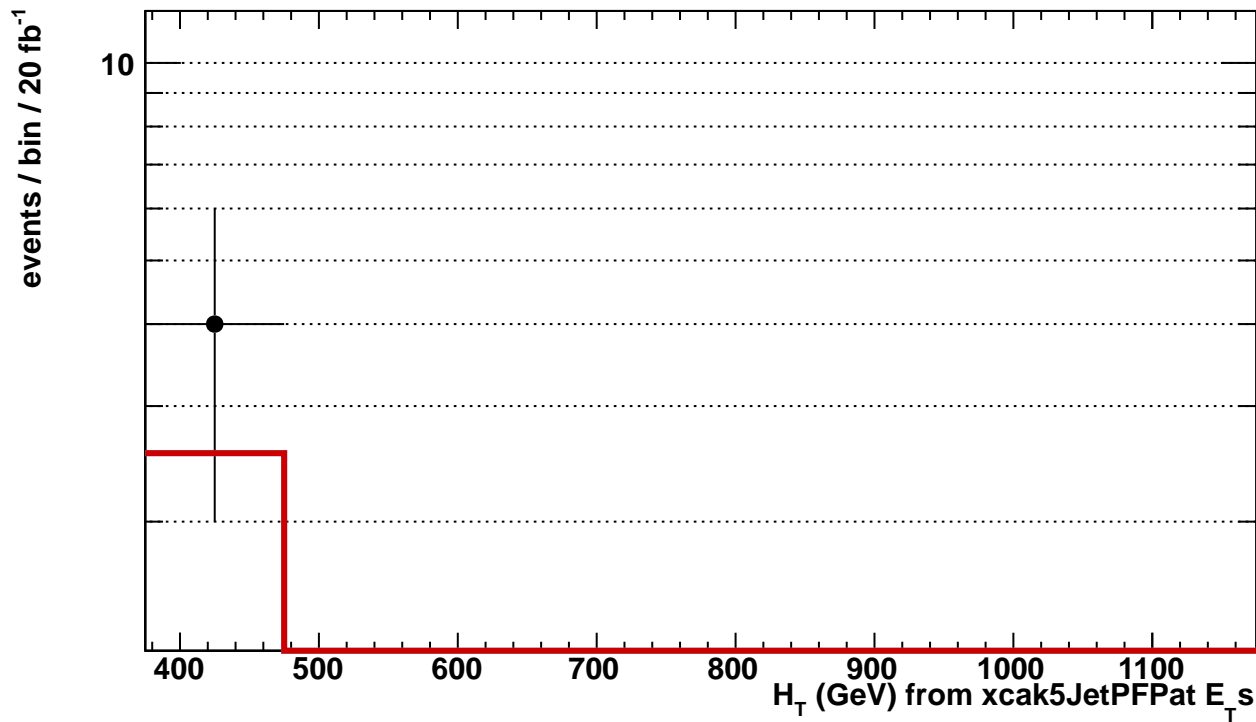
xcak5JetPFSumEtPat_eq2b	
Entries	6539
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6539



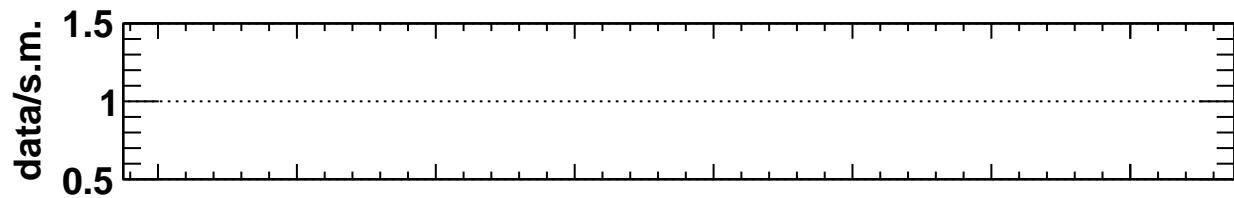
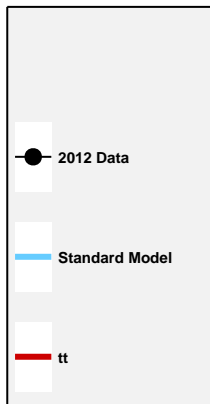


xcak5JetPFSumETPat_eq3b	
Entries	374
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	374



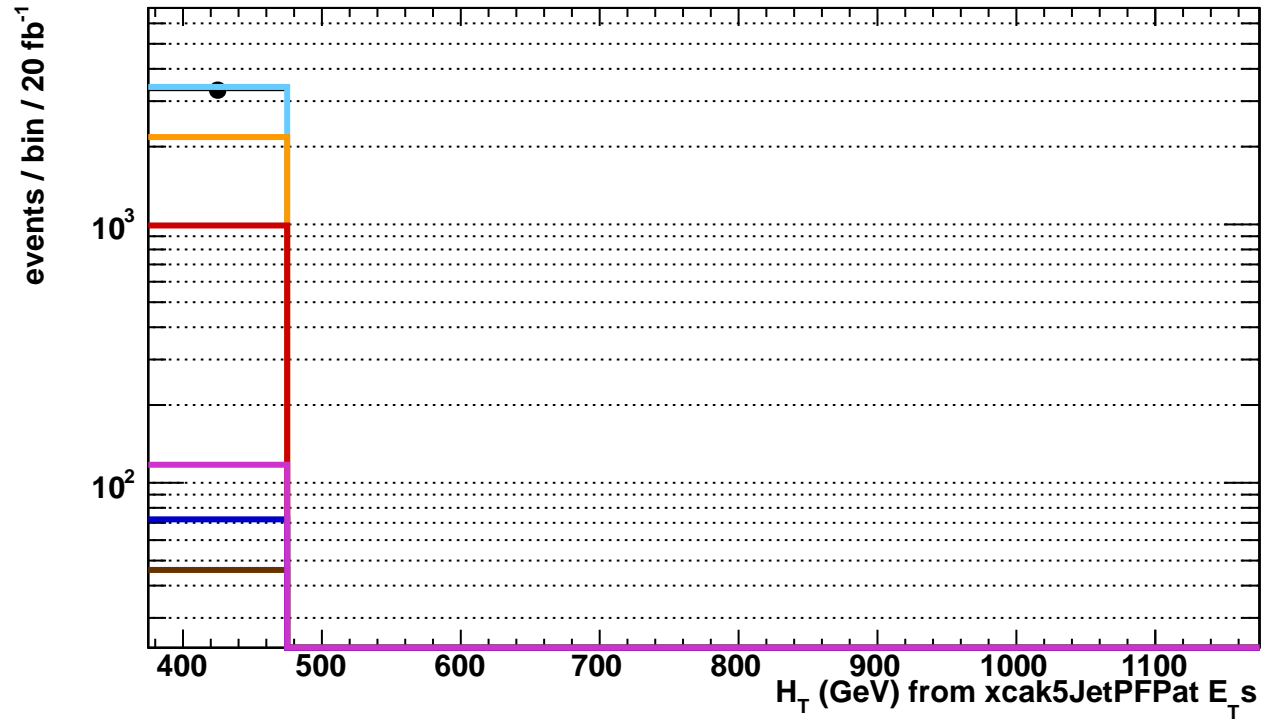


xcak5JetPFSumEtPat_ge4b	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4



xcak5JetPFSumEtPat_ge4j_eq0b

Entries	3308
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3308



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2012 Data

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Standard Model

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W->lv + jets

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VV

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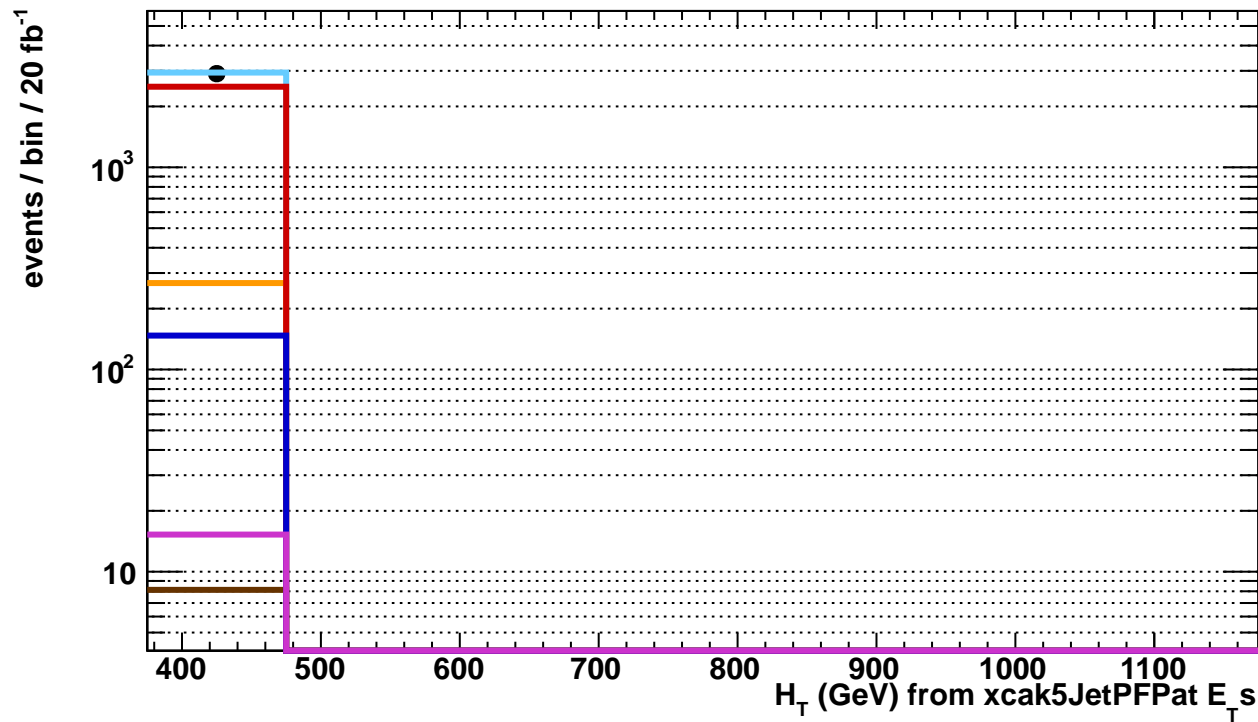
tt

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SingleTop

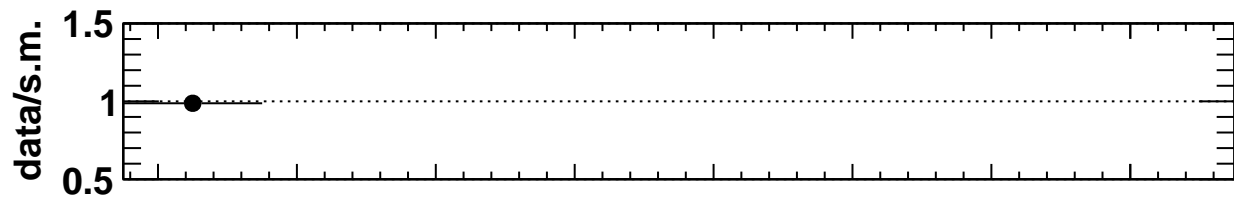
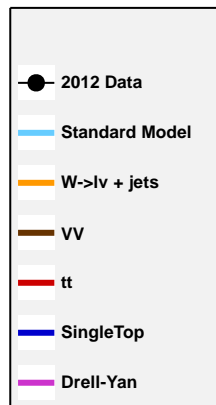
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Drell-Yan



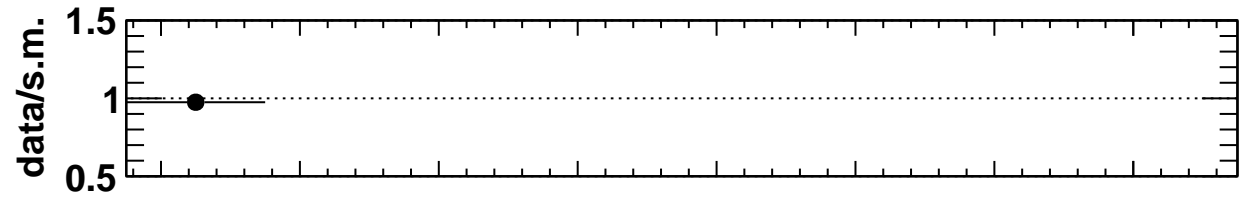
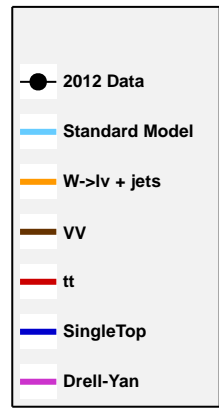
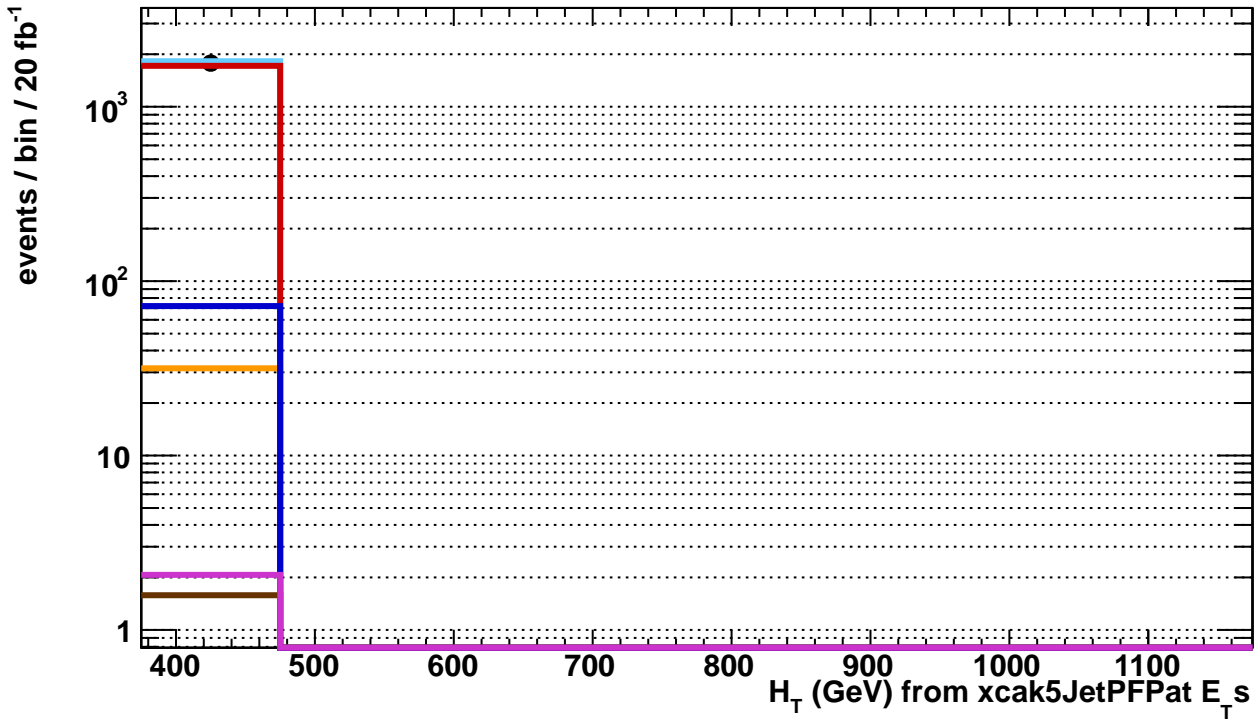
xcak5JetPFSumEtPat_ge4j_eq1b

Entries	2905
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2905



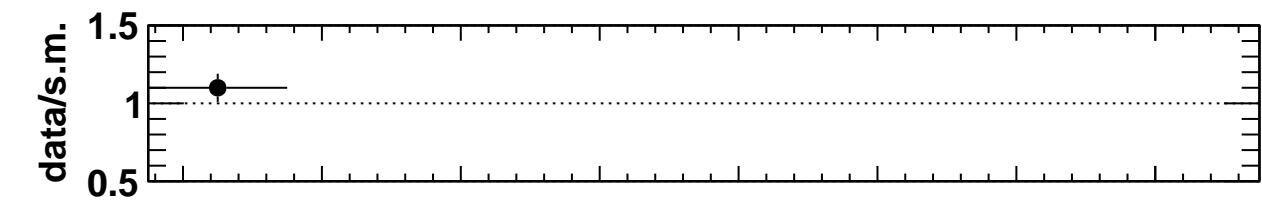
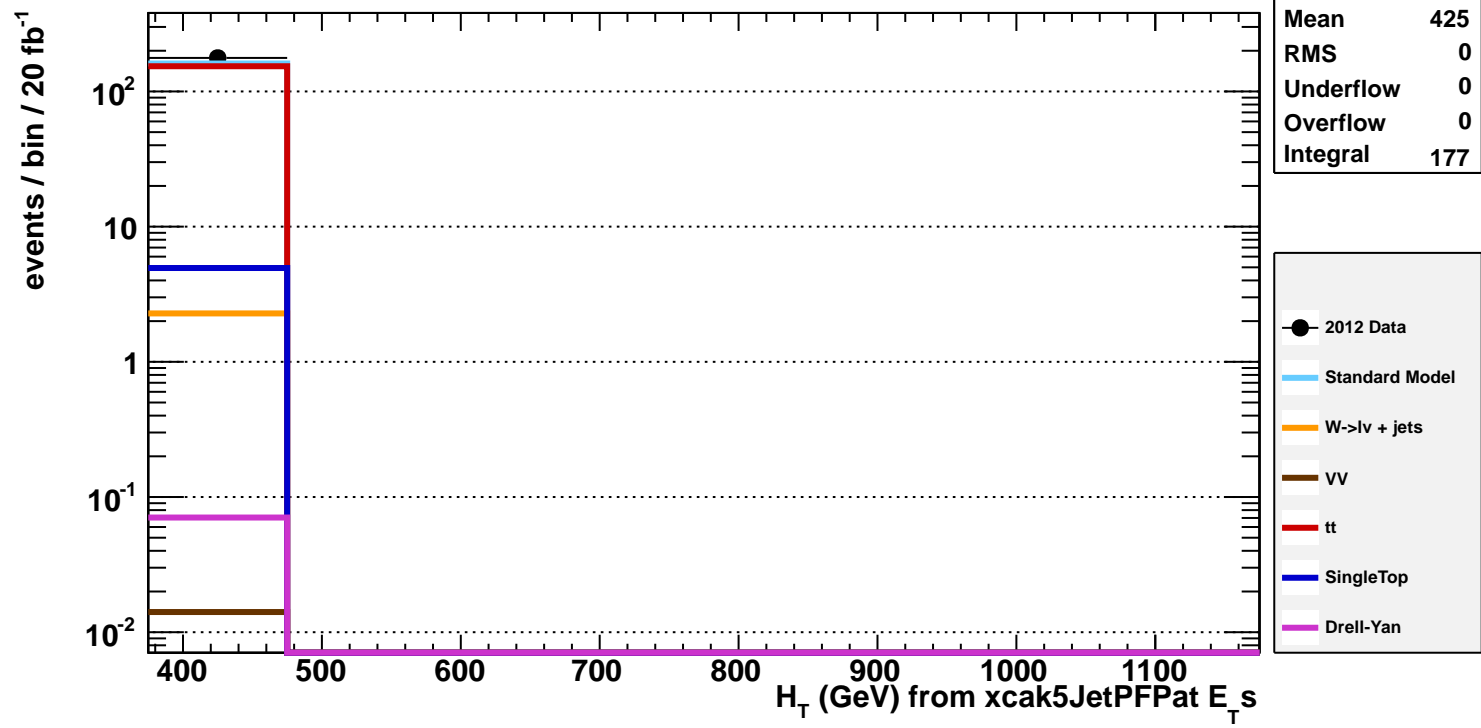
xcak5JetPFSumEtPat_ge4j_eq2b

Entries	1778
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1778

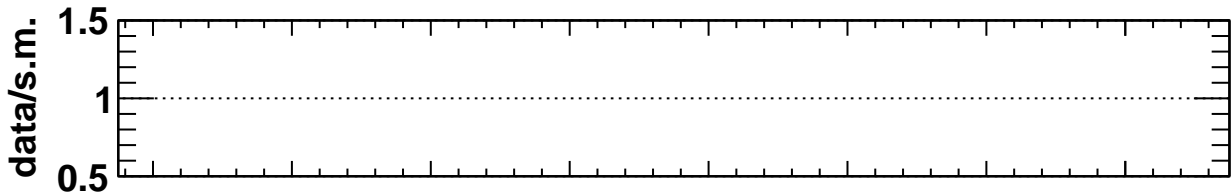
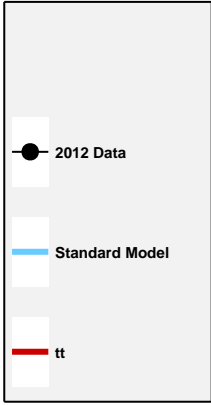
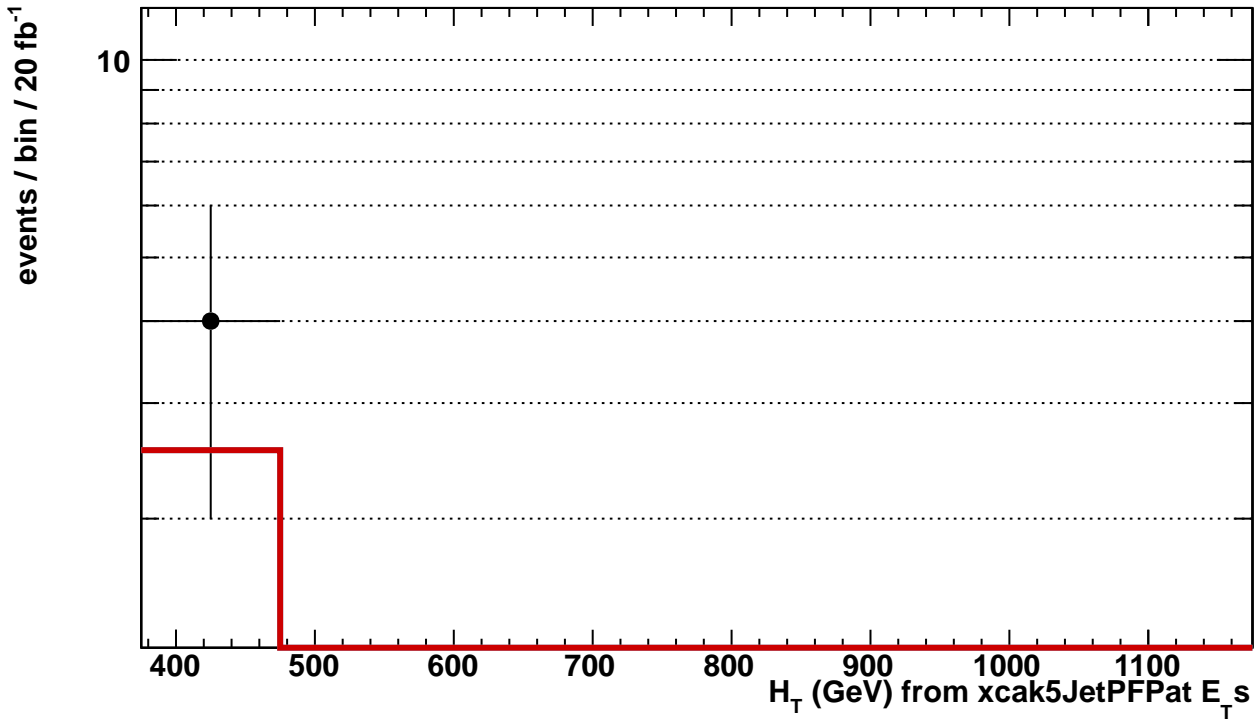


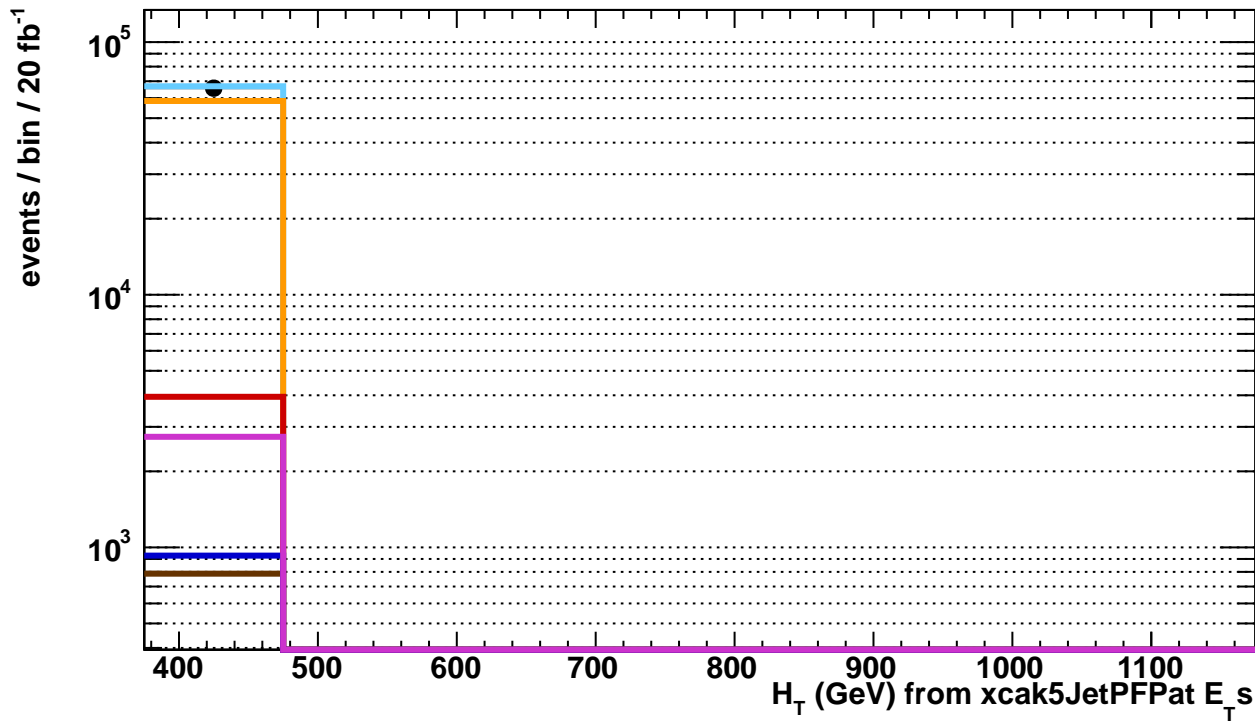
xcak5JetPFSumEtPat_ge4j_eq3b

Entries	177
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	177

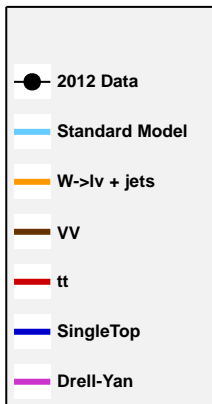


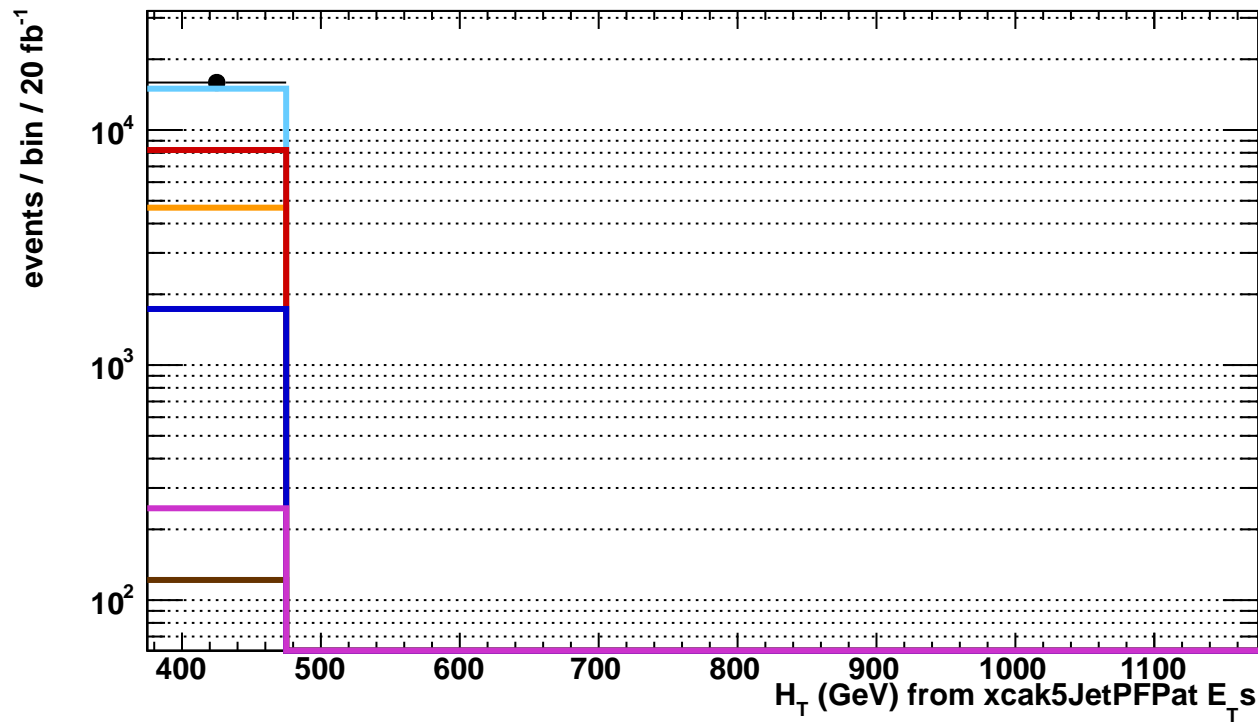
xcak5JetPFSumEtPat_ge4j_ge4b	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4



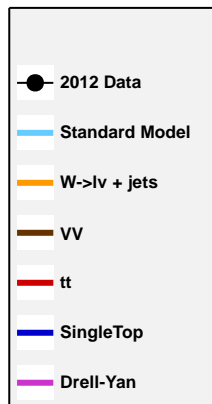


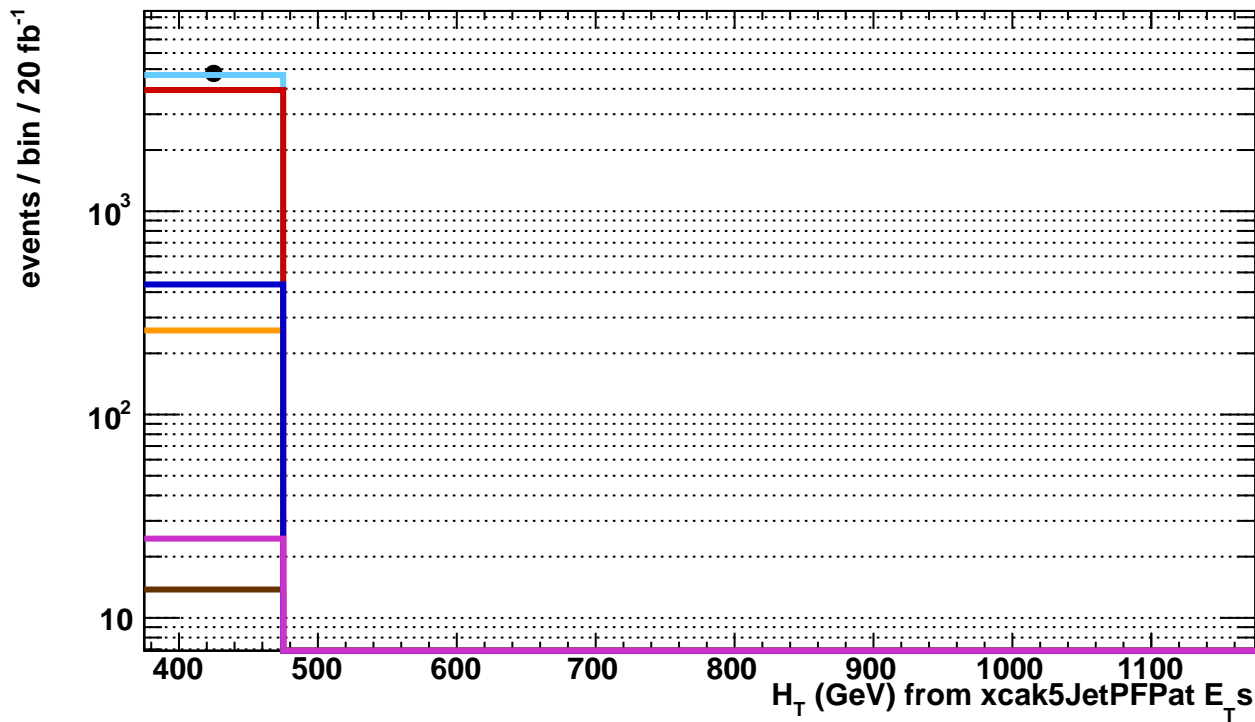
xcak5JetPFSumEtPat_le3_eq0b	
Entries	65719
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.572e+04



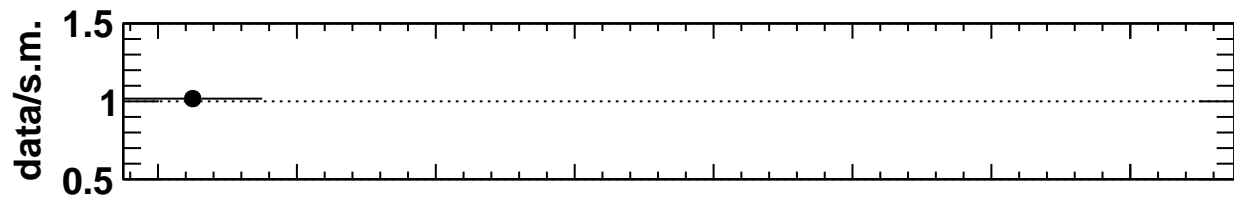
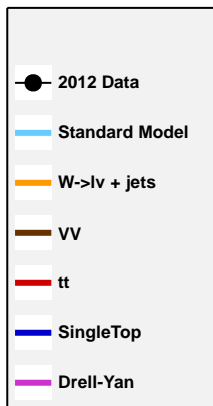


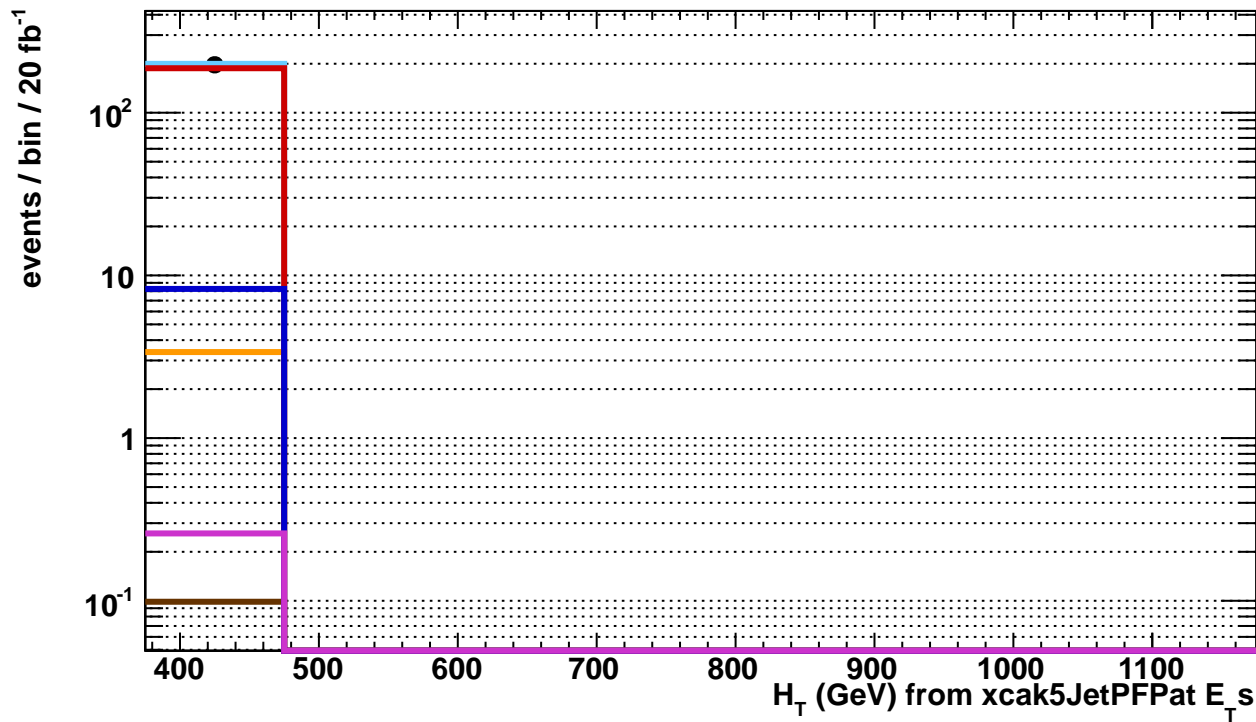
xcak5JetPFSumEtPat_le3_eq1b	
Entries	15919
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.592e+04



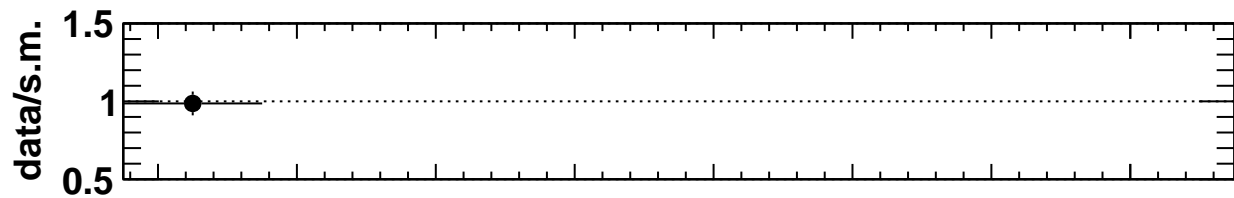
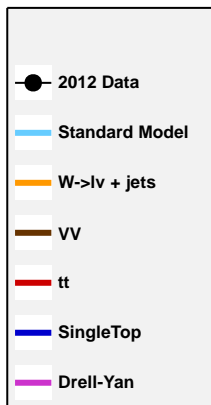


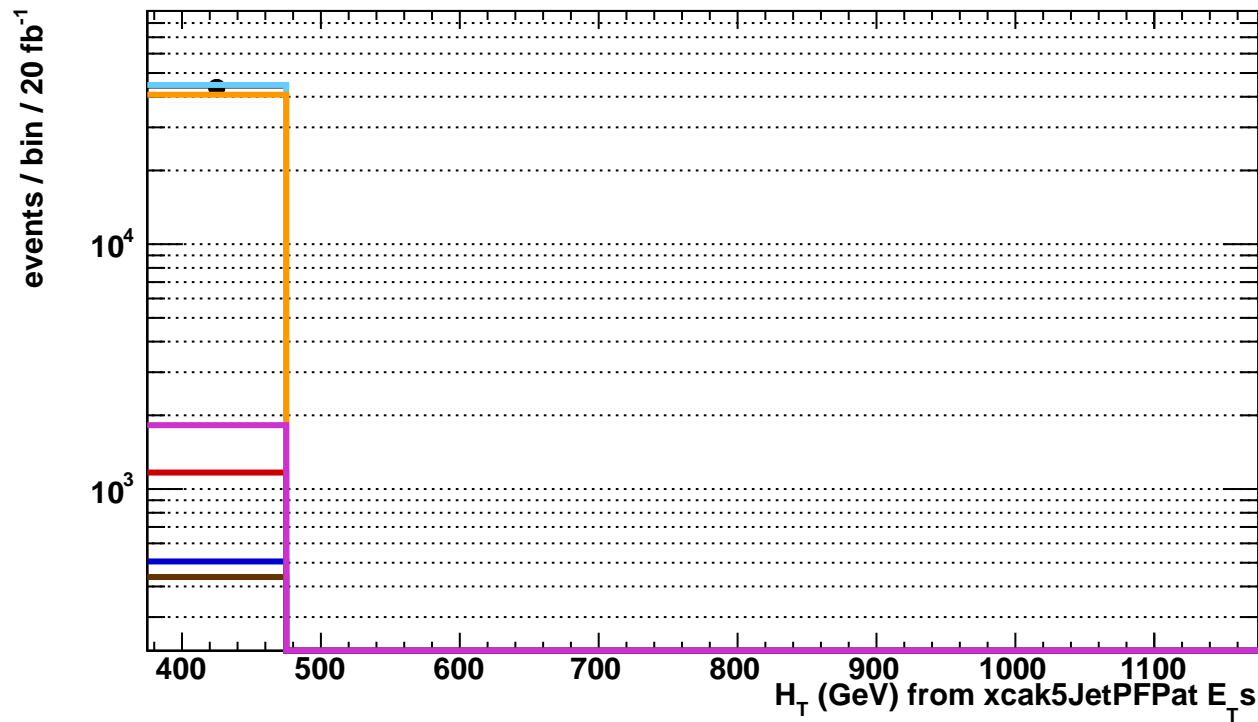
xcak5JetPFSumEtPat_le3j_eq2b	
Entries	4761
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4761



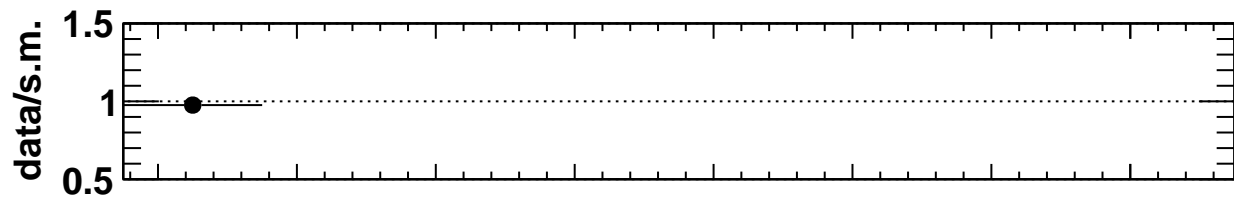
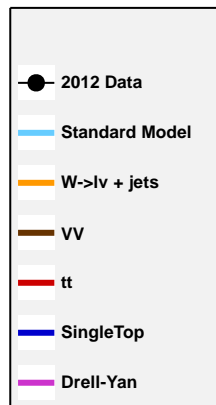


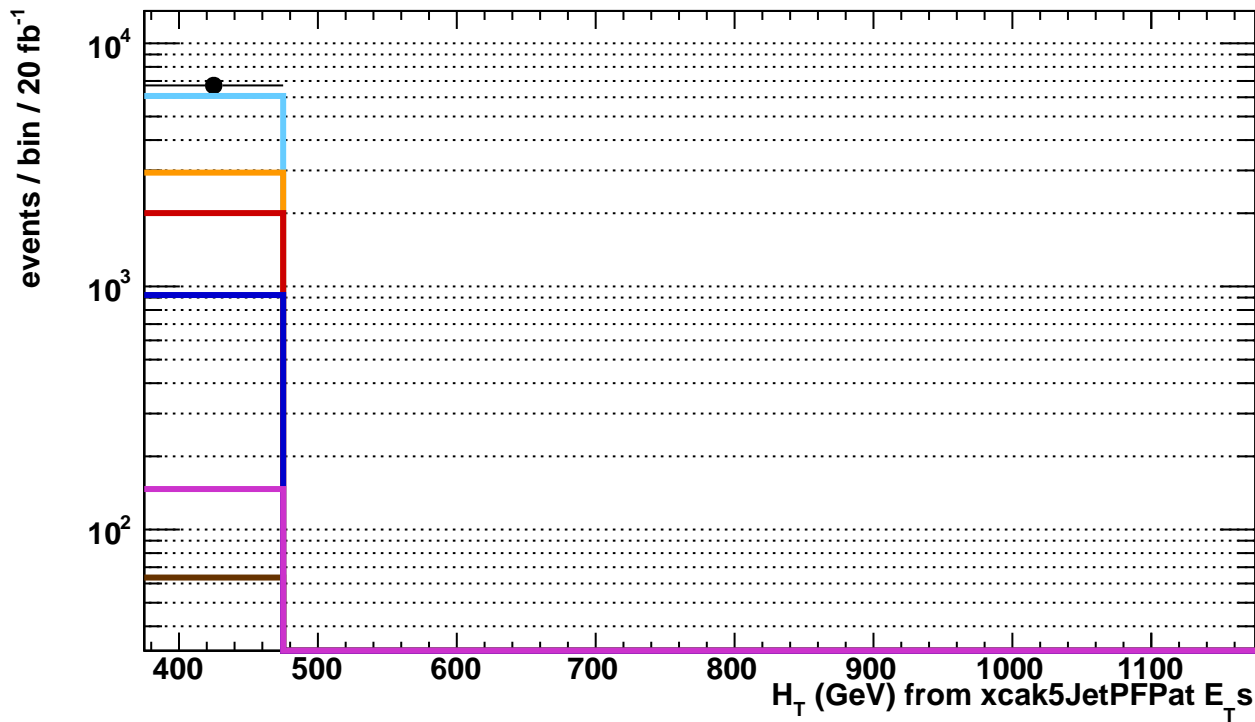
xcak5JetPFSumEtPat_le3j_eq3b	
Entries	197
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	197



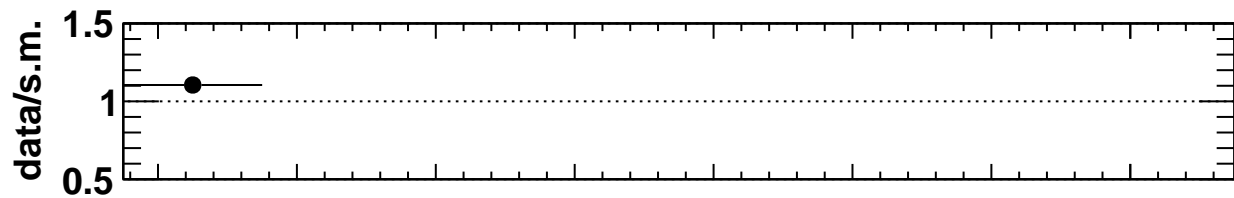
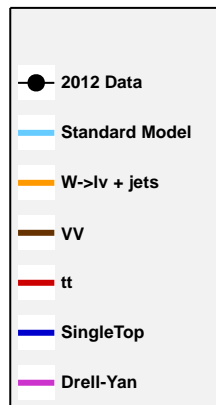


xcak5JetPFSumEtPat_eq2j_eq0b	
Entries	43624
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4.362e+04

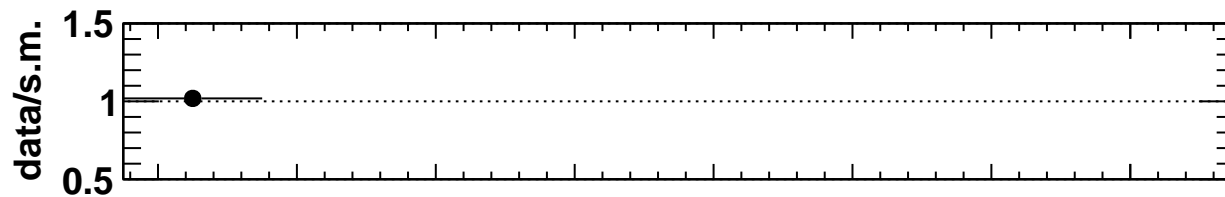
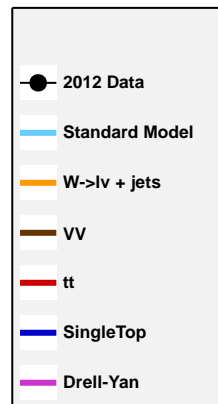
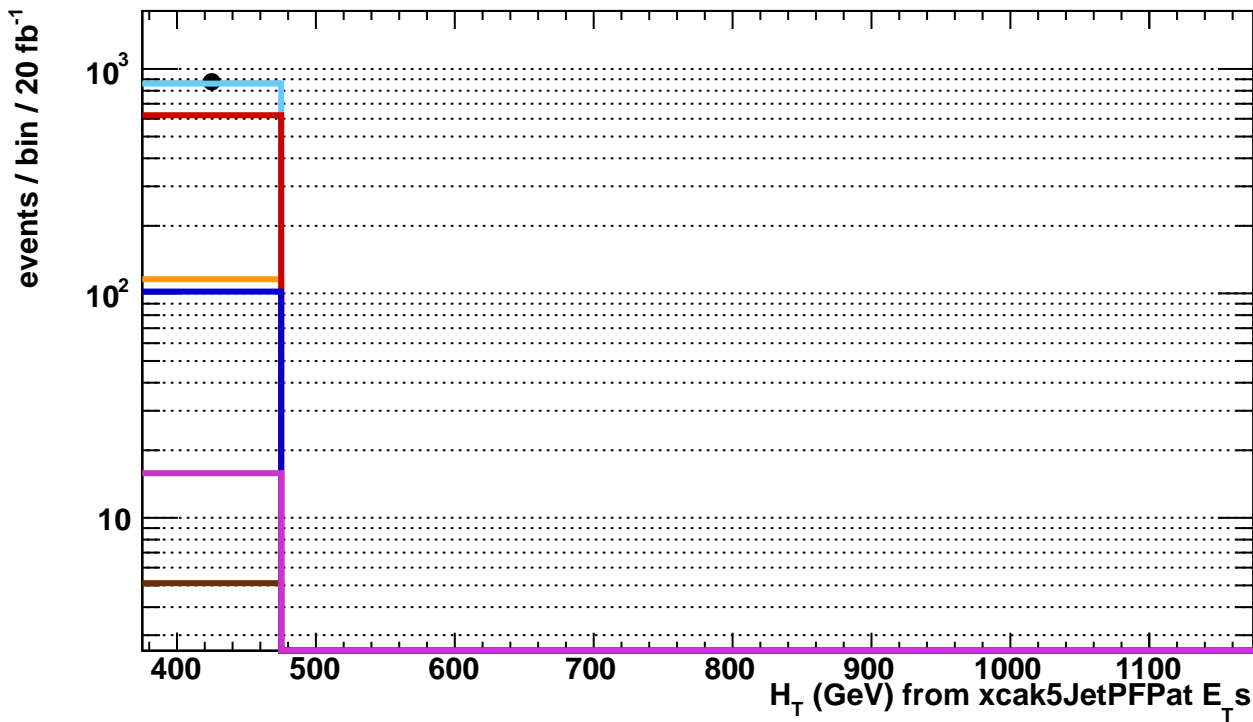


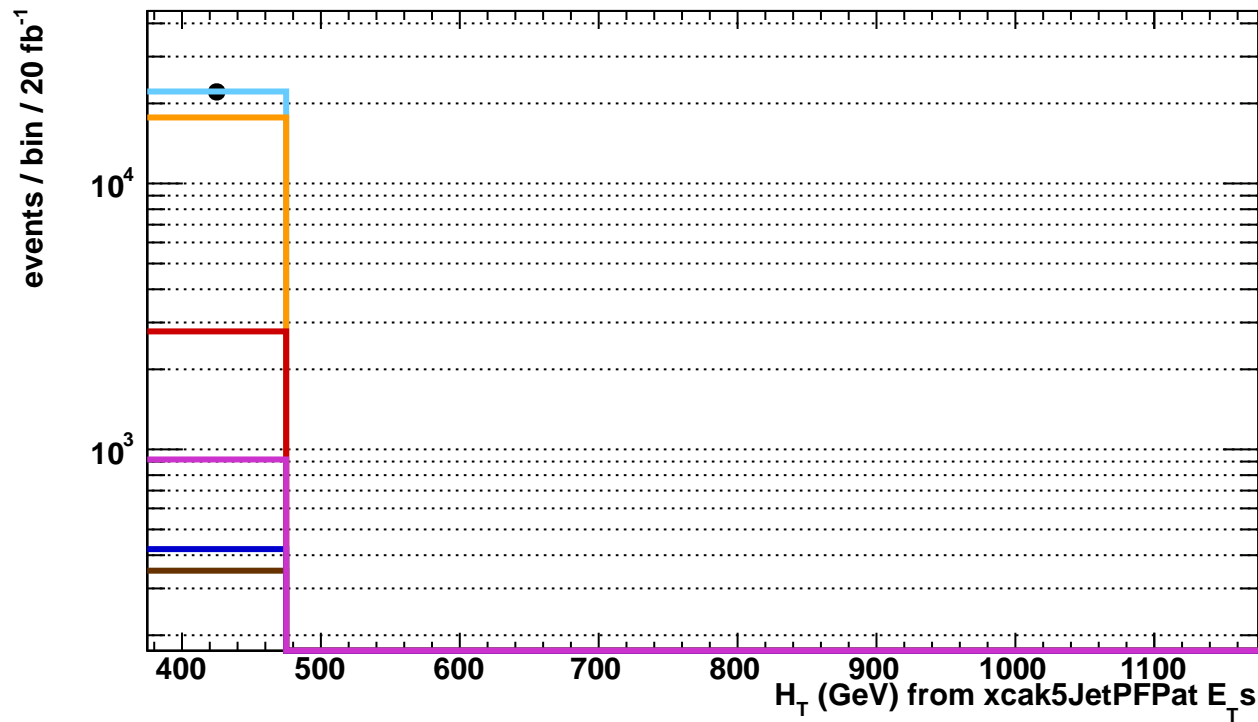


xcak5JetPFSumEtPat_eq2j_eq1b	
Entries	6711
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6711



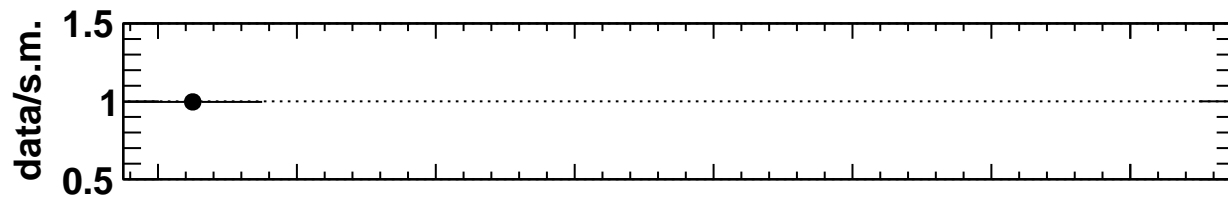
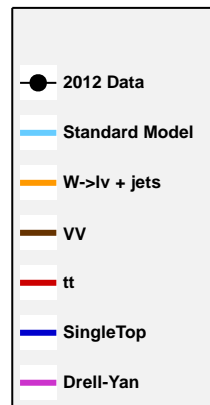
Entries	877
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	877

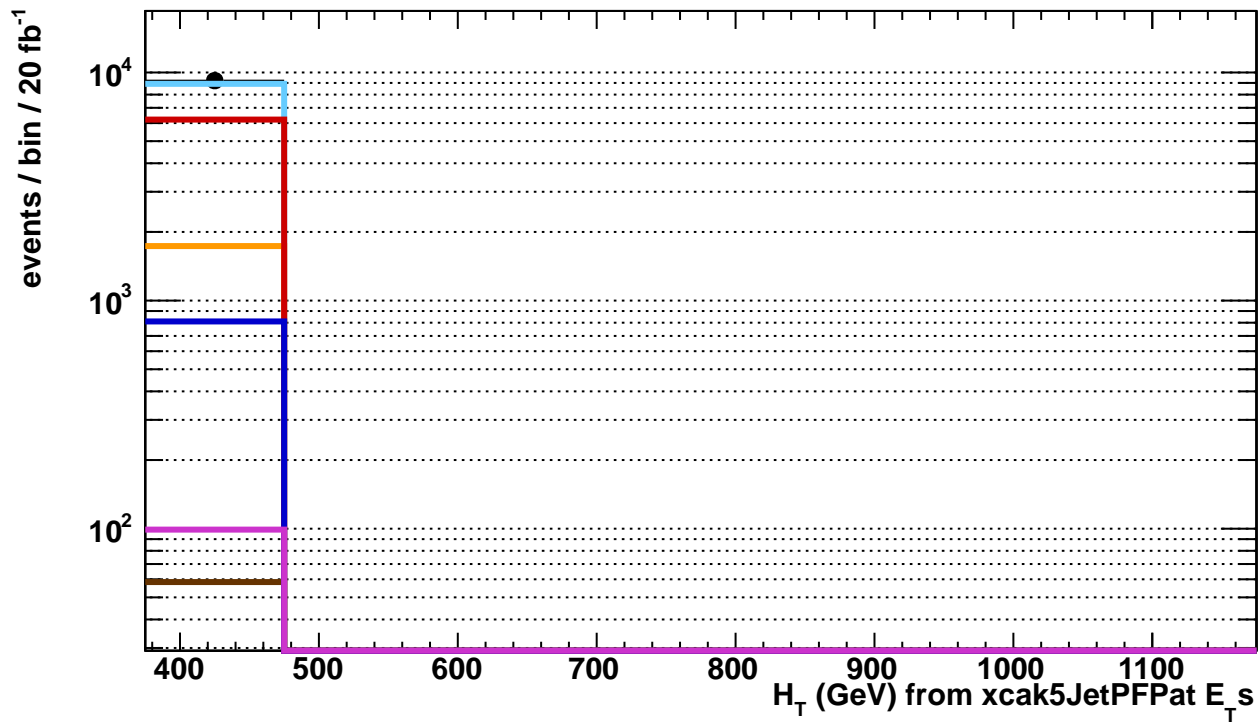




xcak5JetPFSumEtPat_eq3j_eq0b

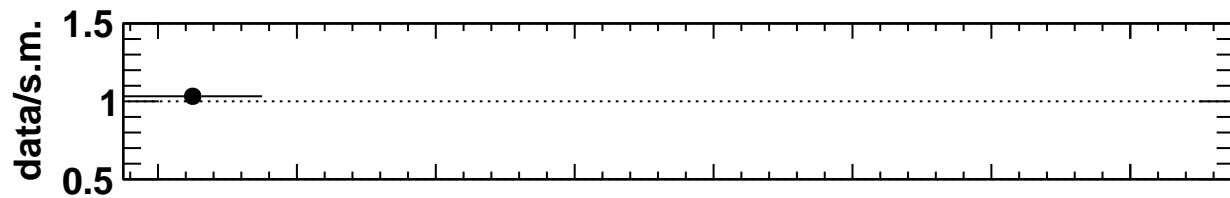
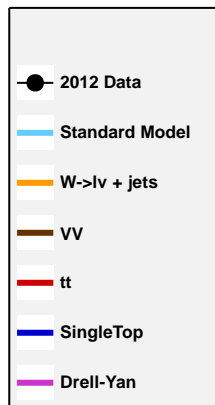
Entries	22095
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2.21e+04

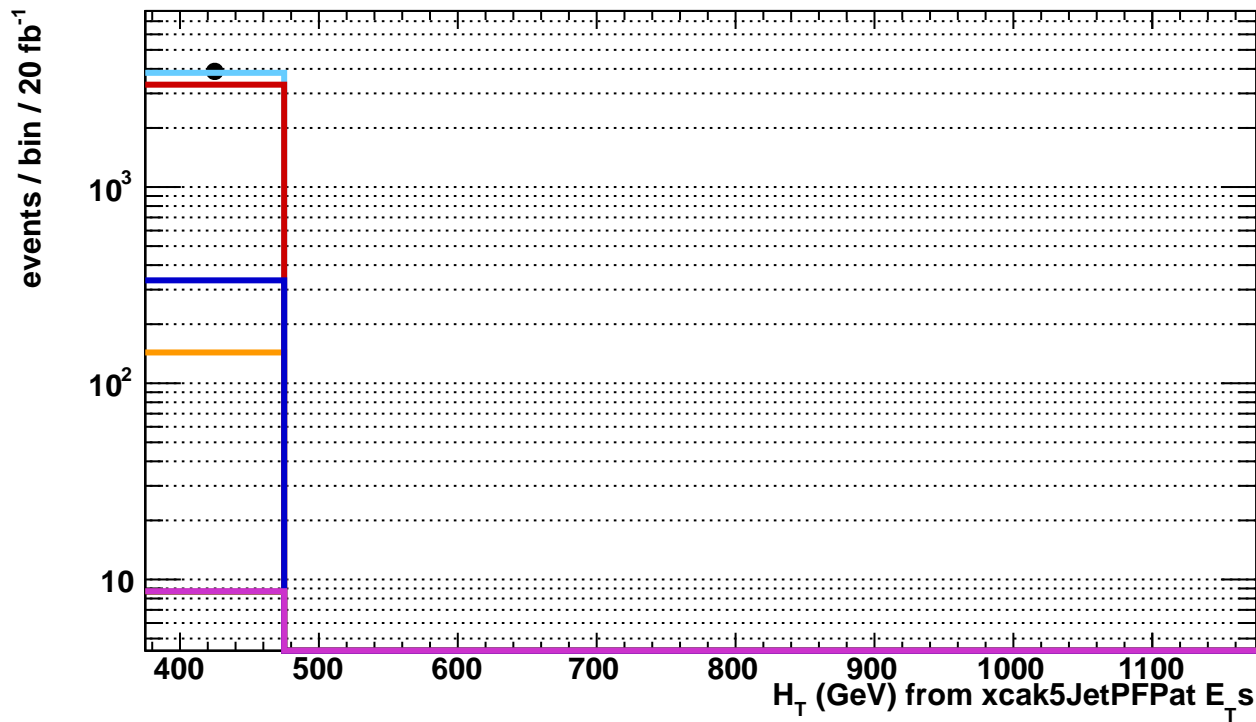




xcak5JetPFSumEtPat_eq3j_eq1b

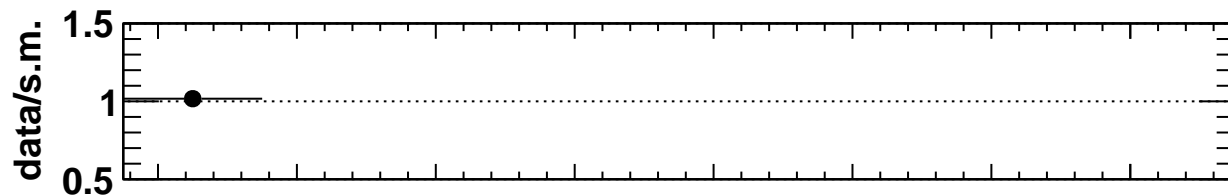
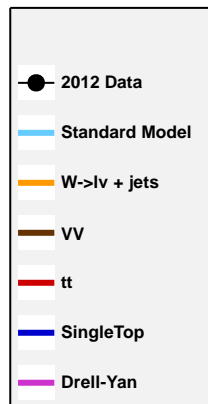
Entries	9208
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	9208





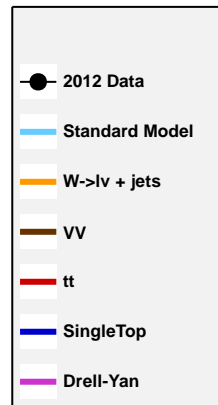
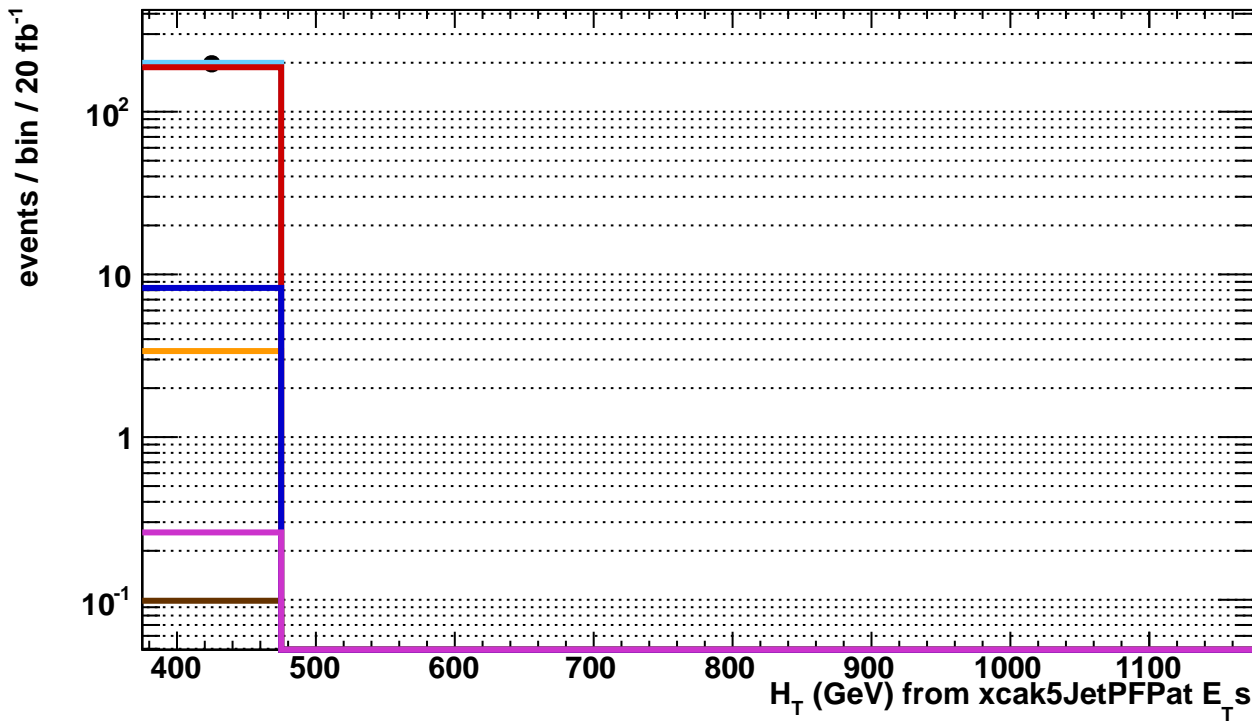
xcak5JetPFSumEtPat_eq3j_eq2b

Entries	3884
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3884



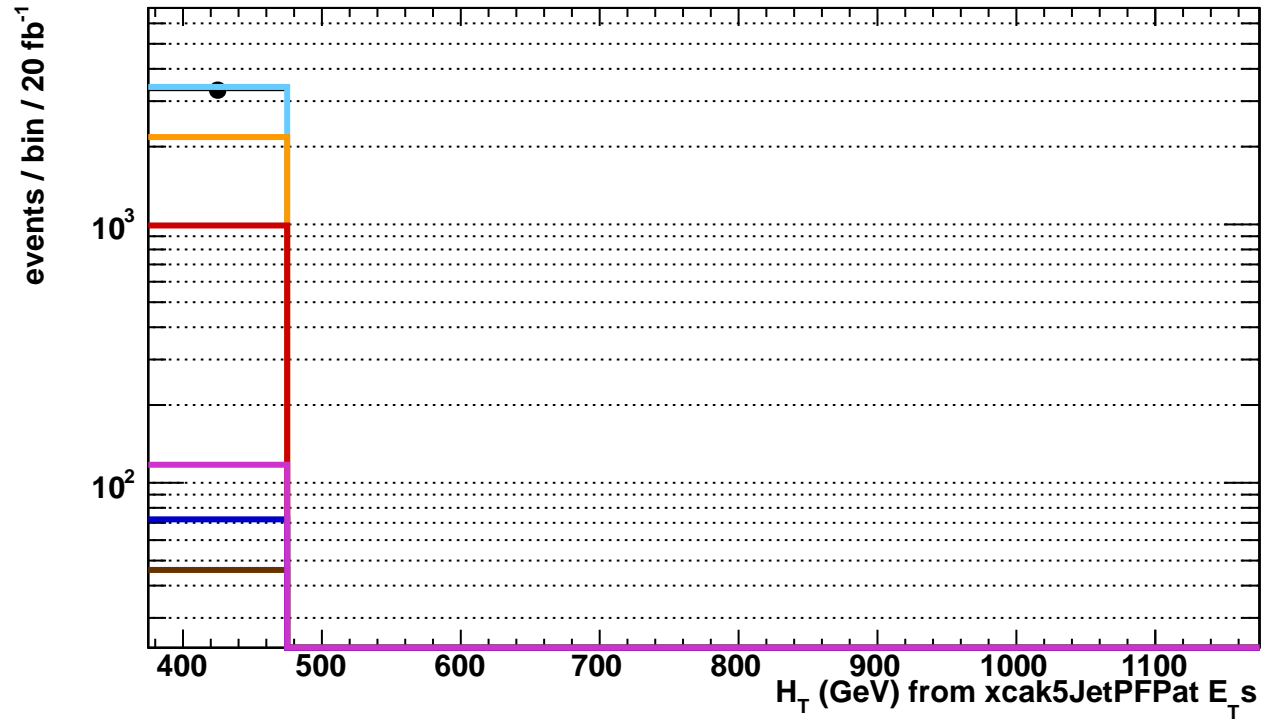
xcak5JetPFSumEtPat_eq3j_eq3b

Entries	197
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	197



xcak5JetPFSumEtPat_ge4j_eq0b

Entries	3308
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3308



2012 Data

Standard Model

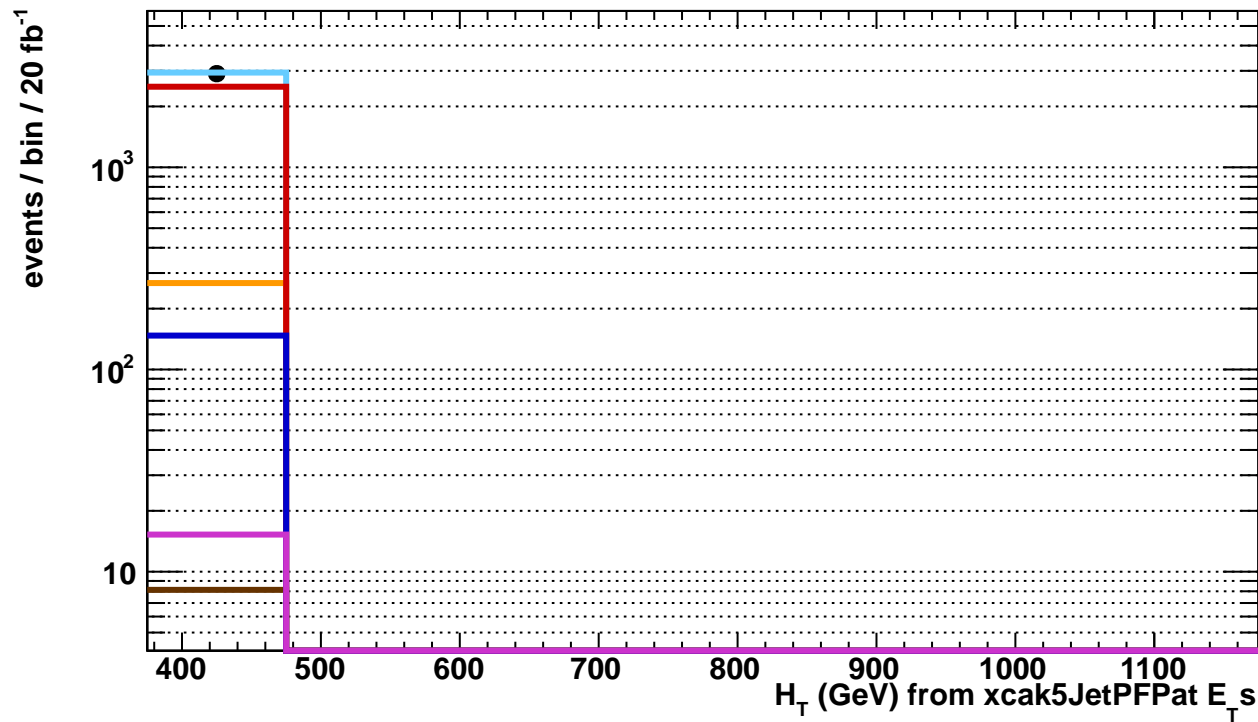
$W \rightarrow \text{lv} + \text{jets}$

VV

tt

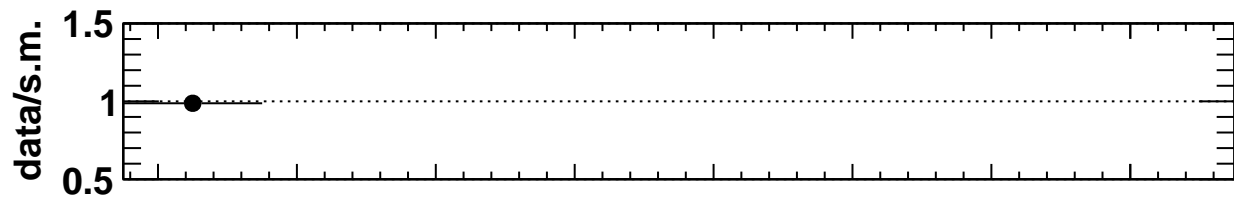
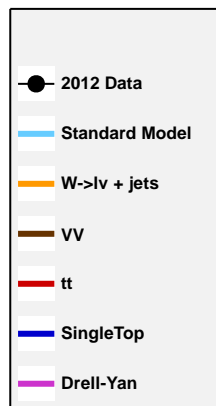
SingleTop

Drell-Yan



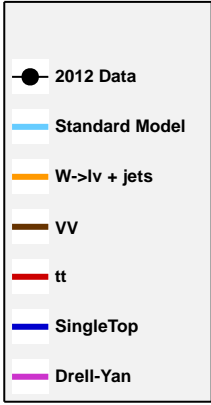
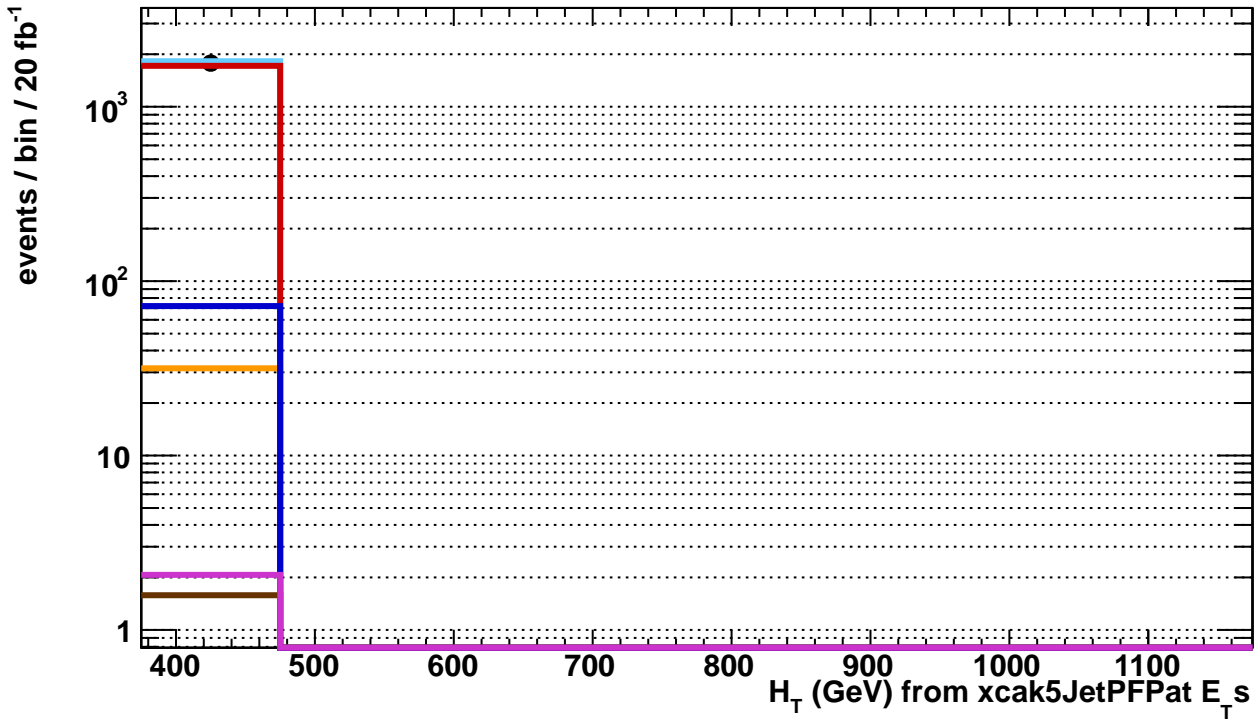
xcak5JetPFSumEtPat_ge4j_eq1b

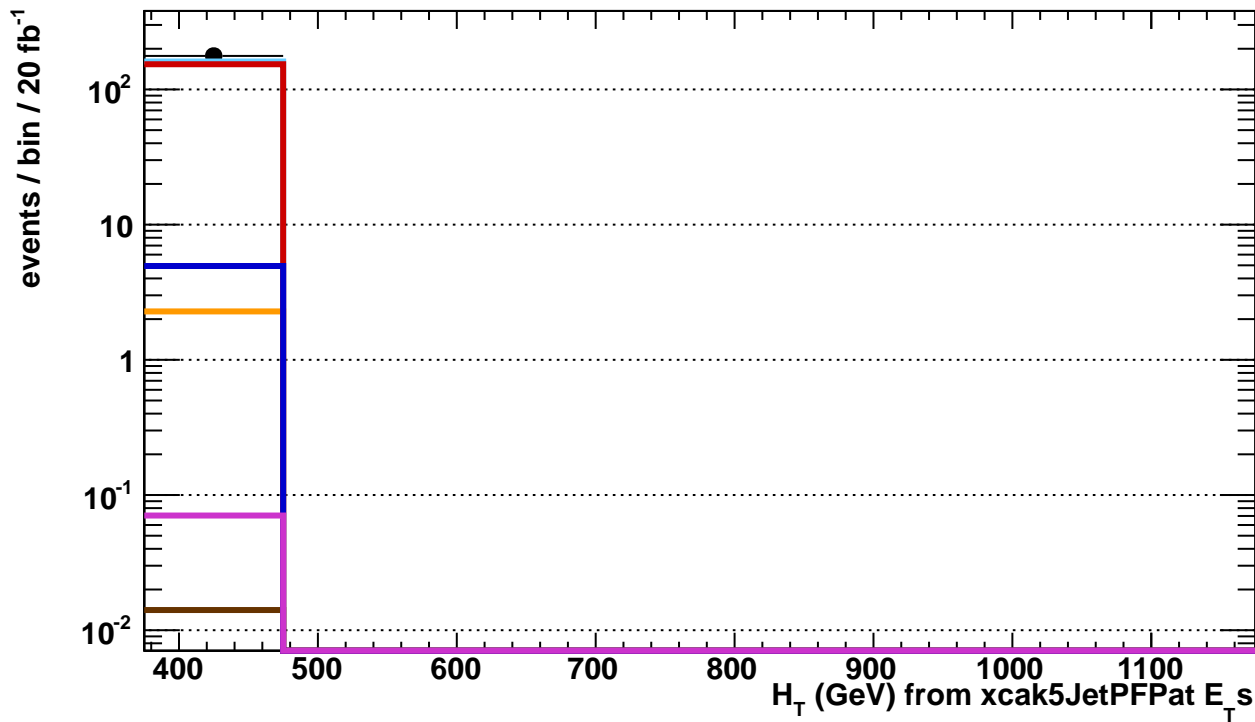
Entries	2905
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2905



xcak5JetPFSumEtPat_ge4j_eq2b

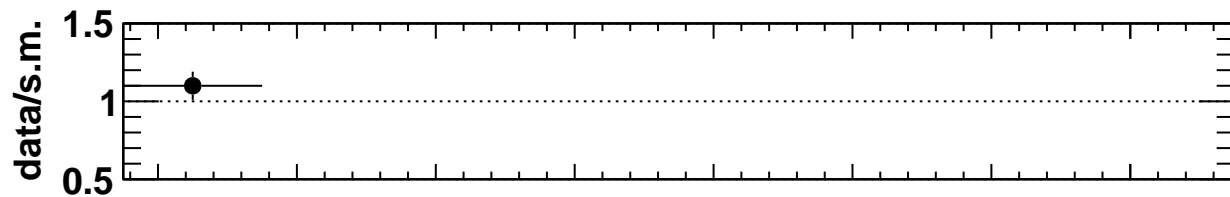
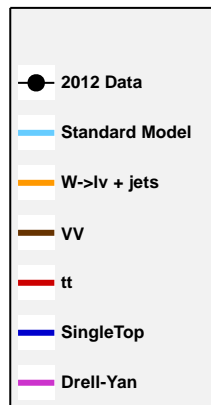
Entries	1778
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1778



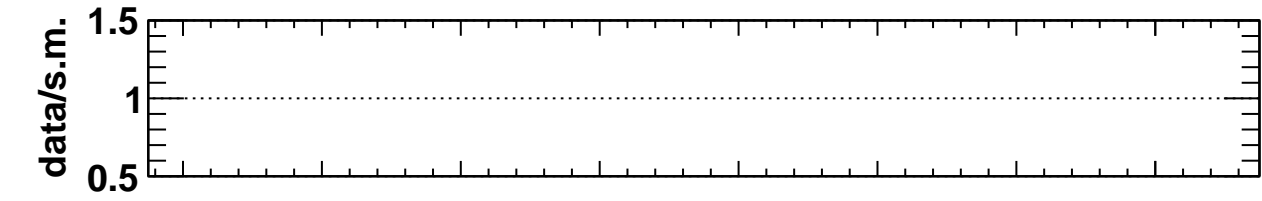
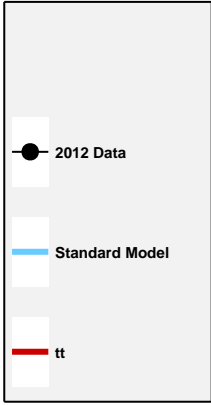
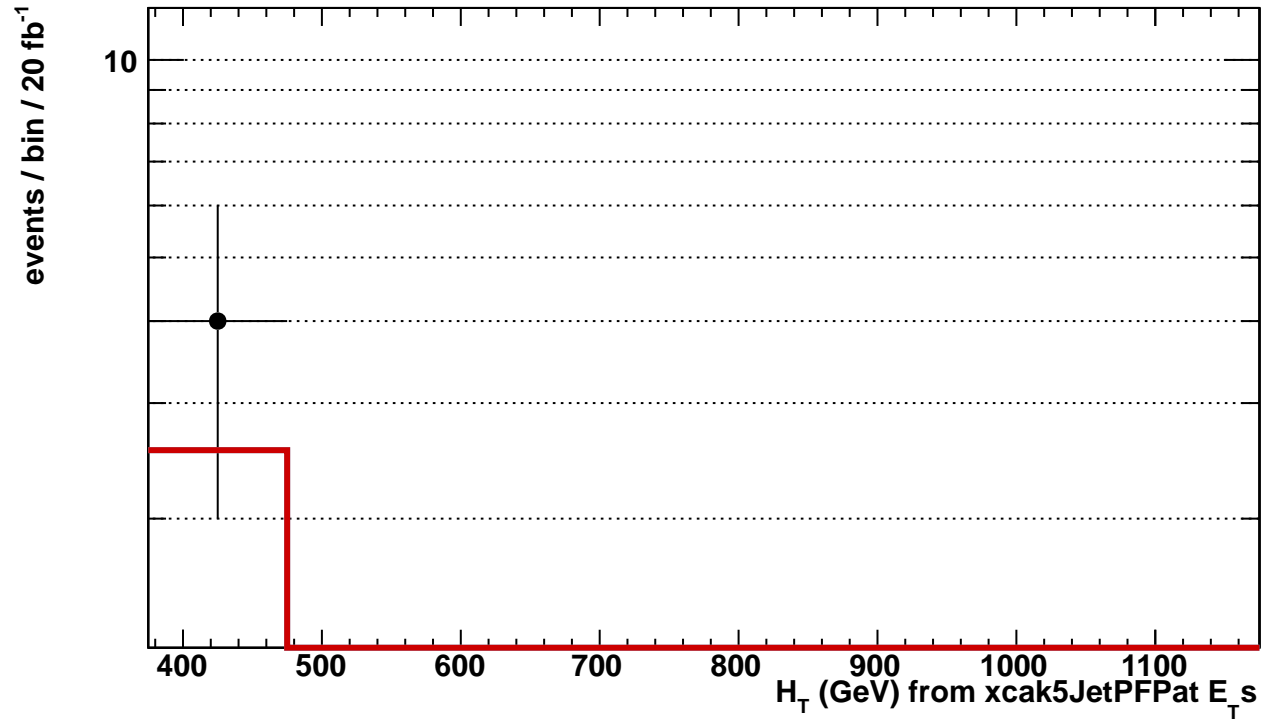


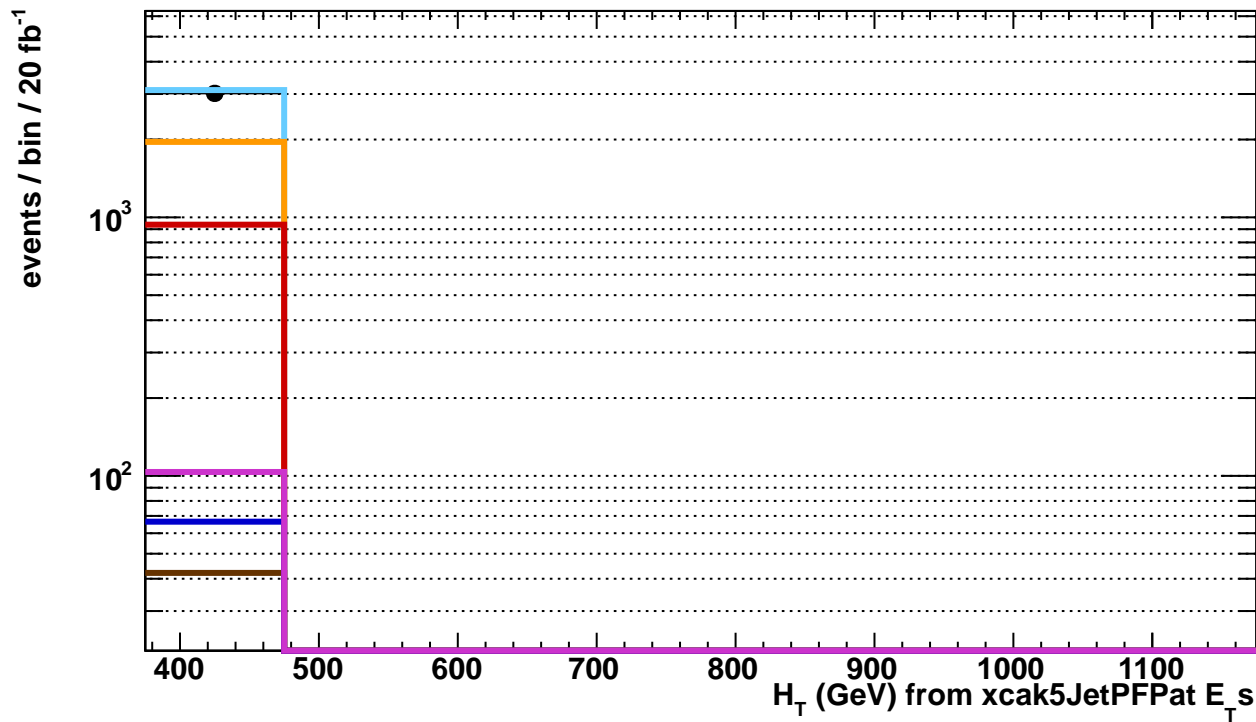
xcak5JetPFSumEtPat_ge4j_eq3b

Entries	177
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	177

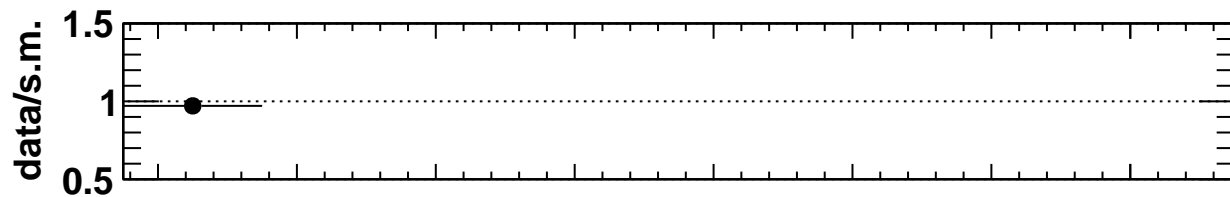
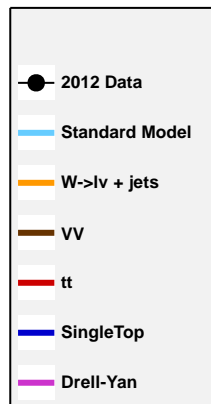


xcak5JetPFSumEtPat_ge4j_ge4b	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4

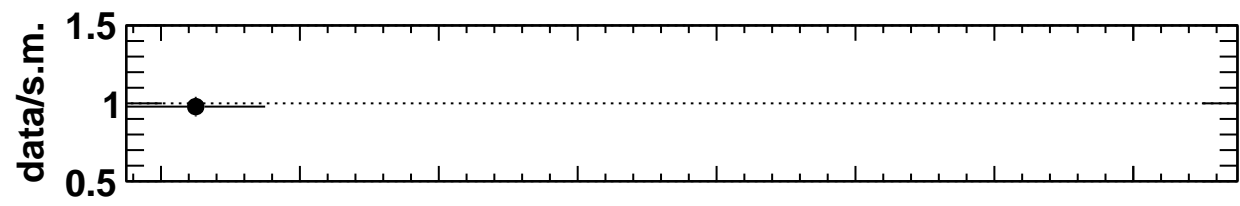
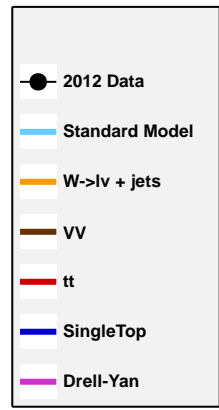
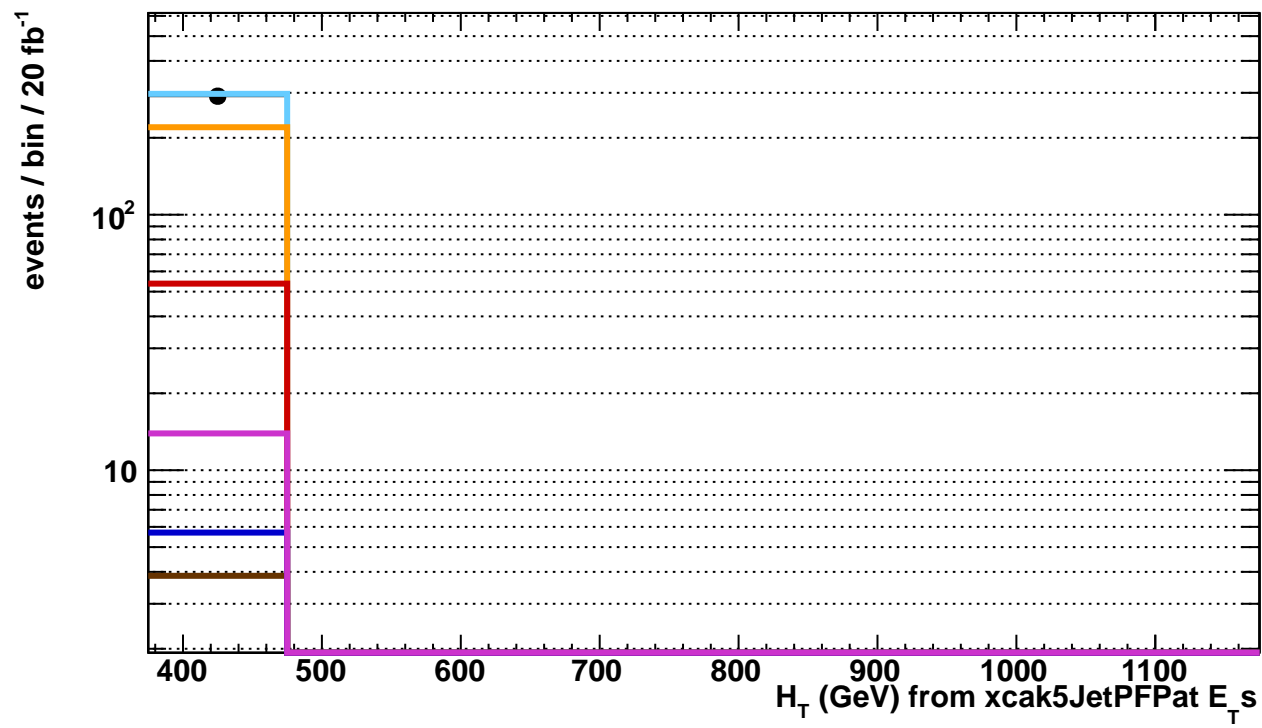


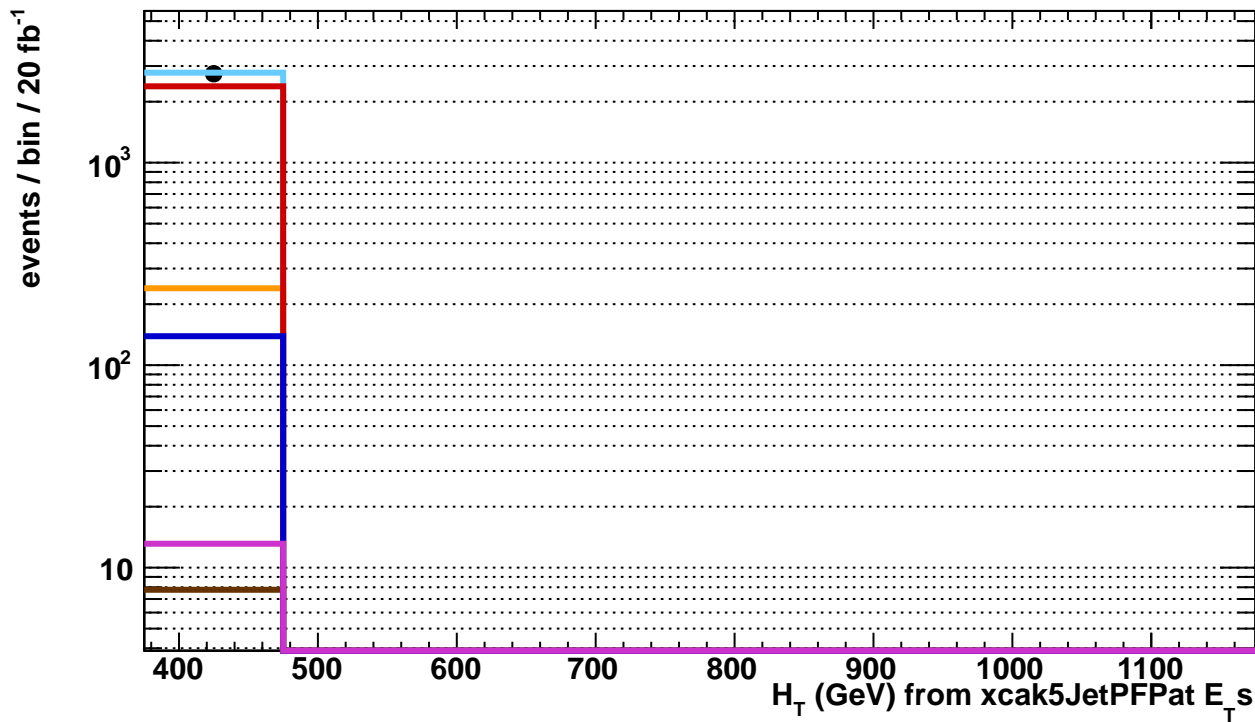


xcak5JetPFPatEIPat_ge4J_eq0b_dRge65	
Entries	3017
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3017

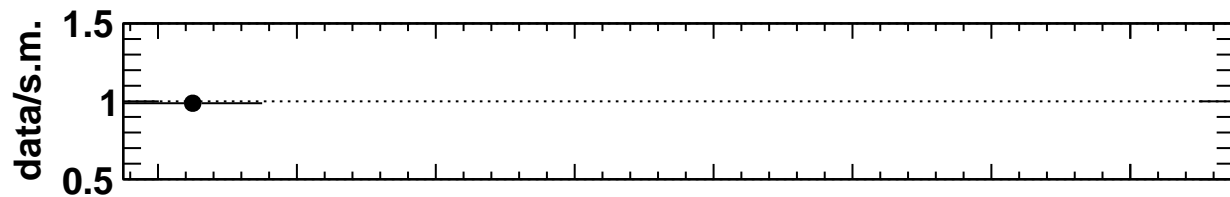
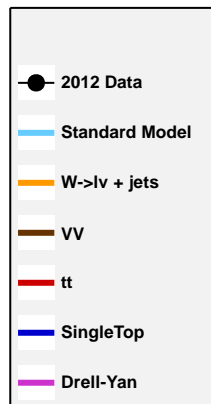


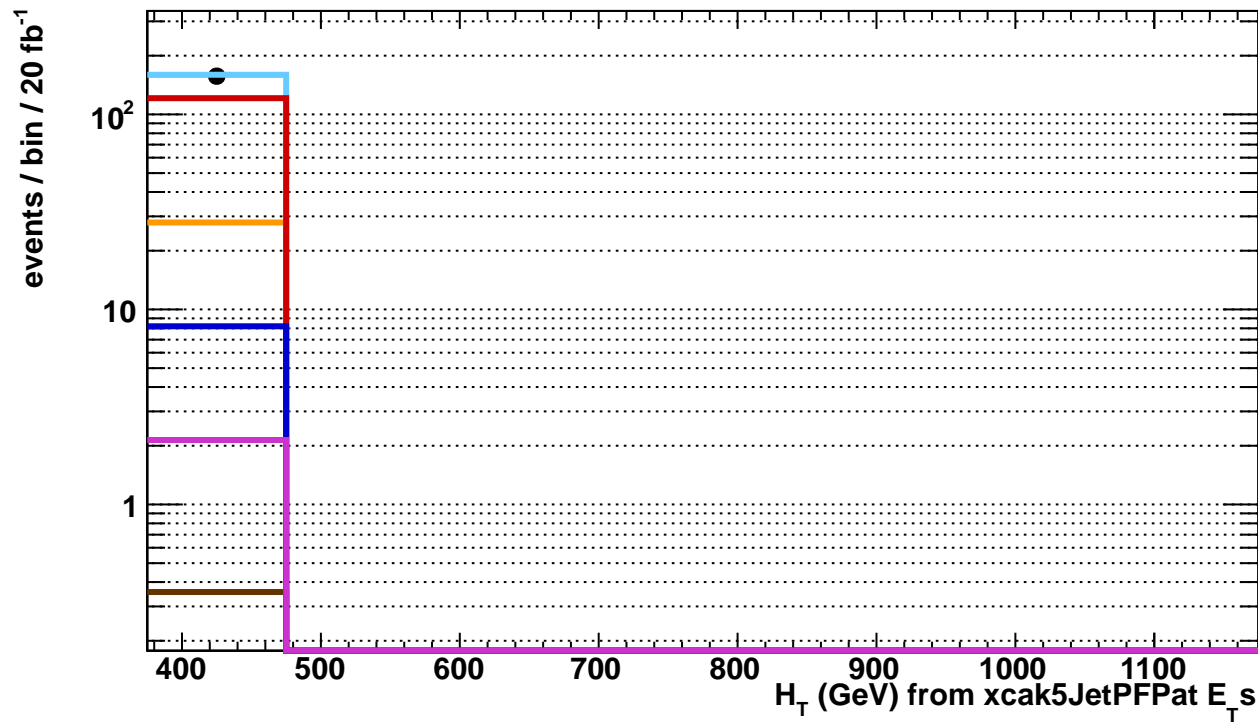
xcak5JetPFSumEtPat_ge4j_eq0b_dRl65	
Entries	291
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	291



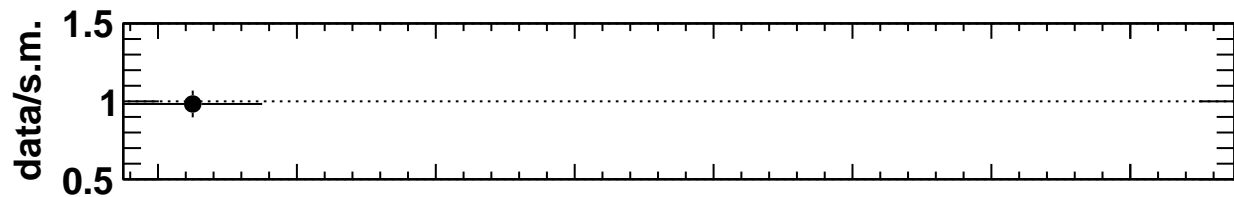
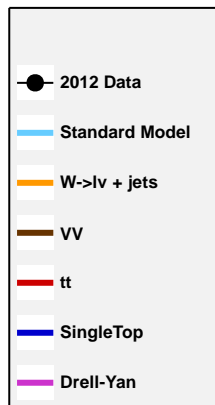


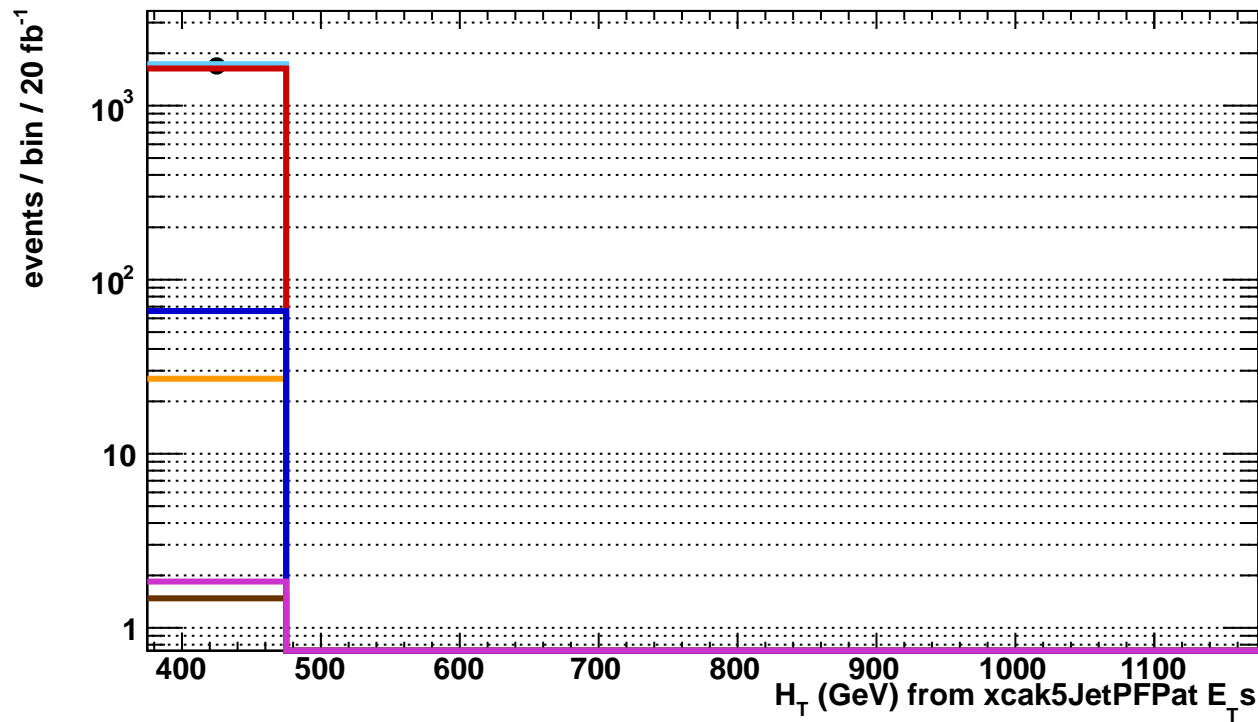
xcak5JetPFPatE_TPat_ge4J_eq1b_dRge65	
Entries	2748
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	2748



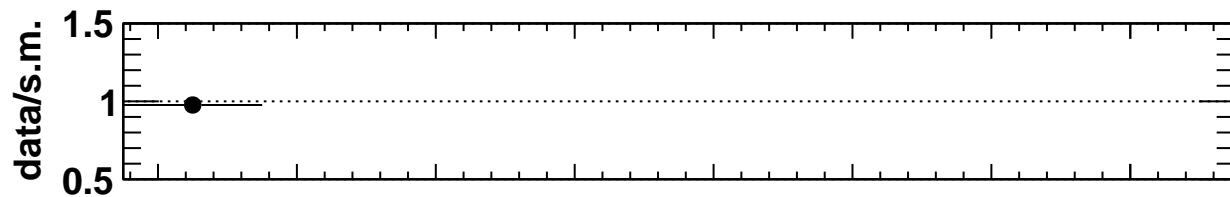
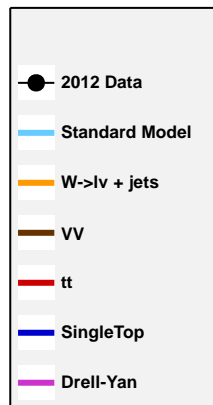


xcak5JetPFSumEIPat_ge4J_eq1b_dR165	
Entries	157
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	157

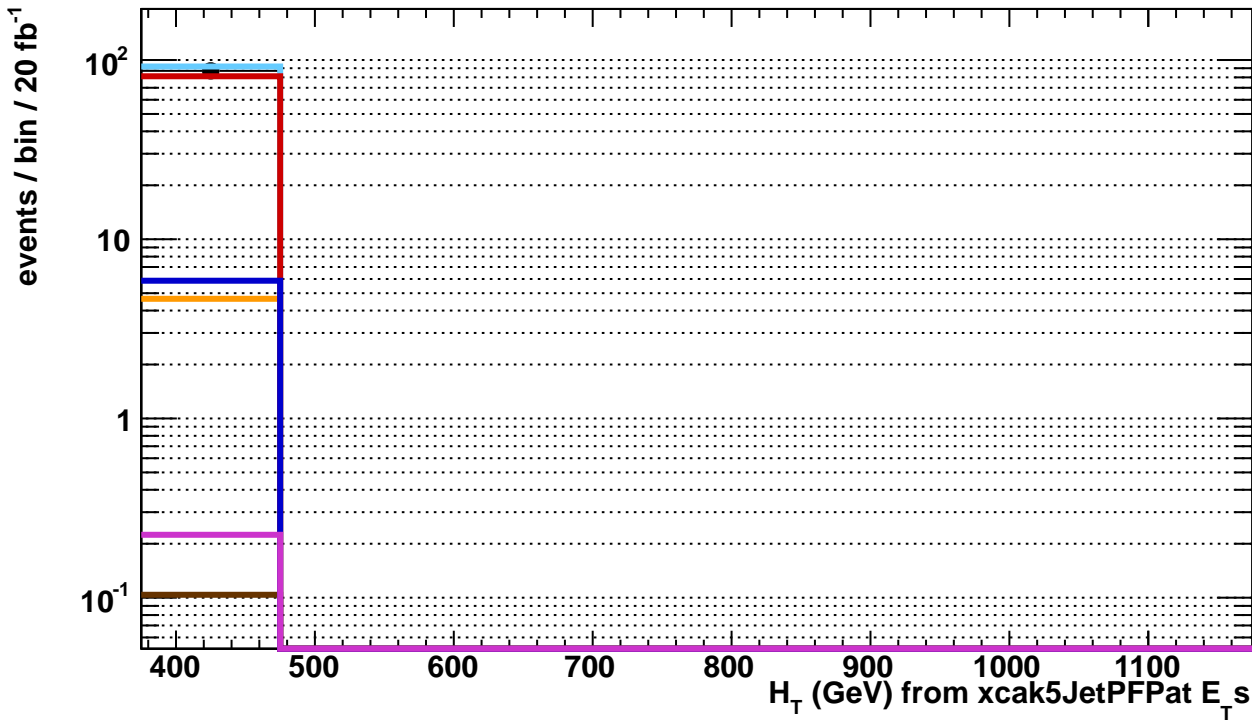


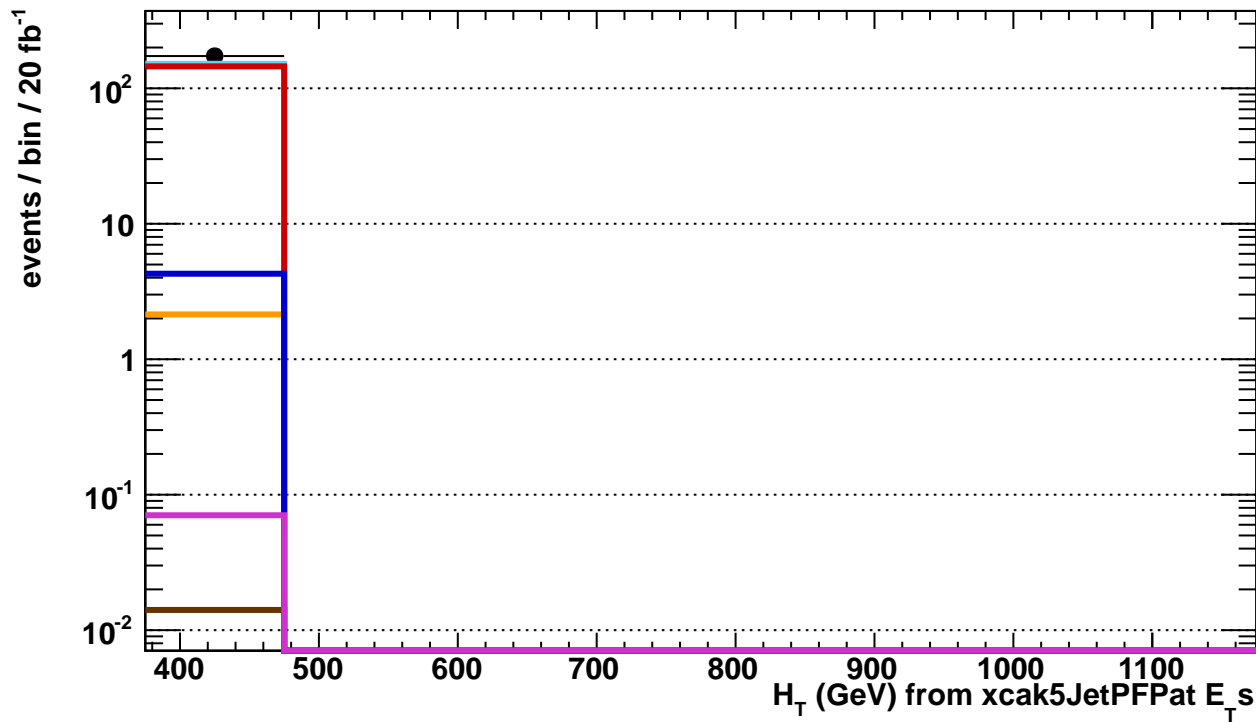


xcak5JetPFPSumEtPat_ge4J_eq2b_dRge65	
Entries	1691
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1691

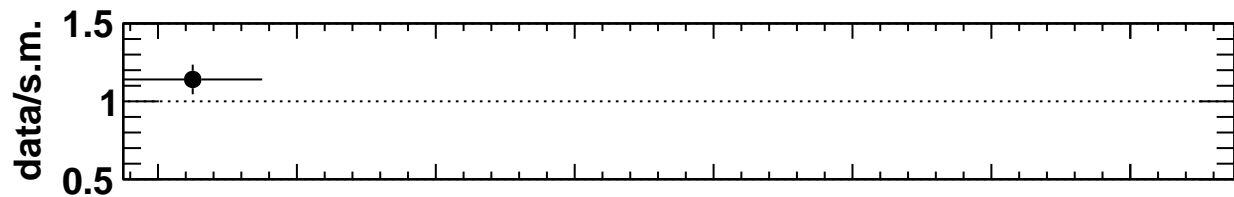


xcak5JetPFSumEtPat_ge4j_eq2b_dRl65	
Entries	87
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	87

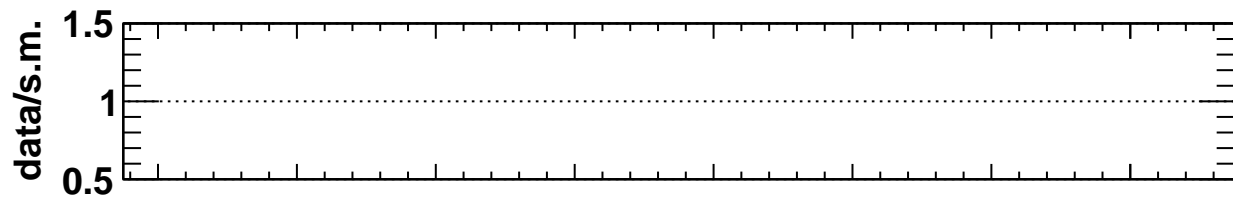
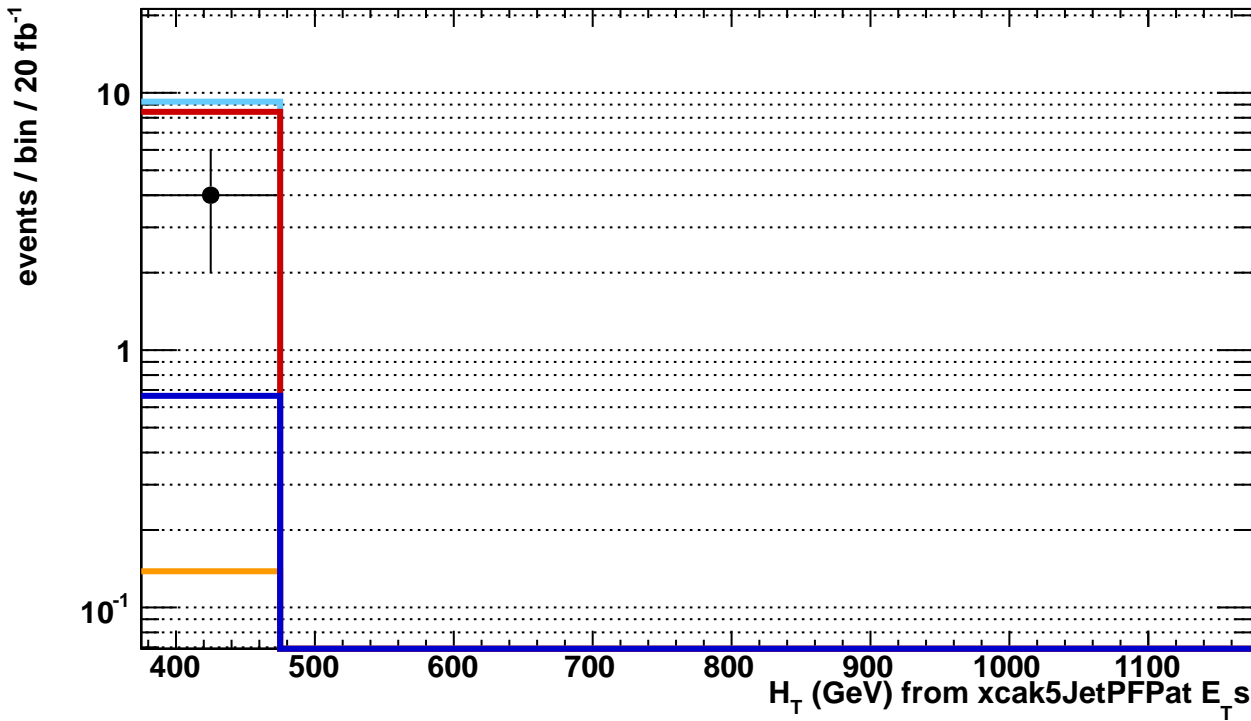




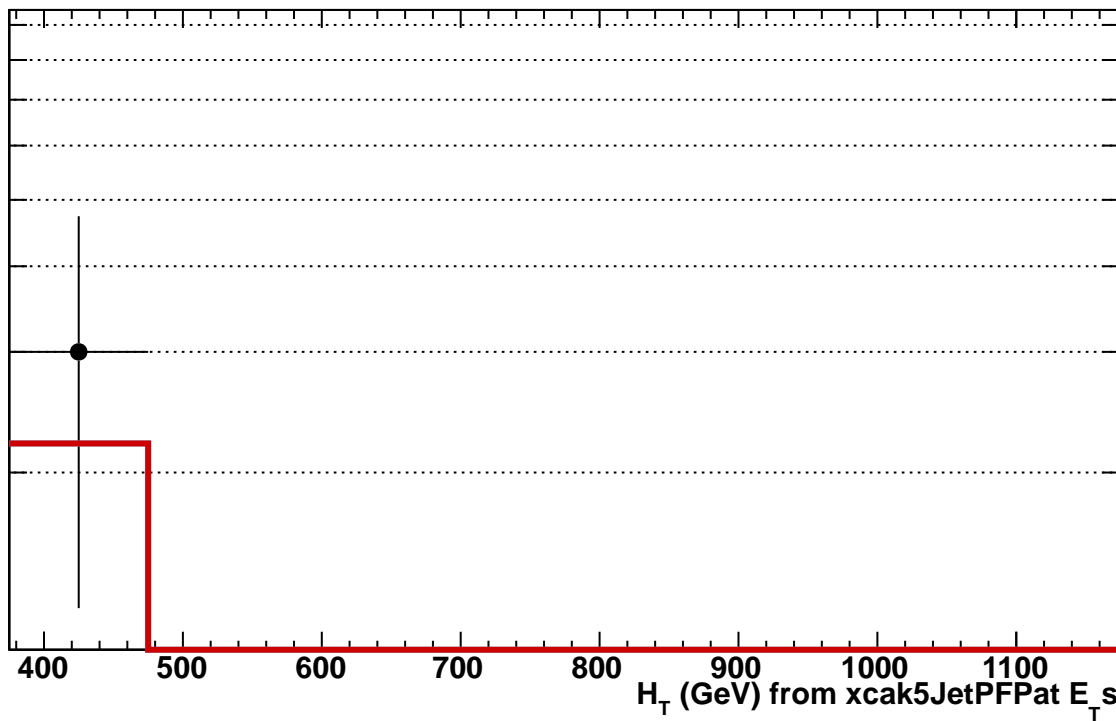
xcak5JetPFSumEtPat_ge4J_eq3b_dRge65	
Entries	173
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	173



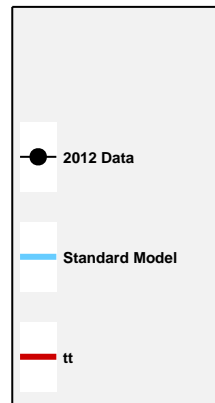
xcak5JetPFSumEtPat_ge4j_eq3b_dRl65	
Entries	4
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4



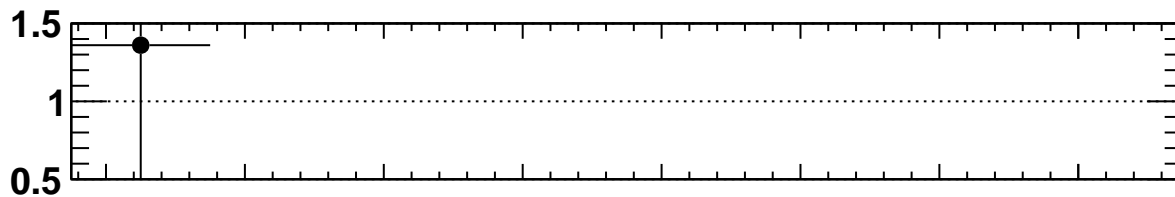
events / bin / 20 fb⁻¹



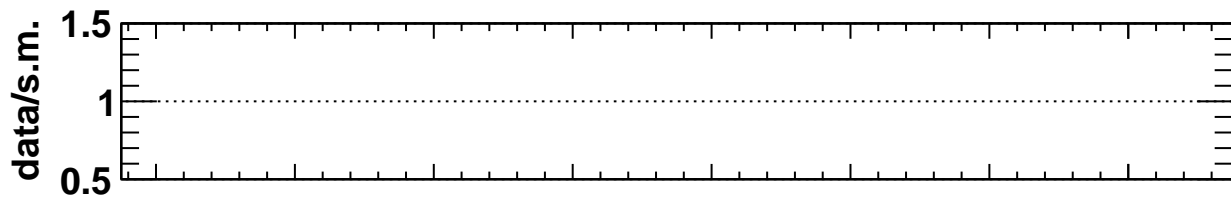
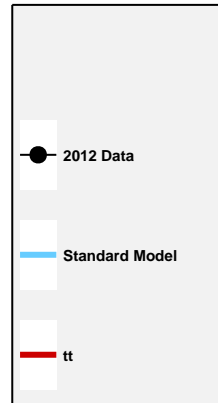
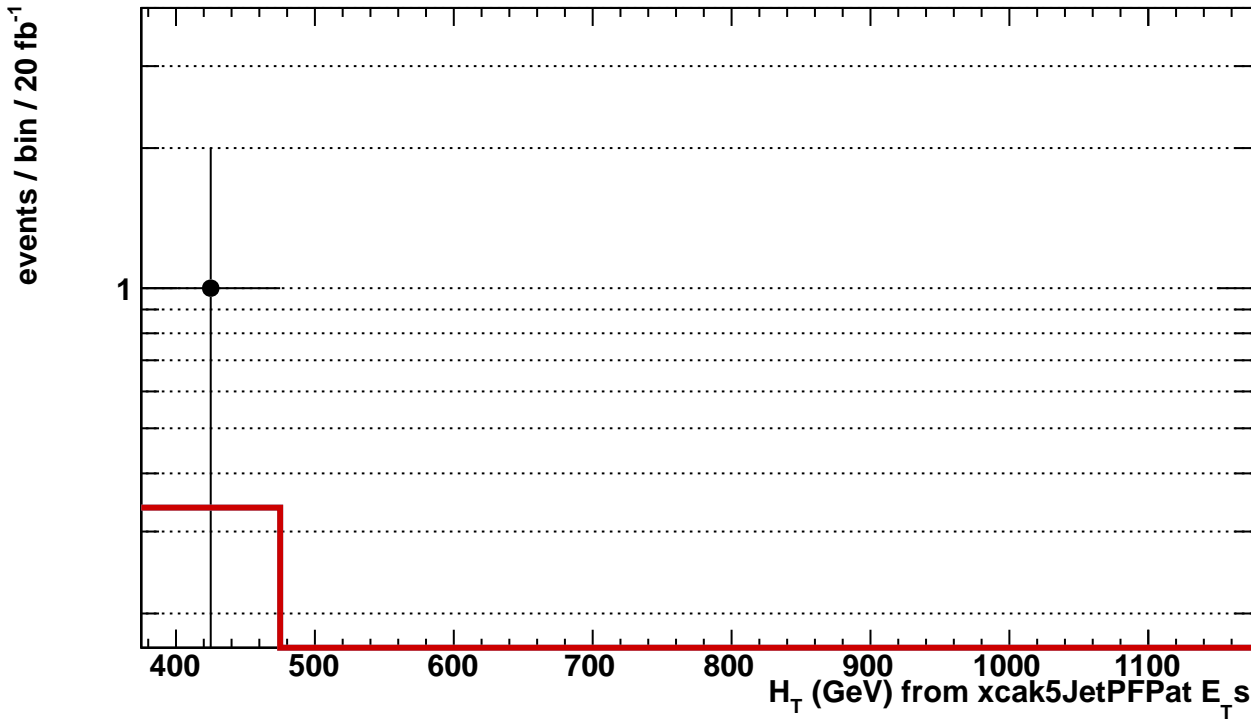
xcak5JetPFSumEtPat_ge4j_ge4b_dRge65	
Entries	3
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	3

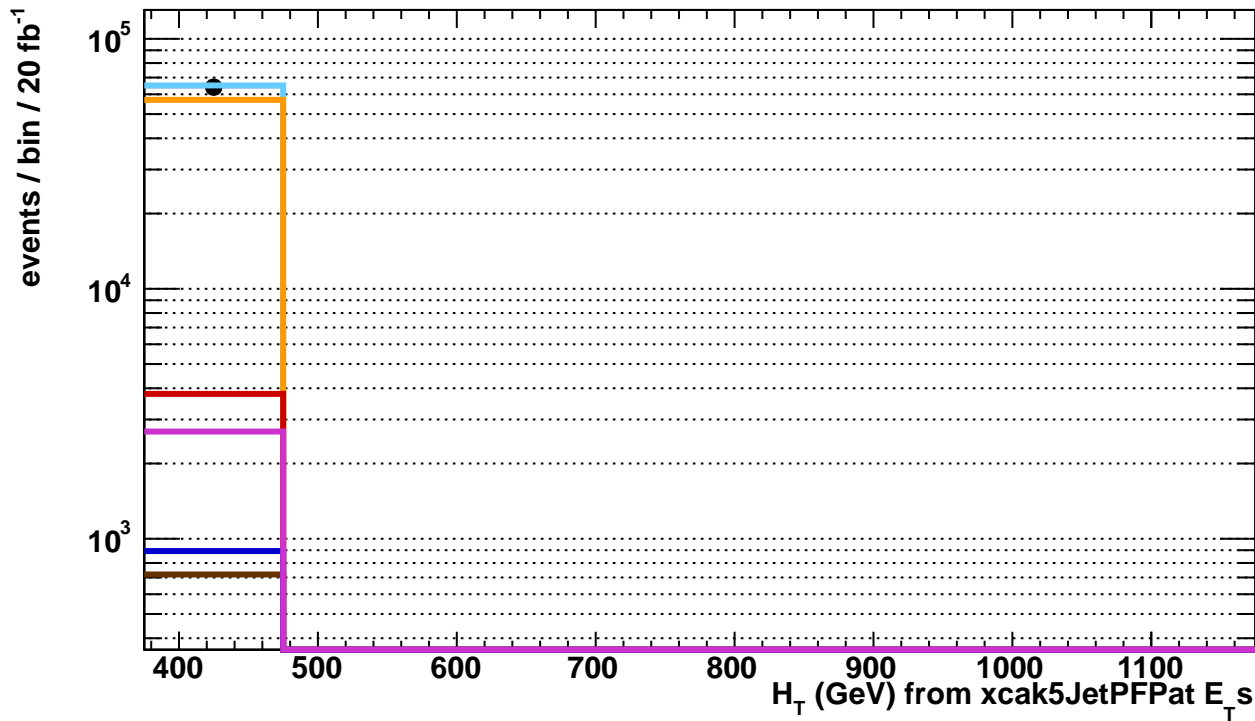


data/s.m.

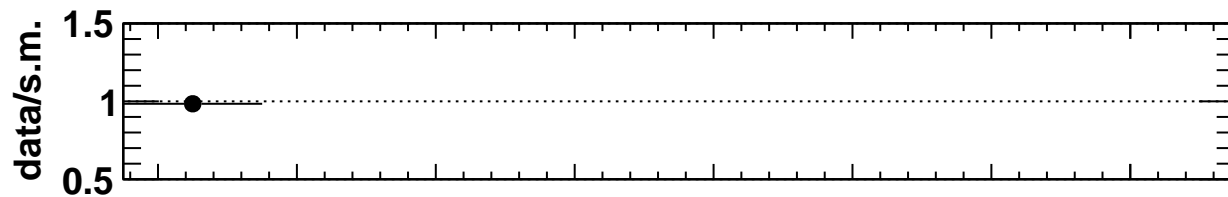
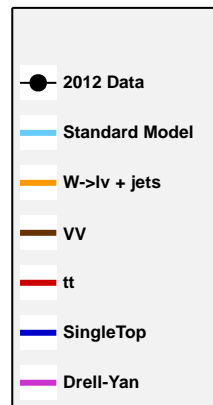


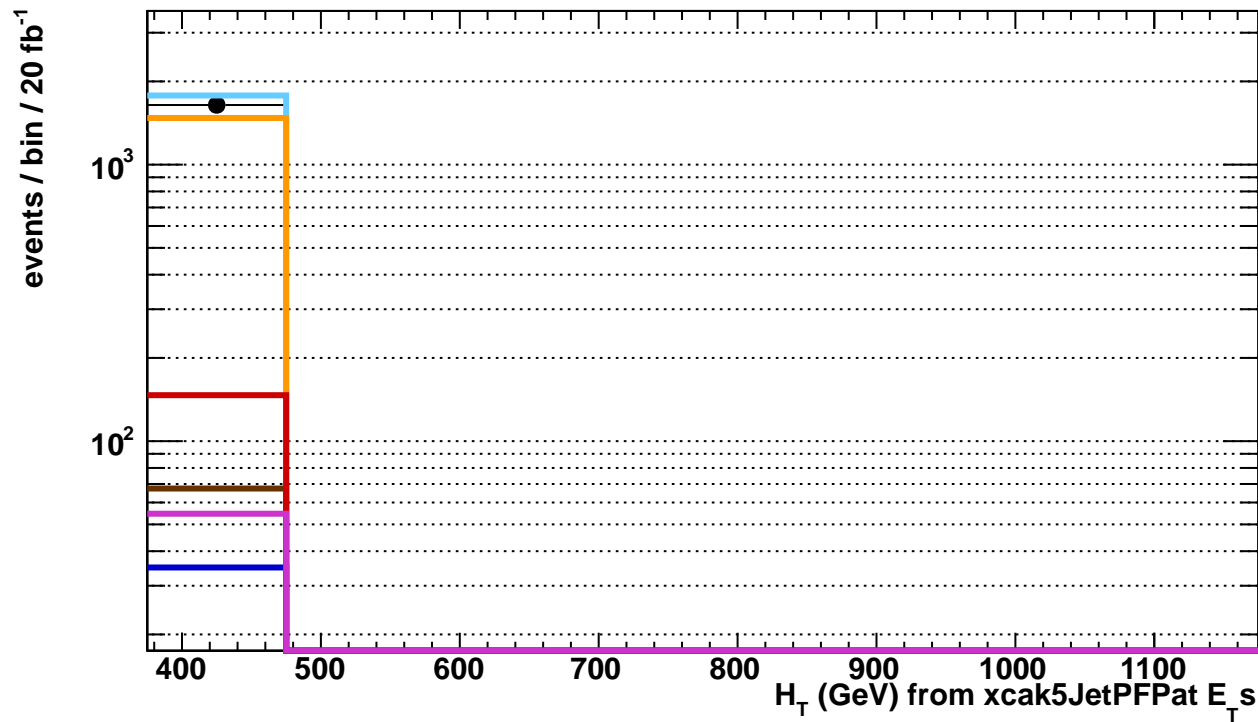
xcak5JetPFSumEtPat_ge4j_ge4b_dRl65	
Entries	1
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1



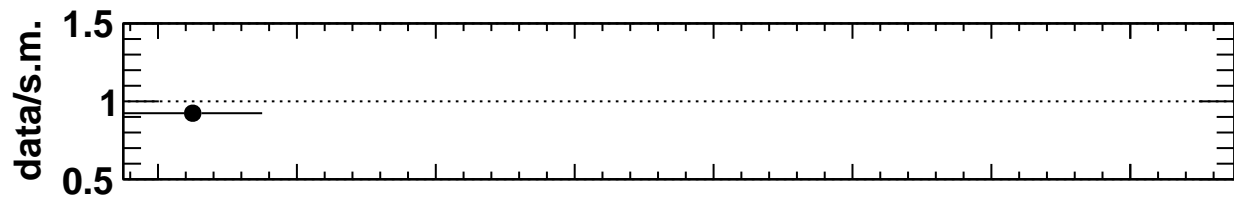
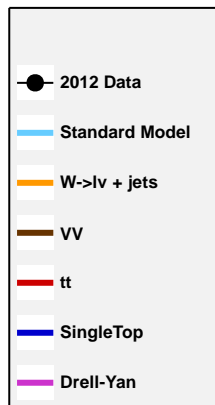


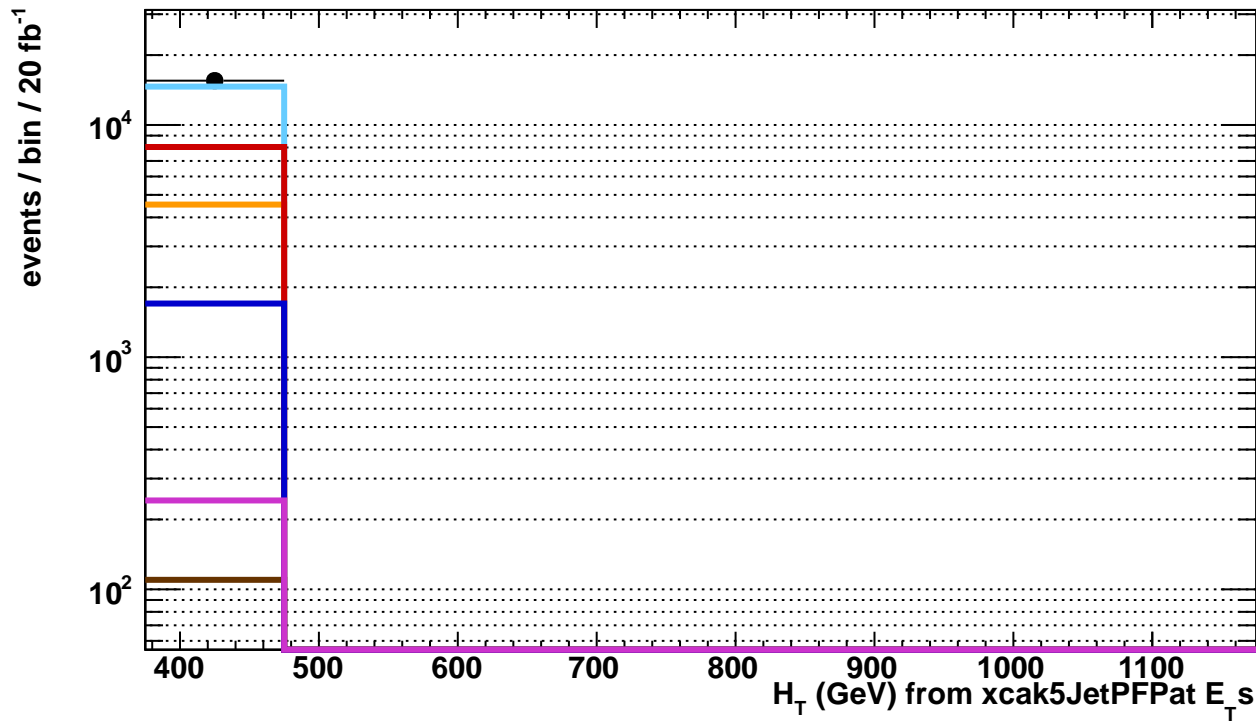
xcak5JetPFPat	Eq0b_dRge65
Entries	64076
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	6.408e+04



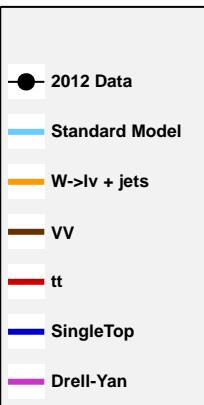


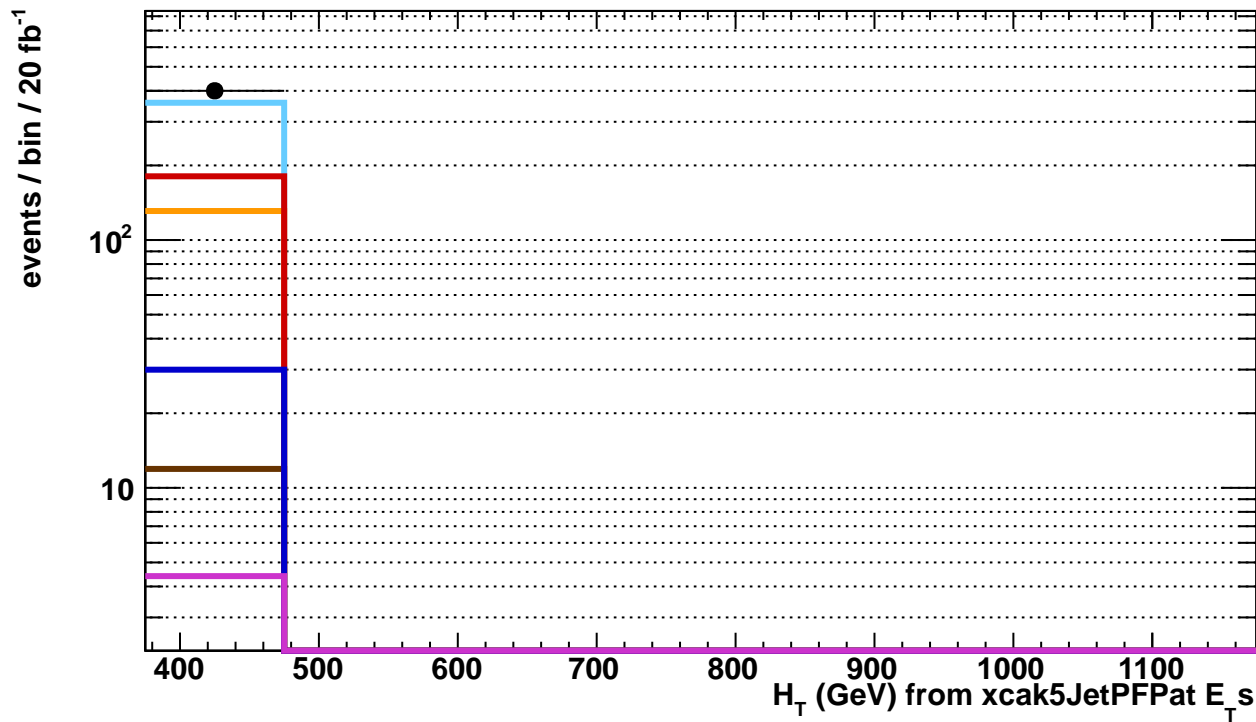
xcak5JetPFSumEtPat_le3l_eq0b_dR165	
Entries	1643
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1643



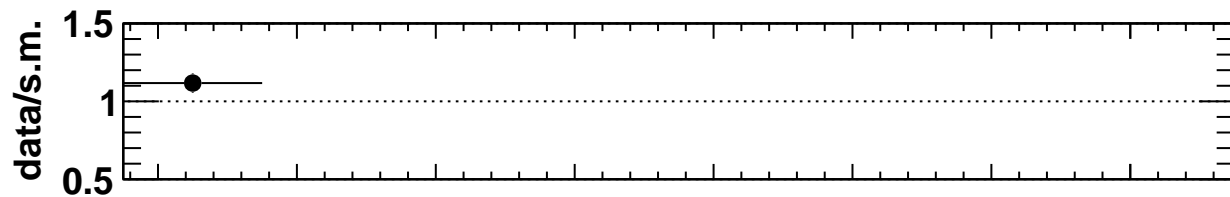
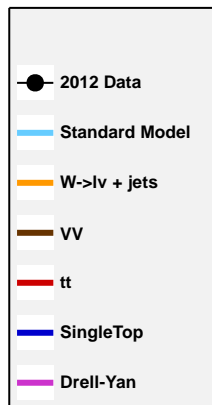


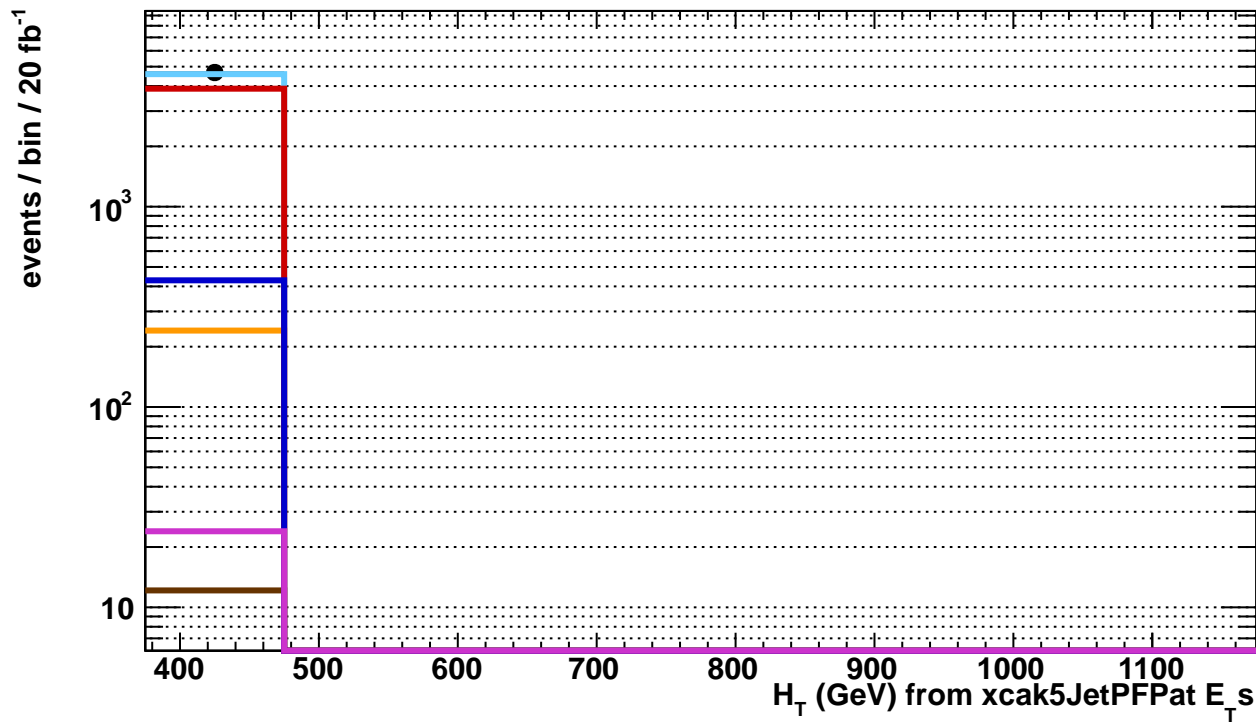
xcak5JetPFPatE_TPat_4e3_eq1b_dRge65	
Entries	15519
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	1.552e+04



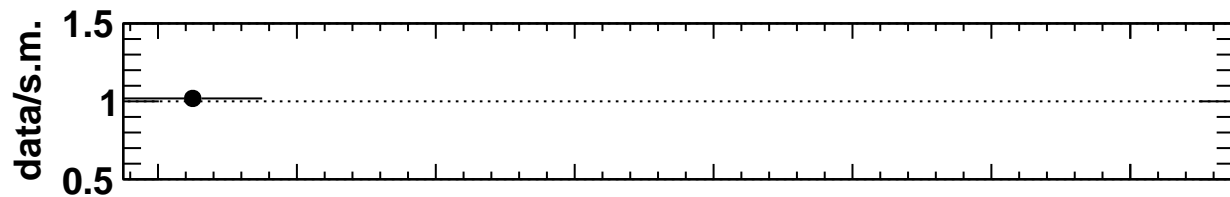
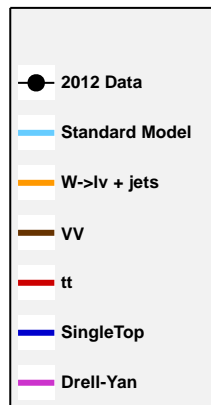


xcak5JetPFSumEtPat_l3j_eq1b_dR165	
Entries	400
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	400

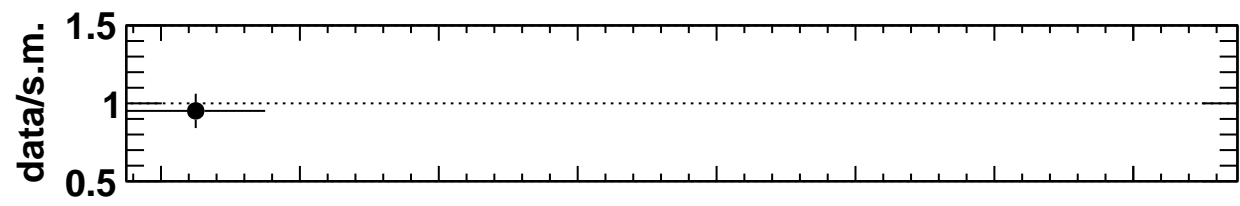
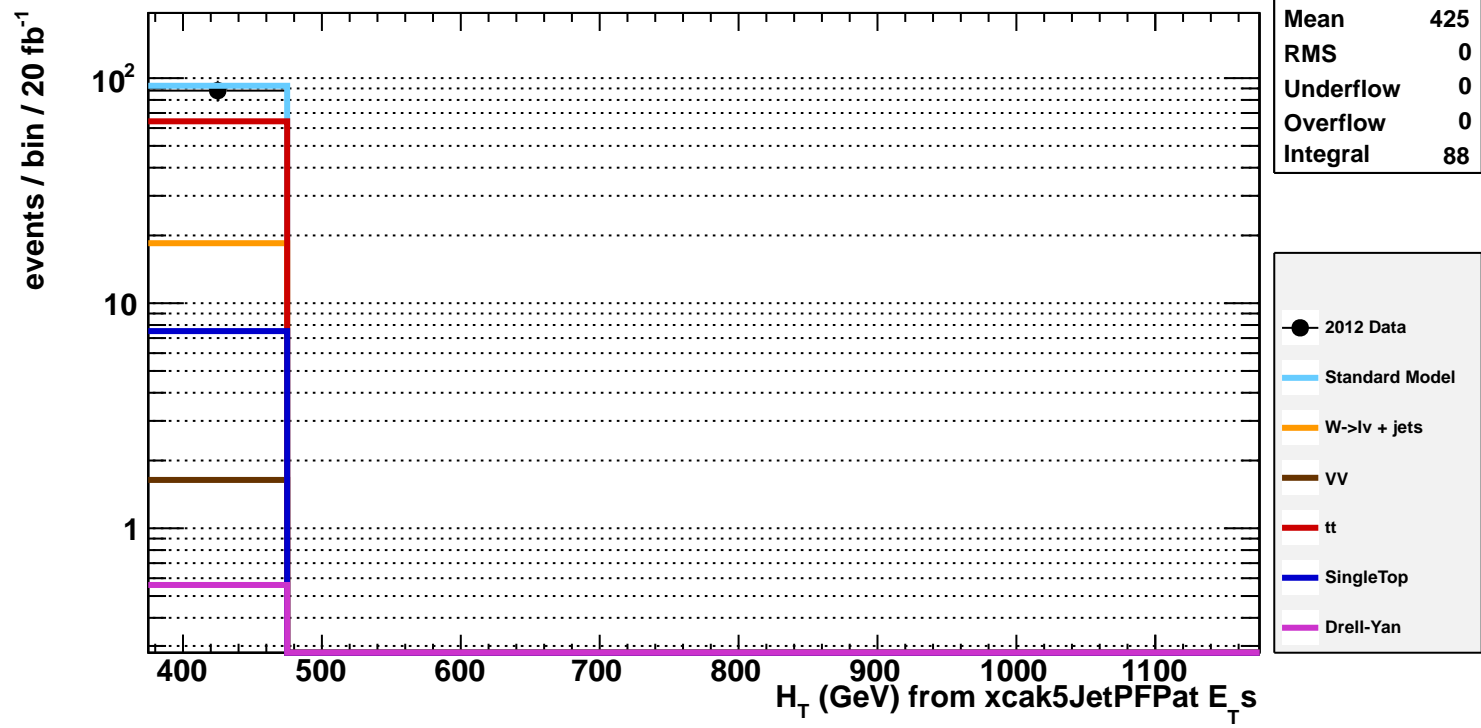


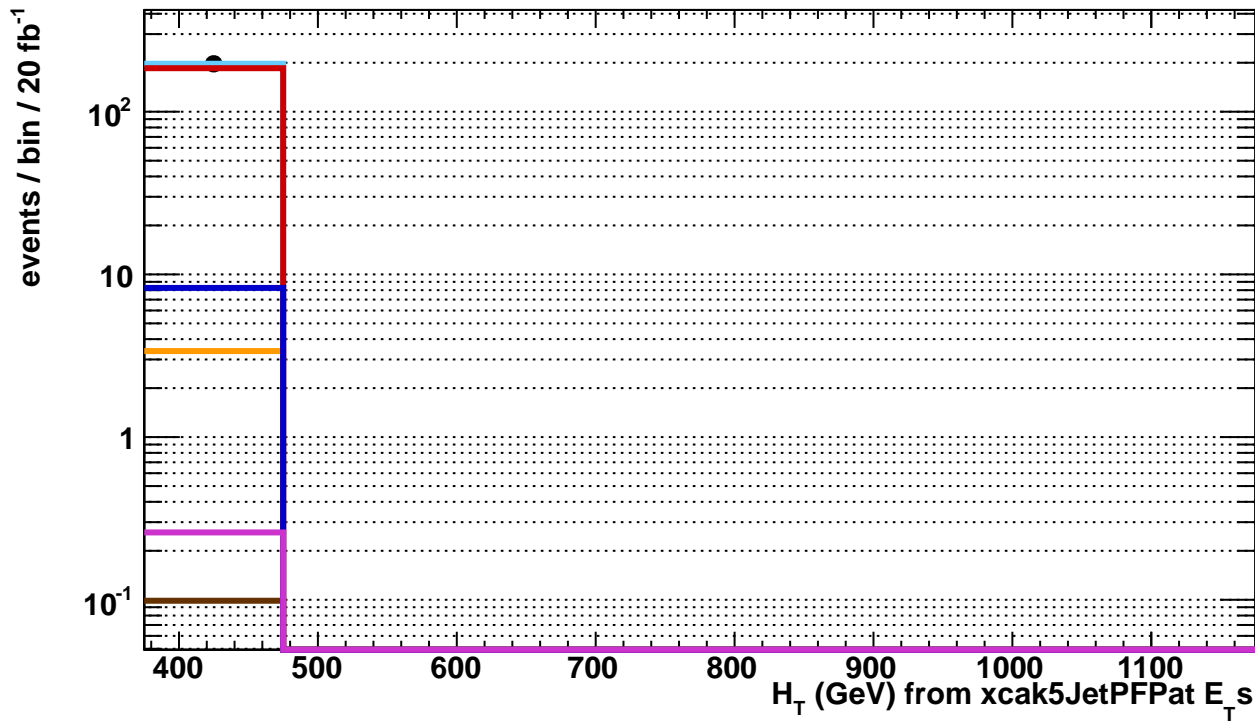


xcak5JetPFPat	Eq2b_dRge65
Entries	4673
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	4673

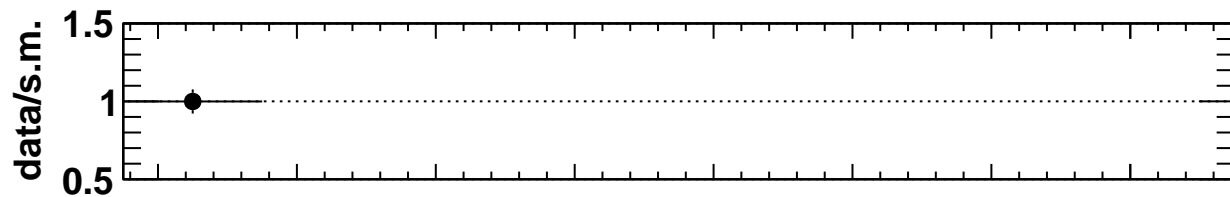
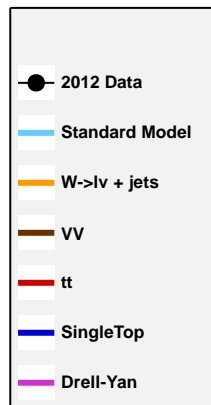


xcak5JetPFSumEtPat_l3l_eq2b_dR165	
Entries	88
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	88

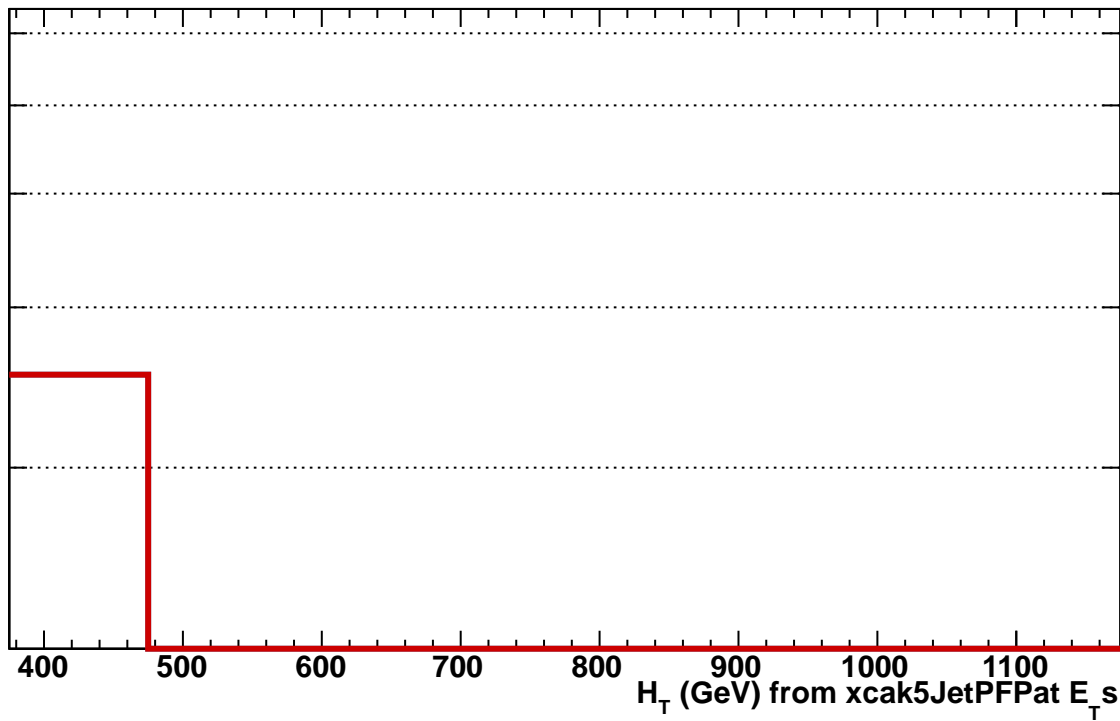




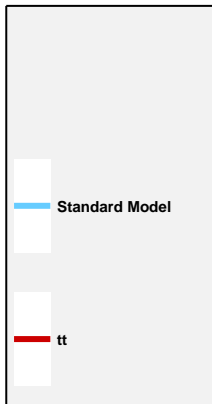
xcak5JetPFPatE_TPat_l63_eq3b_dRge65	
Entries	197
Mean	425
RMS	0
Underflow	0
Overflow	0
Integral	197



events / bin / 20 fb⁻¹



xcak5JetPFSumEtPat_le3_eq3b_dR165	
Entries	16
Mean	425
RMS	7.629e-06
Underflow	0
Overflow	0
Integral	2.53




```

u: multiplicity                2 <= xcak5JetPFIIndicesPat
v: multiplicity                0 <= xcak5JetPFIIndicesOtherPat <= 0
w: multiplicity                0 <= xcak5JetPFIIndicesWithOddMuonPat <= 0
x: uniquelyMatchedNonisoMuons xcak5JetPFPat
y: multiplicity                0 <= electronIndicesPF <= 0

z: multiplicity                0 <= photonIndicesPat <= 0
A: multiplicity                0 <= electronIndicesUnmatchedPF <= 0
B: multiplicity                0 <= photonIndicesUnmatchedPat <= 0
C: deadEcalFilter              xcak5JetPFPat; dR>0.300 when deltaPhiStar<0.500
D: multiplicity                1 <= muonIndicesPF <= 1

E: pt                          30.00<=muonP4PF[i[0]].pt; muonIndicesPF
F: eta                          -2.10<=muonP4PF[i[0]].eta<=2.10; muonIndicesPF
G: value                       30.00<=muonMtPFFmetP4TypeIPF<=125.00
H: value                       xcak5JetPFFMhtHighPtPatOvermetP4TypeIPFPlusmuonIndicesPF<=1.25
I: value                       PFRecHitSumPt<=30.00

```

```

[ jetSumPlots1 ]
[ kinematicPlots1 ]
I: value                475.00<=xcak5JetPFSSumEtPat

```

	2012 Data	Standard Model	W->lv + jets	VV	tt	SingleTop	Drell-Yan	data/s.m.
u:	440020	1.989(1)e+6	1.0342(10)e+6	6.318(8)e+4	5.847(3)e+5	1.831(3)e+5	1.234(3)e+5	0.2213(4)
v:	424166	1.885(1)e+6	9.903(10)e+5	6.034(7)e+4	5.478(3)e+5	1.709(2)e+5	1.158(3)e+5	0.2250(4)
w:	384351	1.868(1)e+6	9.824(9)e+5	6.018(7)e+4	5.416(3)e+5	1.698(2)e+5	1.138(3)e+5	0.2058(4)
x:	383246	1.866(1)e+6	9.818(9)e+5	6.017(7)e+4	5.410(3)e+5	1.697(2)e+5	1.137(3)e+5	0.2053(4)
y:	377864	1.487(1)e+6	7.471(9)e+5	5.700(7)e+4	4.503(3)e+5	1.568(2)e+5	7.63(3)e+4	0.2540(4)
z:	376527	1.466(1)e+6	7.314(9)e+5	5.668(7)e+4	4.471(3)e+5	1.562(2)e+5	7.43(3)e+4	0.2569(5)
A:	376458	1.465(1)e+6	7.308(9)e+5	5.667(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2570(5)
B:	376440	1.464(1)e+6	7.306(9)e+5	5.666(7)e+4	4.468(3)e+5	1.562(2)e+5	7.42(3)e+4	0.2571(5)
C:	225666	7.492(7)e+5	4.182(6)e+5	2.220(4)e+4	2.069(2)e+5	6.23(1)e+4	3.96(2)e+4	0.3012(7)
D:	190980	2.299(3)e+5	1.549(2)e+5	2.10(1)e+3	5.42(1)e+4	8.29(6)e+3	1.040(7)e+4	0.831(2)
E:	168996	1.721(2)e+5	1.162(2)e+5	1.70(1)e+3	4.061(9)e+4	5.89(5)e+3	7.71(6)e+3	0.982(3)
F:	168968	1.593(2)e+5	1.060(2)e+5	1.59(1)e+3	3.930(9)e+4	5.71(5)e+3	6.69(6)e+3	1.061(3)
G:	126657	1.218(2)e+5	8.21(2)e+4	1.17(1)e+3	2.998(8)e+4	4.44(4)e+3	4.10(4)e+3	1.040(3)
H:	97966	9.53(2)e+4	6.61(1)e+4	9.8(1)e+2	2.173(6)e+4	3.41(4)e+3	3.15(4)e+3	1.028(4)
I:	94768	9.51(2)e+4	6.59(1)e+4	9.8(1)e+2	2.166(6)e+4	3.40(4)e+3	3.15(4)e+3	0.997(4)

```

[ jetSumPlots1 ]
[ kinematicPlots1 ]
I:                0                0(0)                0(0)                0(0)                0(0)                0(0)                0(0)                -

```