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test

2016

$Full_SR$

Figure 1: 2016 plot of s1 variables using cut: "Full_SR"

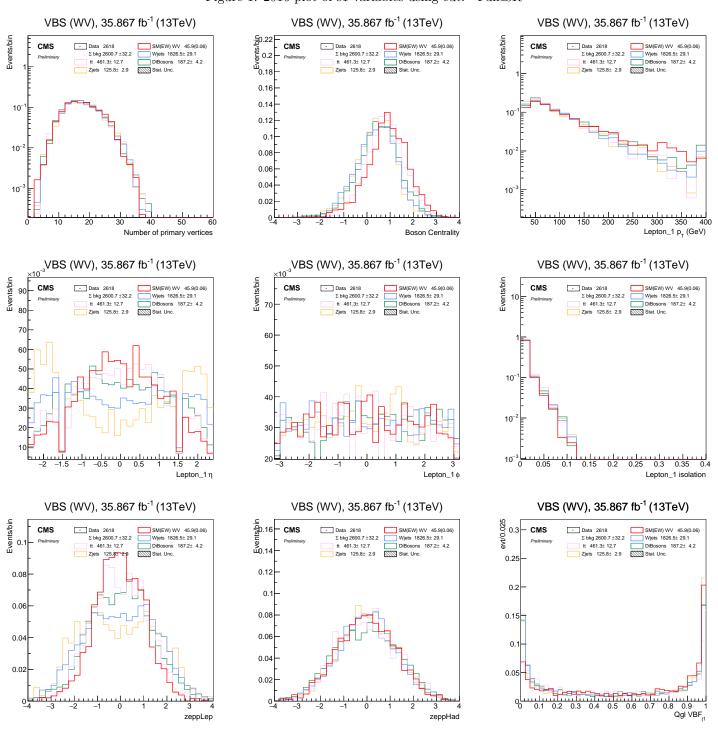


Figure 2: 2016 plot of s2 variables using cut: "Full_SR"

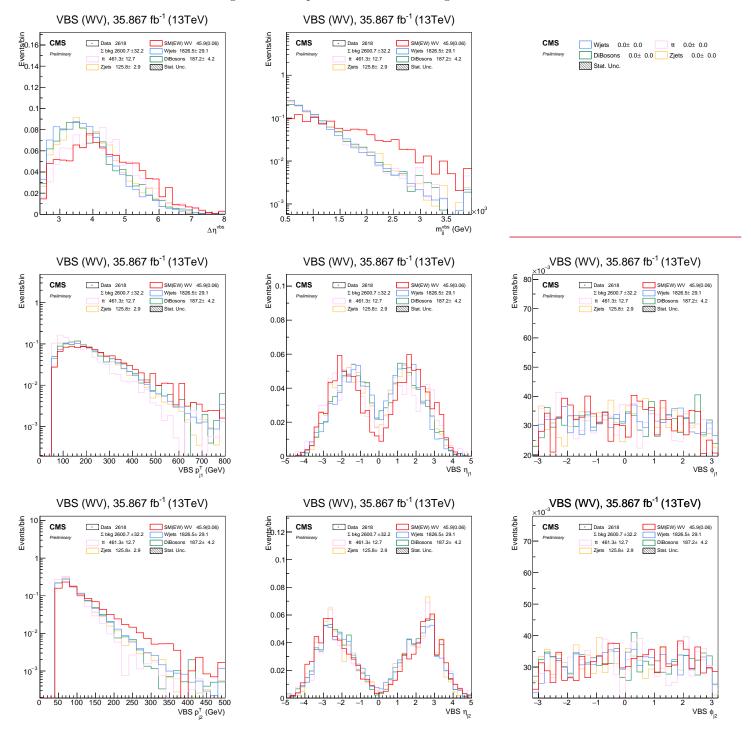


Figure 3: 2016 plot of s3 variables using cut: "Full_SR"

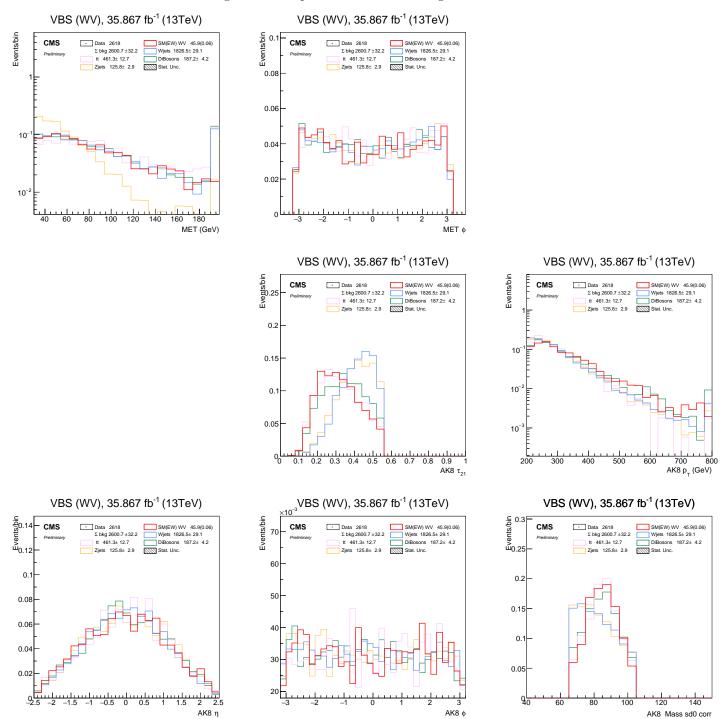
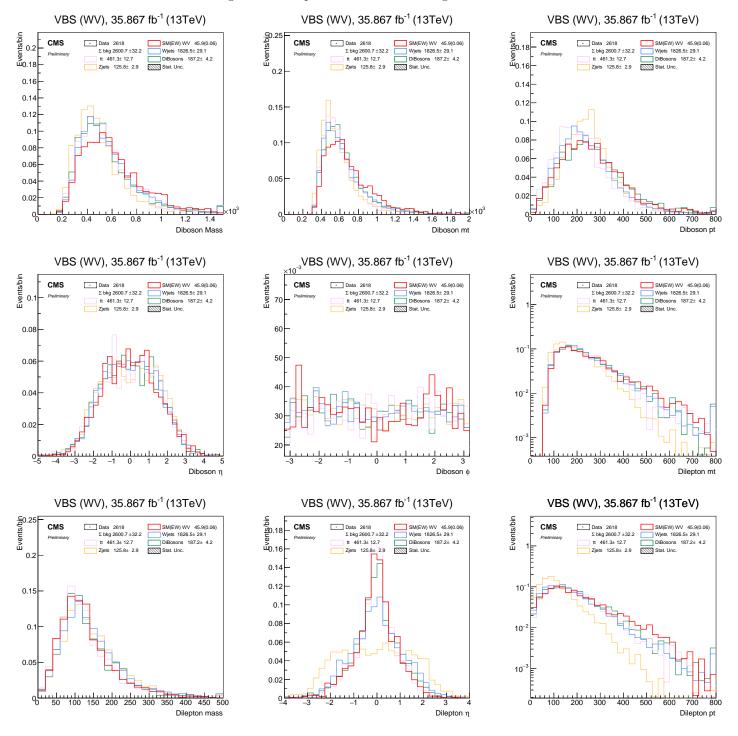


Figure 4: 2016 plot of s4 variables using cut: "Full_SR"



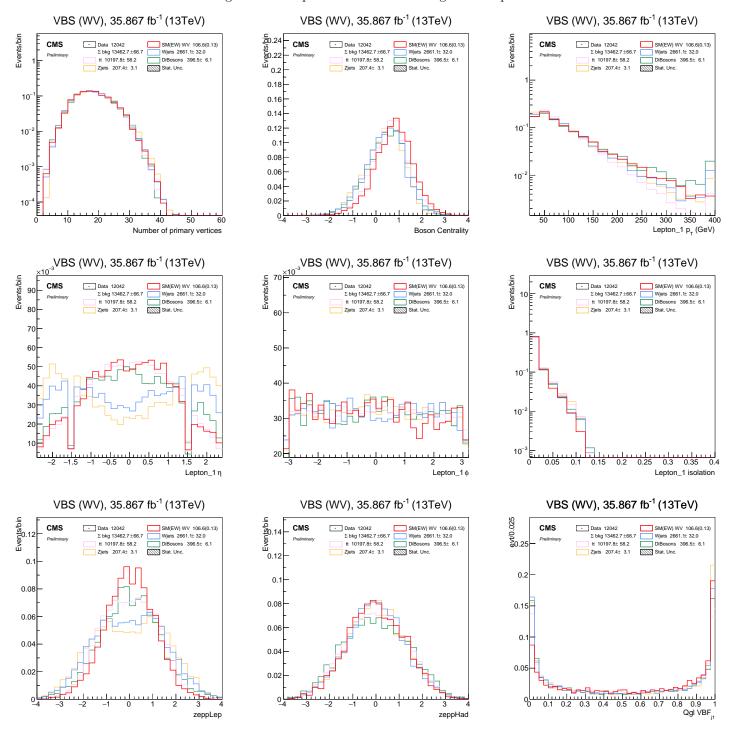


Figure 5: 2016 plot of s1 variables using cut: "Top_CR"

Figure 6: 2016 plot of s2 variables using cut: "Top_CR"

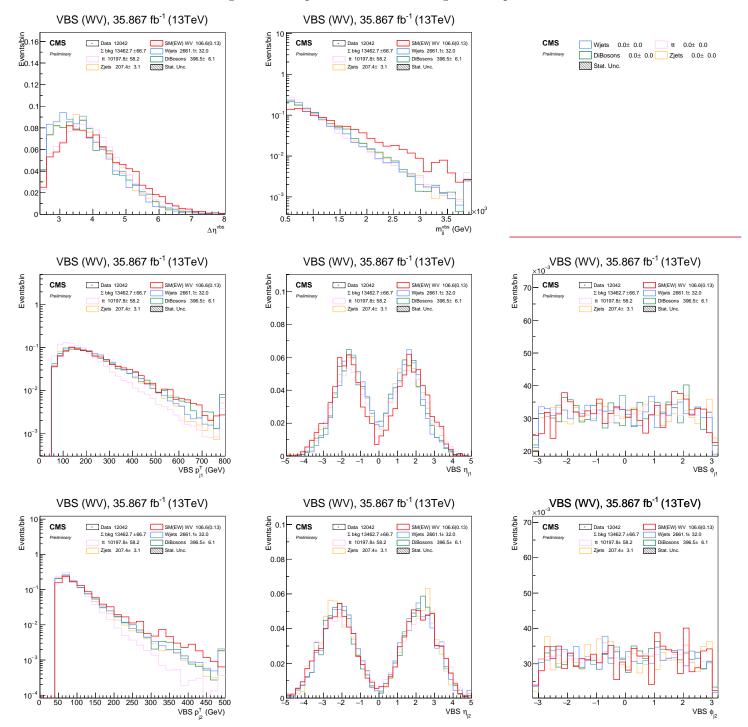


Figure 7: 2016 plot of s3 variables using cut: "Top_CR"

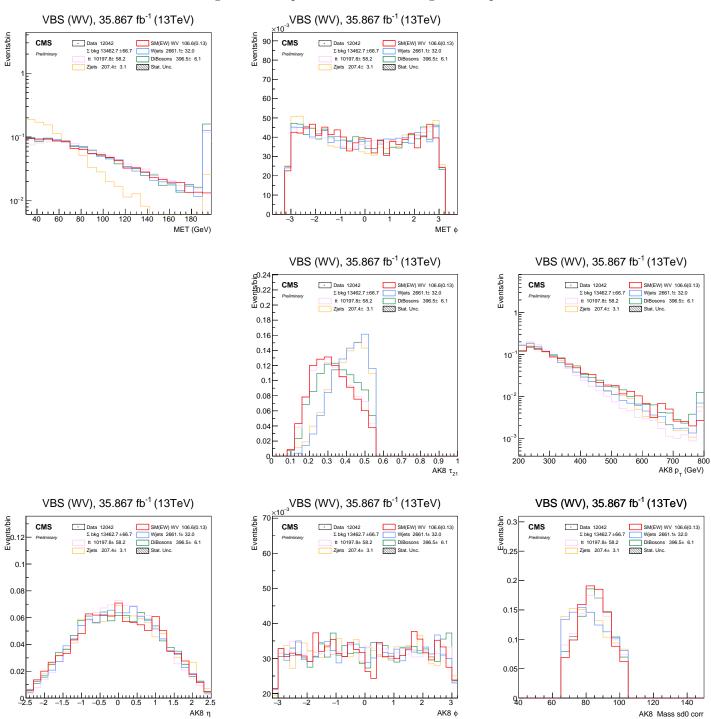
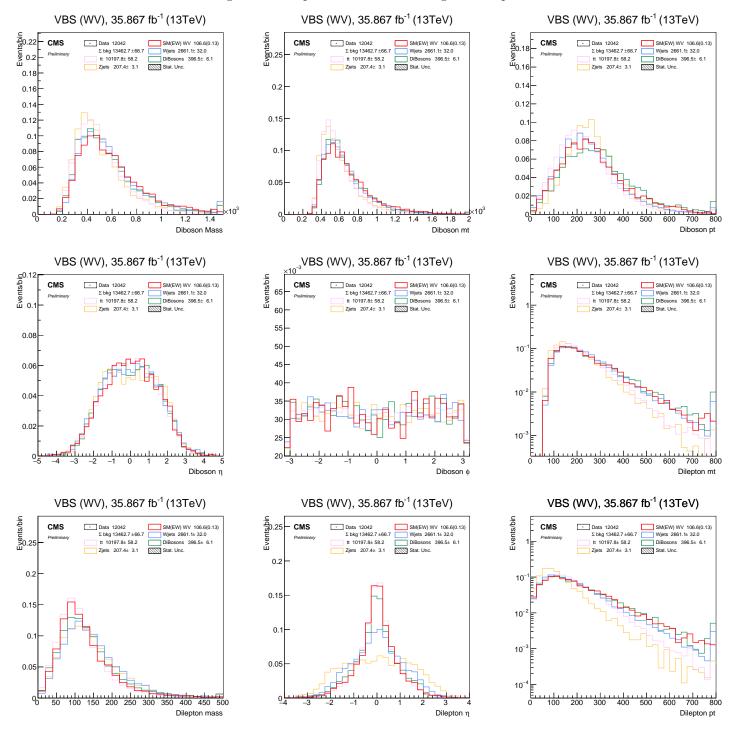


Figure 8: 2016 plot of s4 variables using cut: "Top_CR"



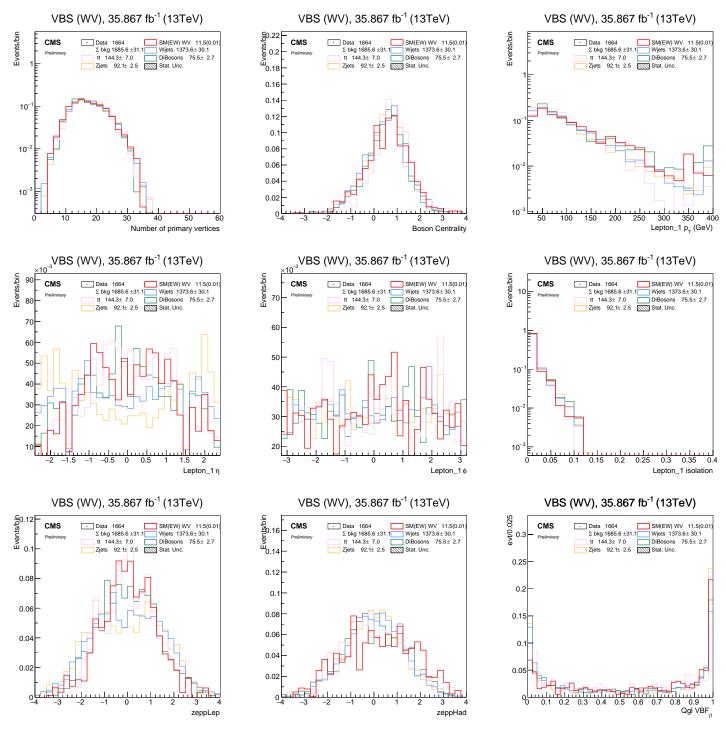


Figure 9: 2016 plot of s1 variables using cut: "Wjets_CR"

Figure 10: 2016 plot of s2 variables using cut: "Wjets_CR"

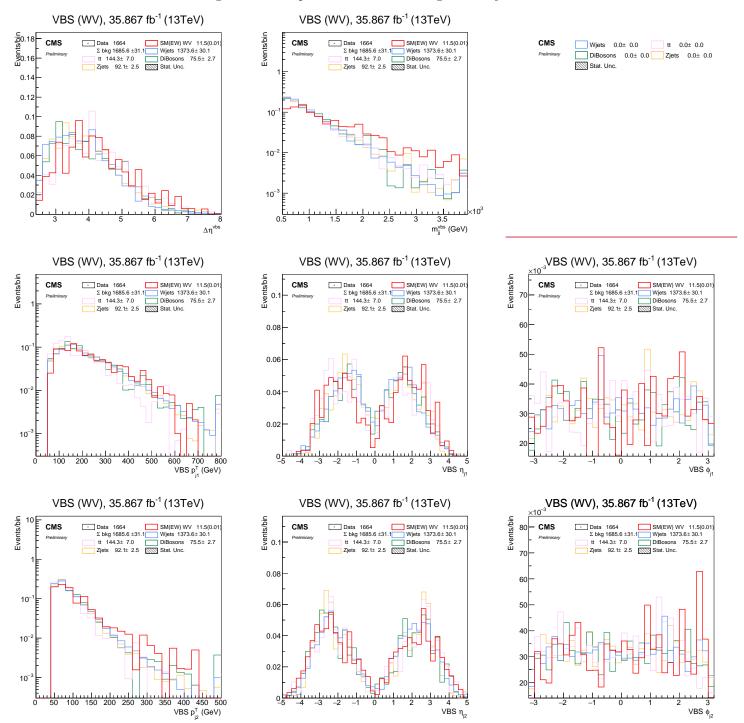
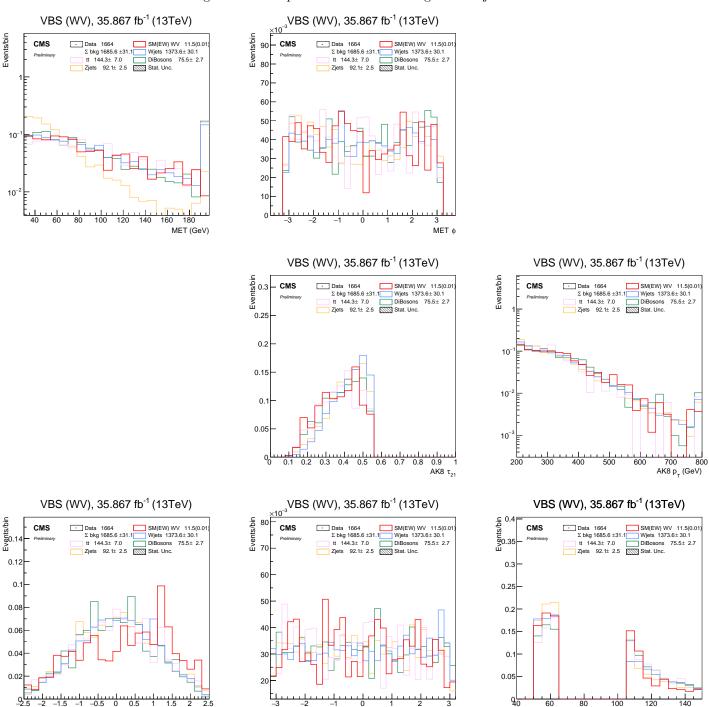


Figure 11: 2016 plot of s3 variables using cut: "Wjets_CR"

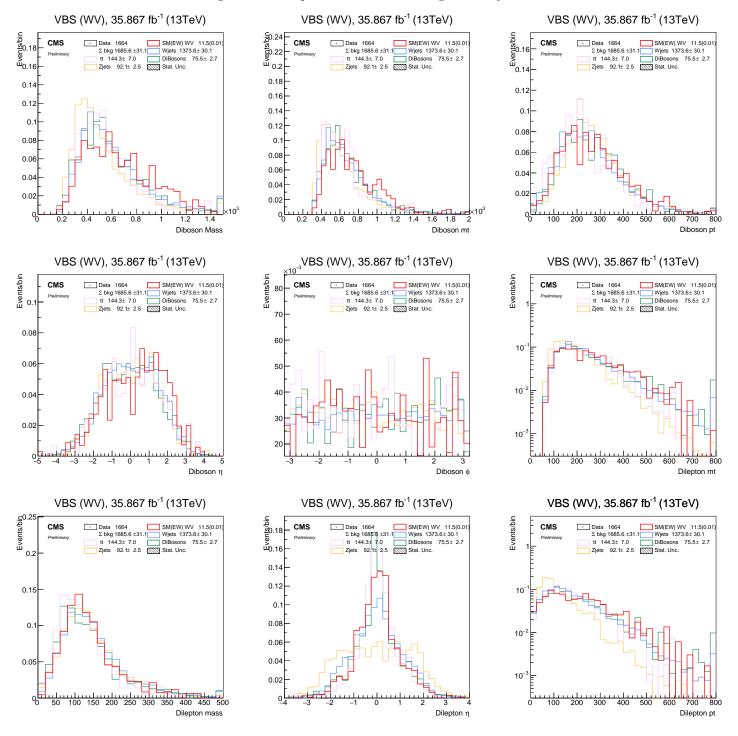


ΑΚ8 φ

AK8 Mass sd0 corr

– ΑΚ8 η

Figure 12: 2016 plot of s4 variables using cut: "Wjets_CR"



$Full_SR$

VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) ug/sju 0.2 Events/bin Events/bin Data 2835 SM(EW) WV 51.8(0.05 Σ bkg 2695.9 ±31.1 Wjets 1854. ± 29.6 tt 397.2± 7.9 DiBosons 232.5± 3.2 Zjets 212.1± 4.2 Stat. Unc. CMS SM(EW) WV 51.8(0.05) - Data 2835 Σ bkg 2695.9 ±31.1 Wjets 1854.1± 29.6 tt 397.2± 7.9 DiBosons 232.5± 3.2 Zjets 212.1± 4.2 Stat. Unc. \(\text{Solution} \) 0.16 0.14 10 0.12 0. 10 10 0.08 0.06 10 0.04 10 0.02 150 200 250 300 350 Lepton_1 p_{_} (GeV) Number of primary vertices Boson Centrality VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) Data 2835 SM(EW) WV 51.8(0.05 Σ bkg 2695.9 ±31.1 Wjets 1854.1± 29.6 tt 397.2± 7.9 DiBosons 232.5± 3.2 Data 2835 SM(EW) WV 51.8(0.05) Σ bkg 2695.9 ±31.1 Wjets 1854.1± 29.6 tt 397.2± 7.9 DiBosons 232.5± 3.2 90 Data 2835 SM(EW) WV 51.8(0.05 Σ bkg 2695.9 ±31.1 Wjets 1854.1± 29.6 tt 397.2± 7.9 DiBosons 232.5± 3.2 Zjets 212.1± 4.2 Stat. Unc. Zjets 212.1± 4.2 Stat. Unc Zjets 212.1± 4.2 Stat. Unc 60 60 50 50 10 40 10 20 0.15 0.2 0.25 0.3 0.35 0.4 Lepton_1 isolation VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) Events/bin Data 2835 SM(EW) WV 51.8(0.05) Σ bkg 2695.9 ±31.1 Wjets 1854.t± 29.6 tt 397.2± 7.9 DiBosons 232.5± 3.2 Zjets 212 11 4.2 Stat. Unc. Data 2835 SM(EW) WV 51.8(0.05)
Σ bkg 2695.9 ±31.1 Wjets 1854.1± 29.6

tt 397.2± 7.9 DiBosons 232.5± 3.2

Zjets 212.1± 4.2 Stat. Unc. 0.25 0.12 0.08 0.1 0.2 0.06 0.08 0.15 0.06 0.04 0.1 0.04 0.02 0.05 0.4 0.5 0.6 0.7 0.8 0.2 0.3 Qgl VBF

Figure 13: 2017 plot of s1 variables using cut: "Full_SR"

zeppLep

zeppHad

Figure 14: 2017 plot of s2 variables using cut: "Full_SR"

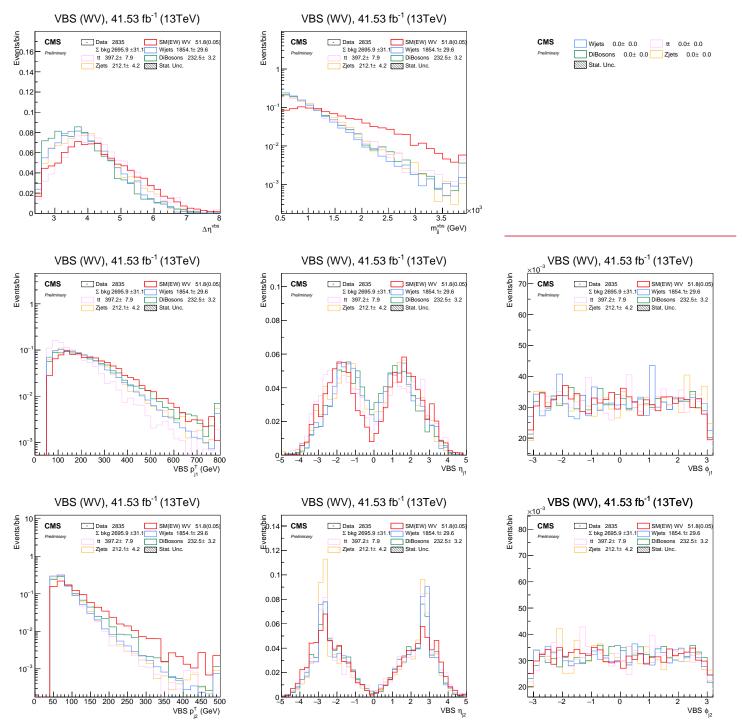
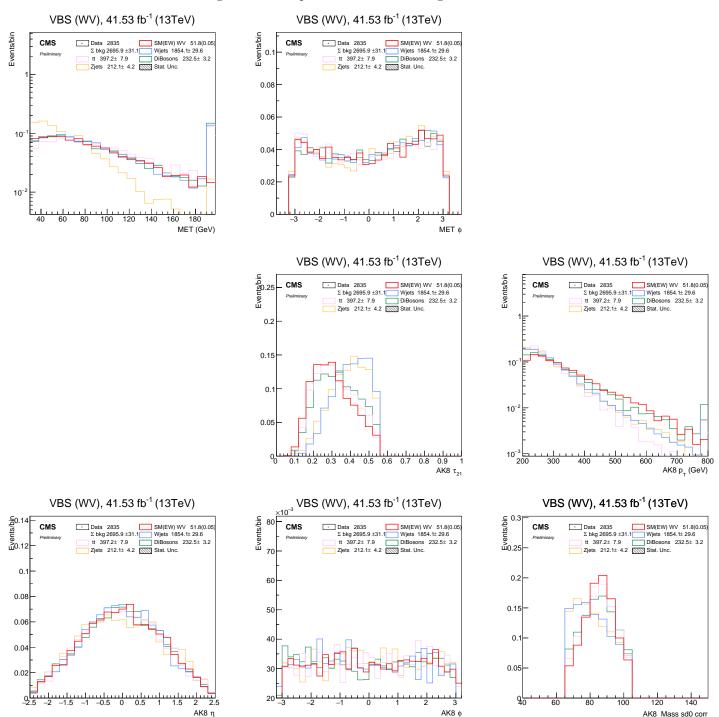
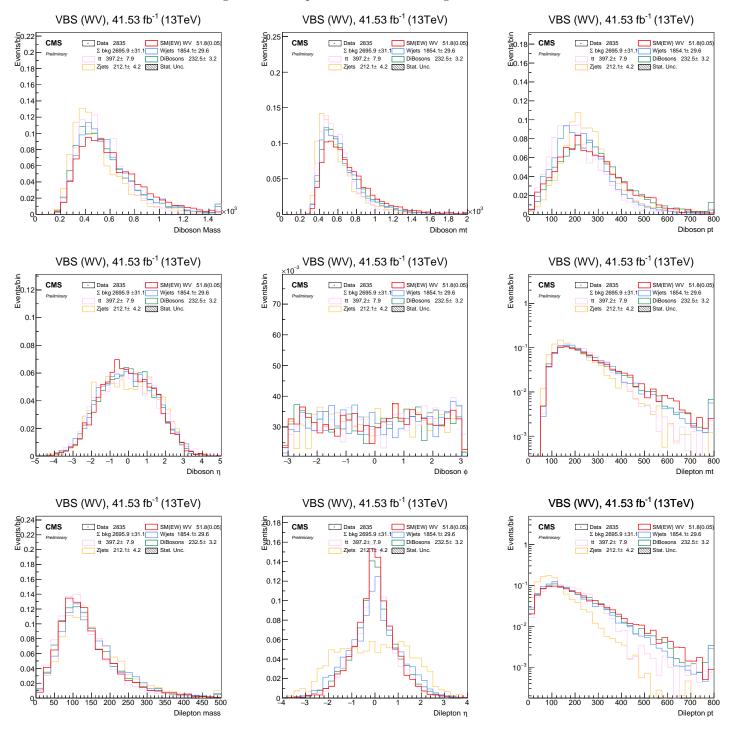


Figure 15: 2017 plot of s3 variables using cut: "Full_SR"



AK8 Mass sd0 corr

Figure 16: 2017 plot of s4 variables using cut: "Full_SR"



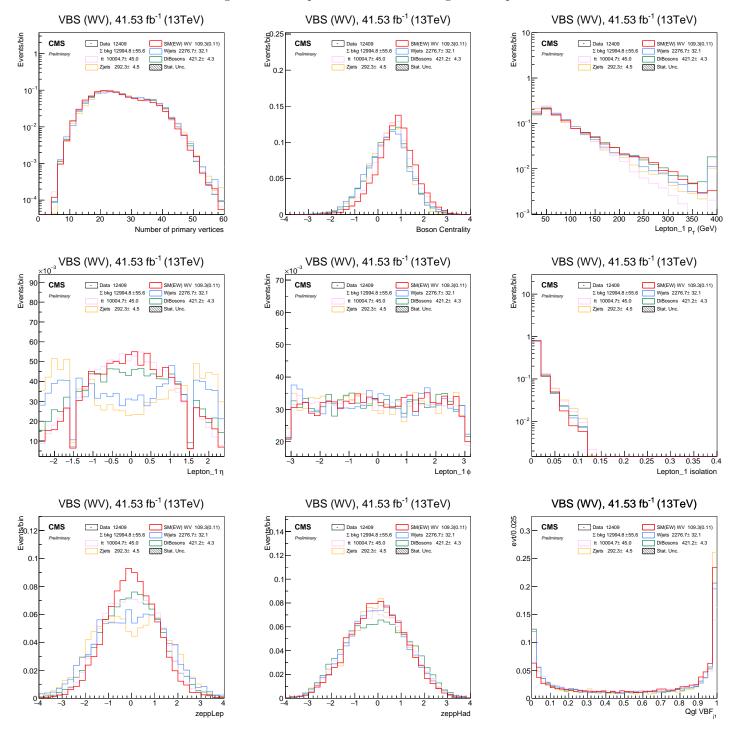


Figure 17: 2017 plot of s1 variables using cut: "Top_CR"

Figure 18: 2017 plot of s2 variables using cut: "Top_CR"

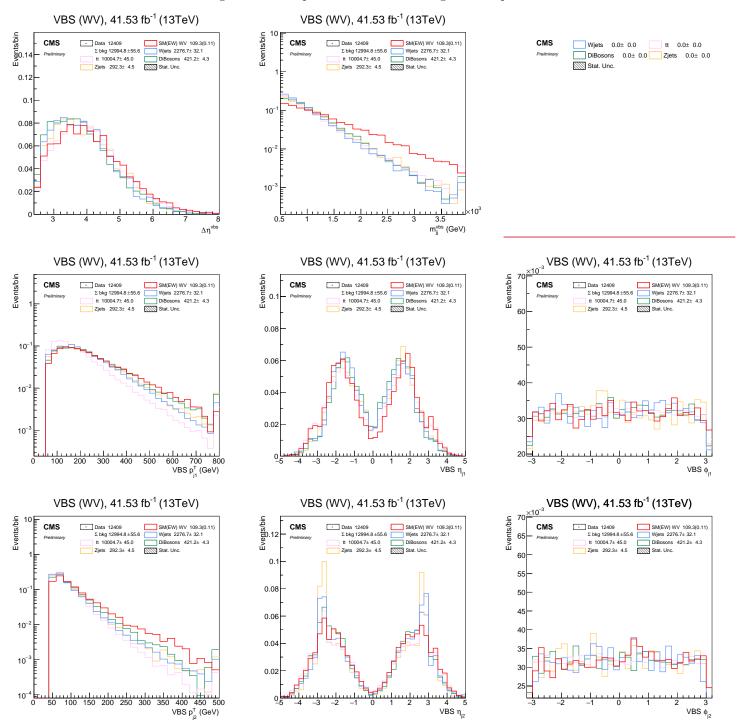


Figure 19: 2017 plot of s3 variables using cut: "Top_CR"

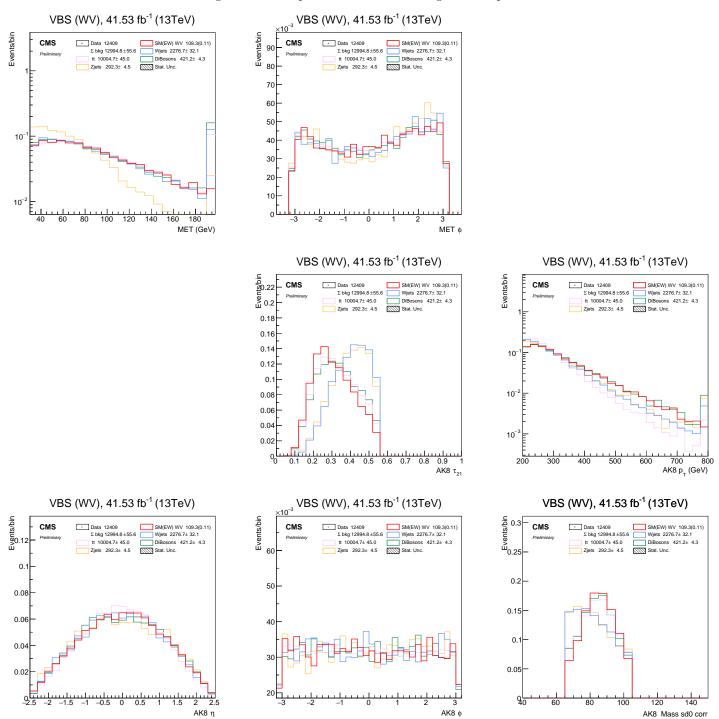
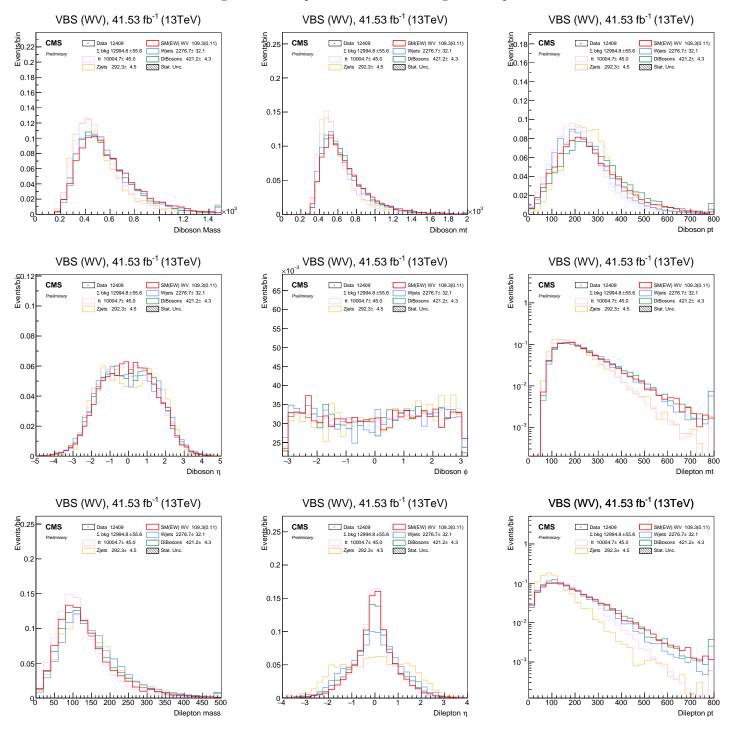


Figure 20: 2017 plot of s4 variables using cut: "Top_CR"



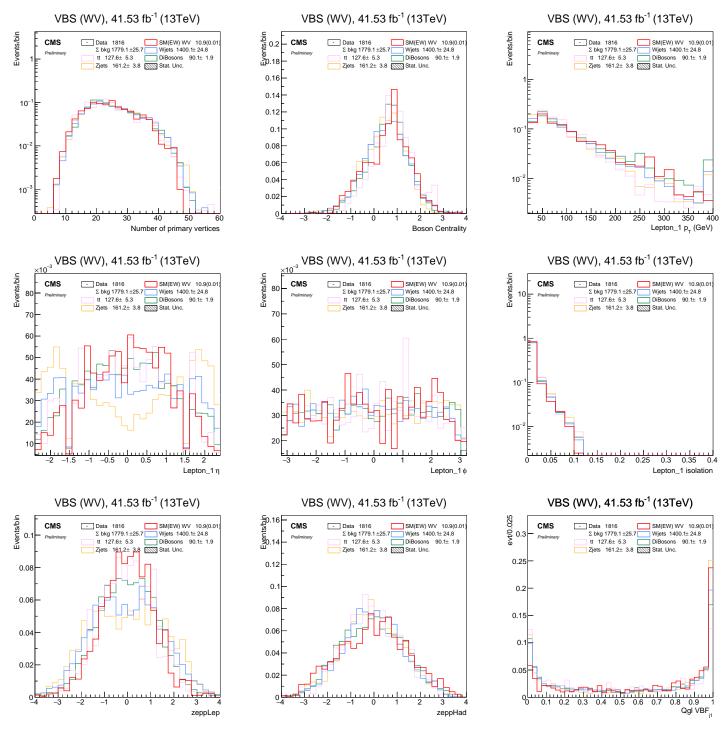


Figure 21: 2017 plot of s1 variables using cut: "Wjets_CR"

Figure 22: 2017 plot of s2 variables using cut: "Wjets_CR"

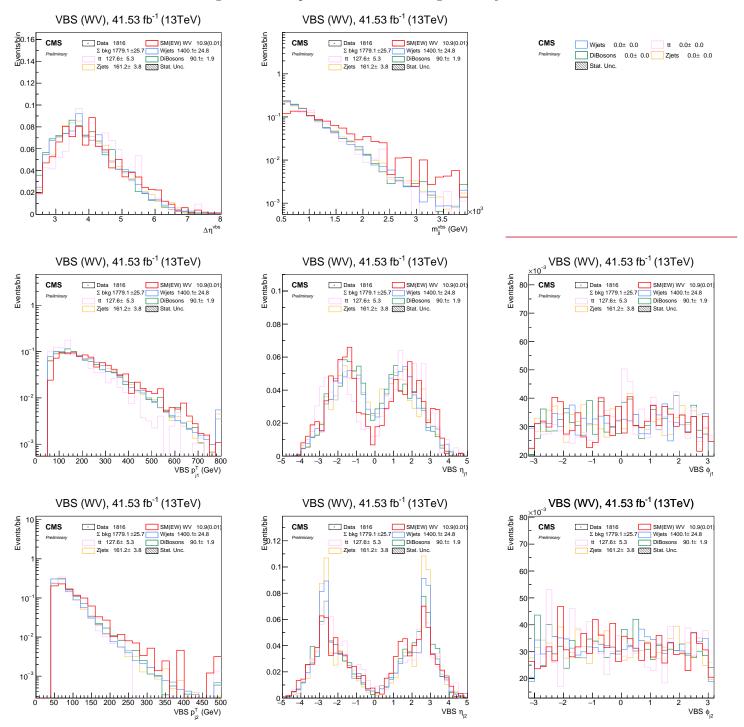
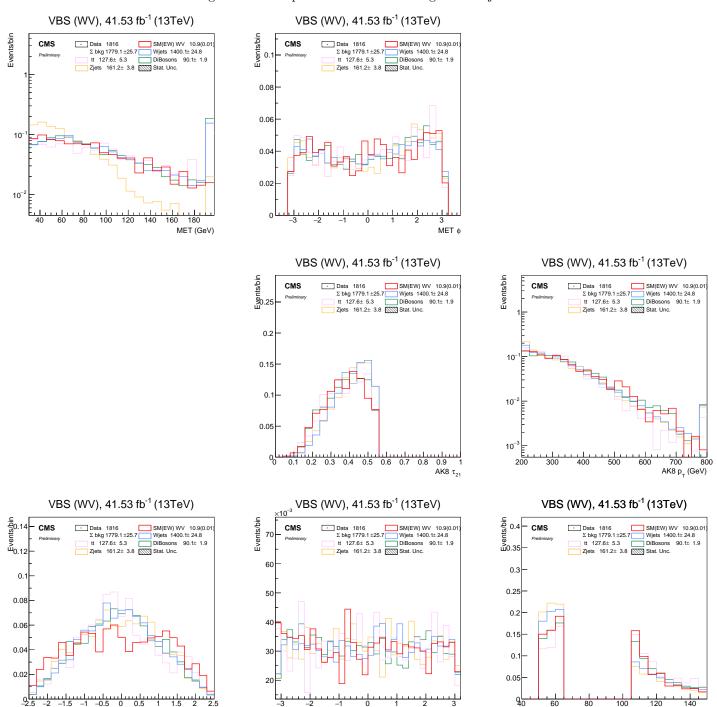


Figure 23: 2017 plot of s3 variables using cut: "Wjets_CR"

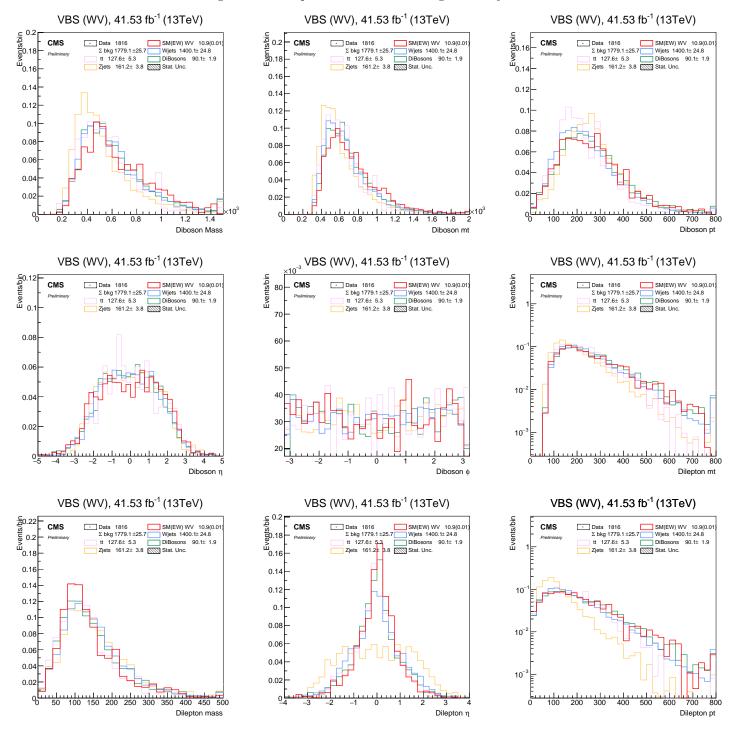


ΑΚ8 φ

AK8 Mass sd0 corr

ΑΚ8 η

Figure 24: 2017 plot of s4 variables using cut: "Wjets_CR"



0.02

zeppLep

$Full_SR$

VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) 0.22 0.29 0.18 Events/bin Events/bin CMS Wjets 1611.5± 34.1

DiBosons 331.9± 5.0

Stat. Unc. Σ bkg 2687.7±35.9 tt 418.3± 7.8 Zjets 326.0± 6.5 Wjets 1611.5± 34.1

DiBosons 331.9± 5.0

Stat. Unc. Σ bkg 2687.7 ±35.9 tt 418.3± 7.8 Zjets 326.0± 6.5 Wjets 1611.5± 34.1
DiBosons 331.9± 5.0
Stat. Unc. Σ bkg 2687.7 ±35.9 tt 418.3± 7.8 Zjets 326.0± 6.5 0.16 0.14 10 0.12 10 0.1 10-0.08 0.06 10 0.04 10 0.02 150 200 300 350 Lepton_1 p_T (GeV) Number of primary vertices Boson Centrality VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) Events/bin 60.09 ents/bin 0.1 Data 2691 Σ bkg 2687.7 ±35.9 tt 418.3± 7.8 SM(EW) WV 87.3(0.06) Wjets 1611.5± 34.1 DiBosons 331.9± 5.0 Data 2691 Σ bkg 2687.7±35.9 tt 418.3± 7.8 DiBosons 331.9± 5.0 DiBosons 331.9± 5.0 tt 418.3± 7.8 Ã_{0.0}g Ziets 326.0± 6.5 Stat. Unc. Ziets 326.0± 6.5 Stat. Unc. Zjets 326.0± 6.5 Stat. Unc. 0.08 0.08 0.07 0.07 0.06 0.06 0.05 0.05 10 0.04 0.04 0.03 0.03 0.02 10 0.02 0.15 0.2 0.25 0.3 0.35 0.4 0.05 Lepton_1 isolation VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) Events/bin Data 2691 Σ bkg 2687.7 ±35.9 tt 418.3± 7.8 SM(EW) WV 87.3(0.06) Wjets 1611.5± 34.1 DiBosons 331.9± 5.0 Data 2691 SM(EW) W

Σ bkg 2687.7 ±35.9 Wjets 161

tt 418.3± 7.8 DiBosons

Zjets 326.0± 6.5 Stat. Unc. SM(EW) WV 87.3(0.06) Wjets 1611.5± 34.1 DiBosons 331.9± 5.0 Data 2691 SM(EW) V

Σ bkg 2687.7 ±35.9 Wjets 161

tt 418.3± 7.8 DiBosons

Zjets 326.0± 6.5 Stat. Unc. SM(EW) WV 87.3(0.06) Wjets 1611.5± 34.1 DiBosons 331.9± 5.0 Σ bkg 2687.7±35.9 Wjets 16' tt 418.3± 7.8 DiBosons Zjets 326.0± 6.5 Stat. Unc. 0. 0.12 0.25 0.08 0. 0.2 0.08 0.06 0.15 0.06 0.04 0.1 0.04

Figure 25: 2018 plot of s1 variables using cut: "Full_SR"

0.05

zeppHad

0.4 0.5

0.2 0.3

0.6 0.7

0.8 0.9 Qgl VBF

Figure 26: 2018 plot of s2 variables using cut: "Full_SR"

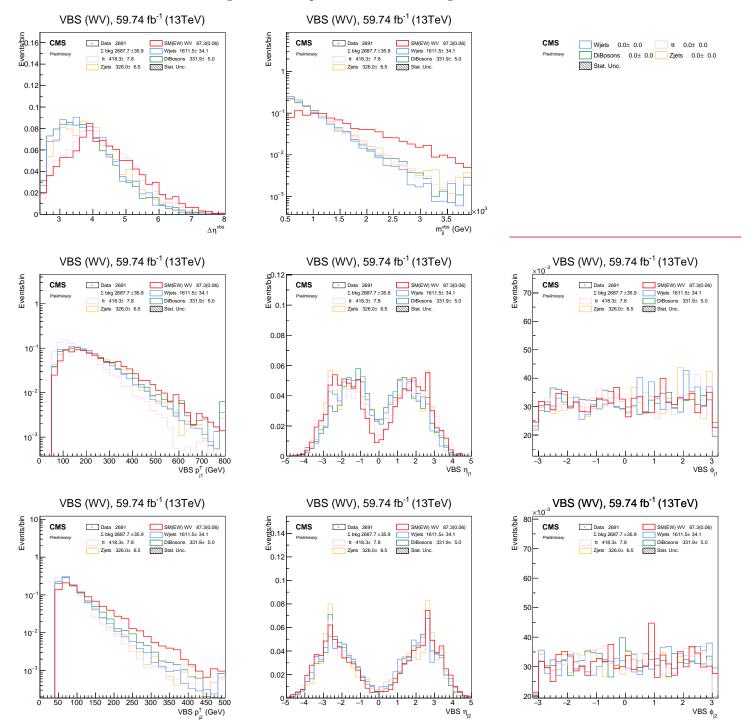


Figure 27: 2018 plot of s3 variables using cut: "Full_SR"

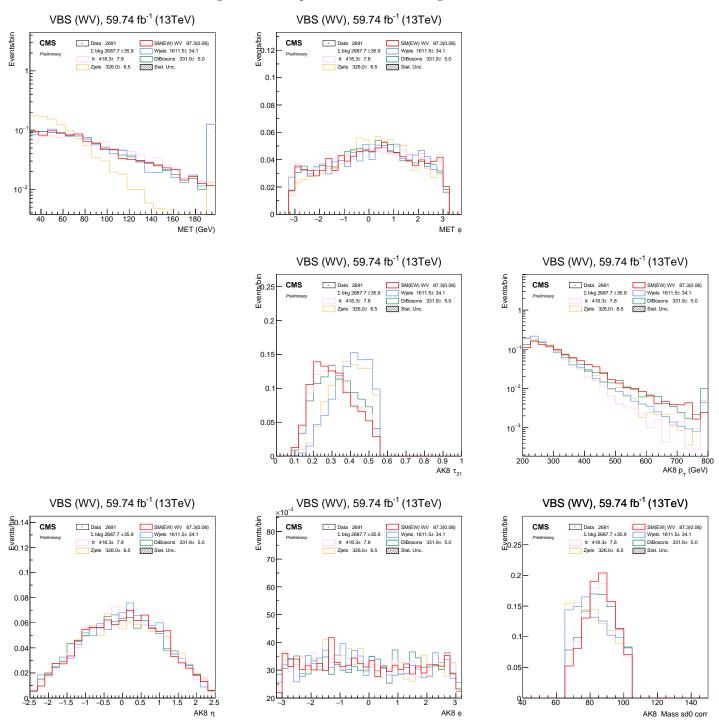
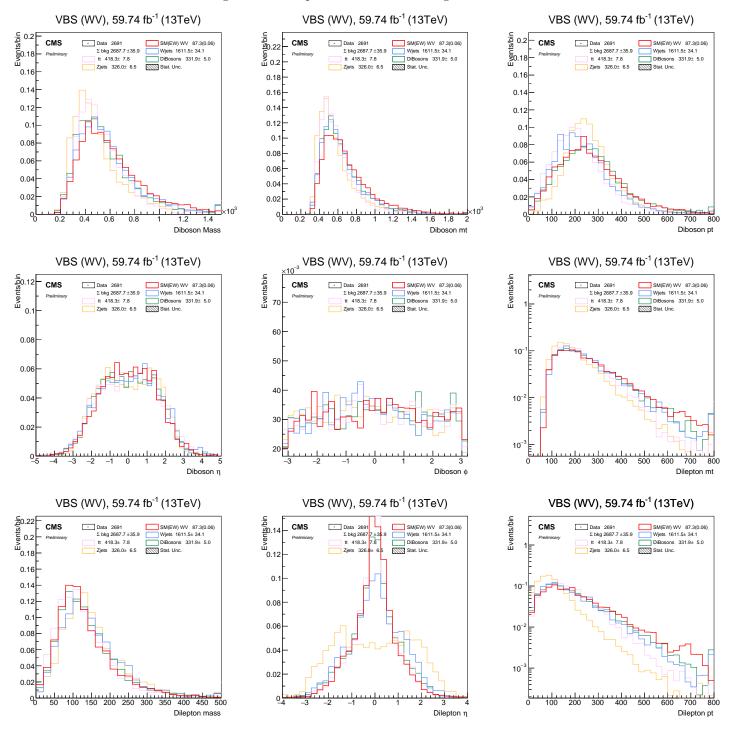


Figure 28: 2018 plot of s4 variables using cut: "Full_SR"



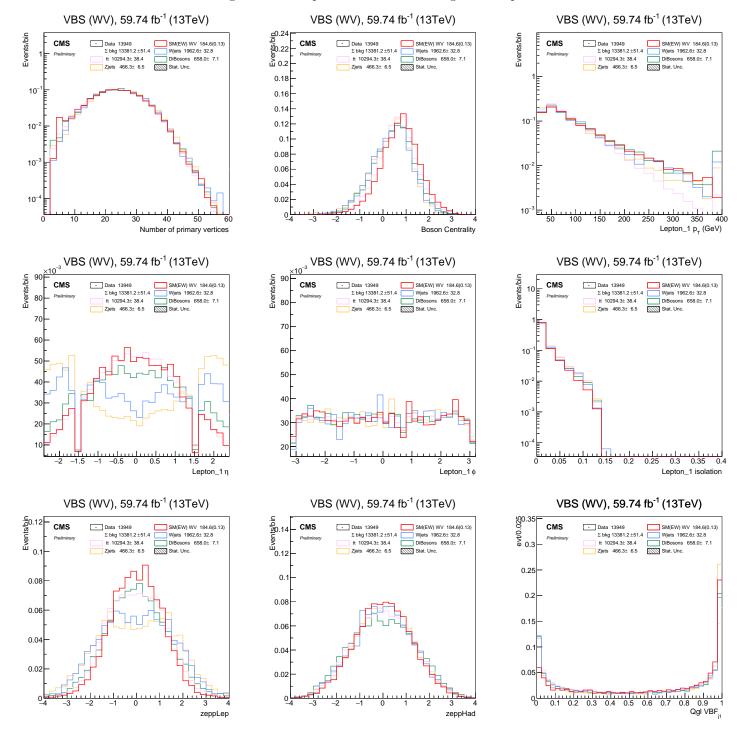


Figure 29: 2018 plot of s1 variables using cut: "Top_CR"

Figure 30: 2018 plot of s2 variables using cut: "Top_CR"

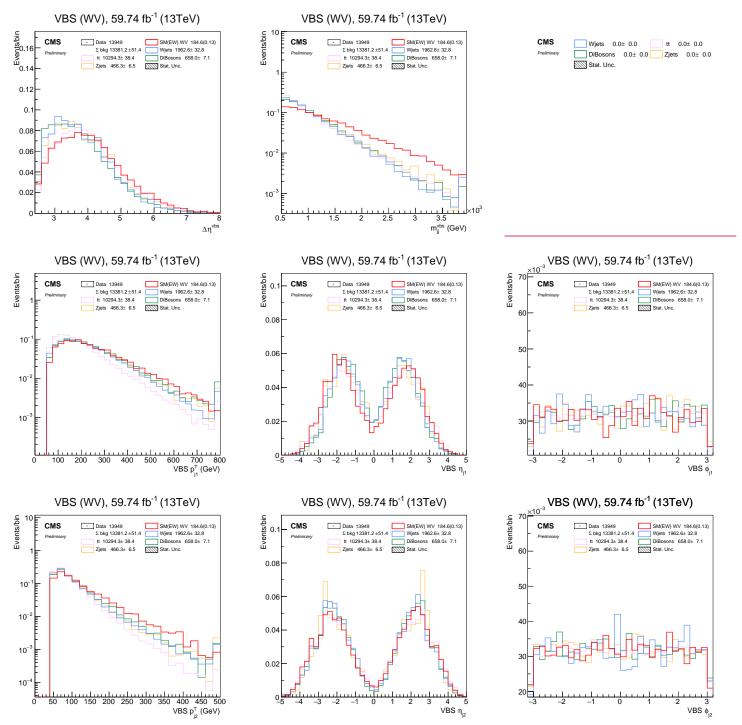


Figure 31: 2018 plot of s3 variables using cut: "Top_CR"

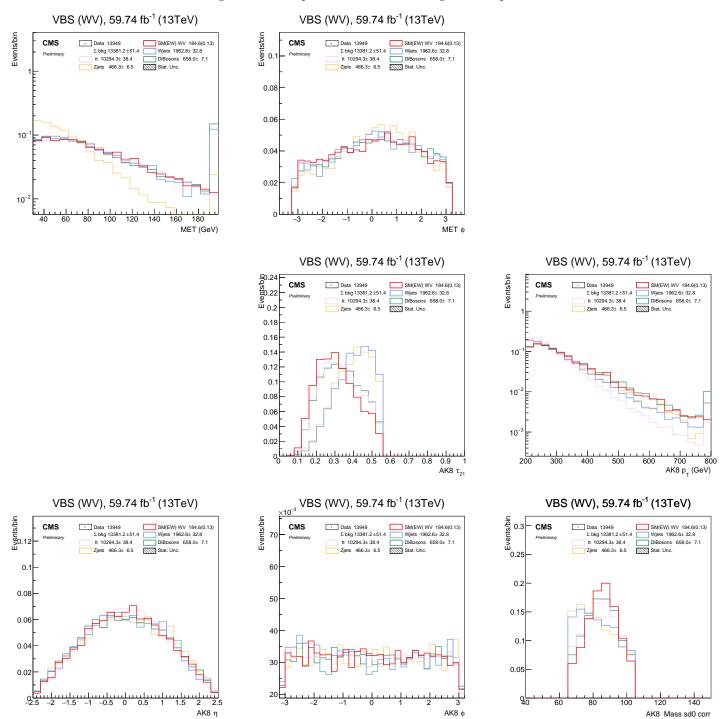
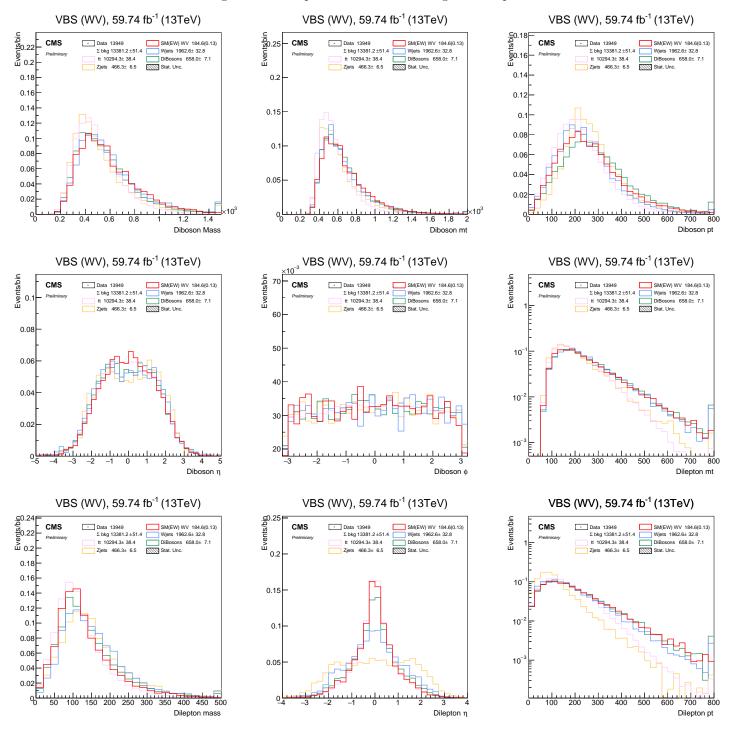


Figure 32: 2018 plot of s4 variables using cut: "Top_CR"



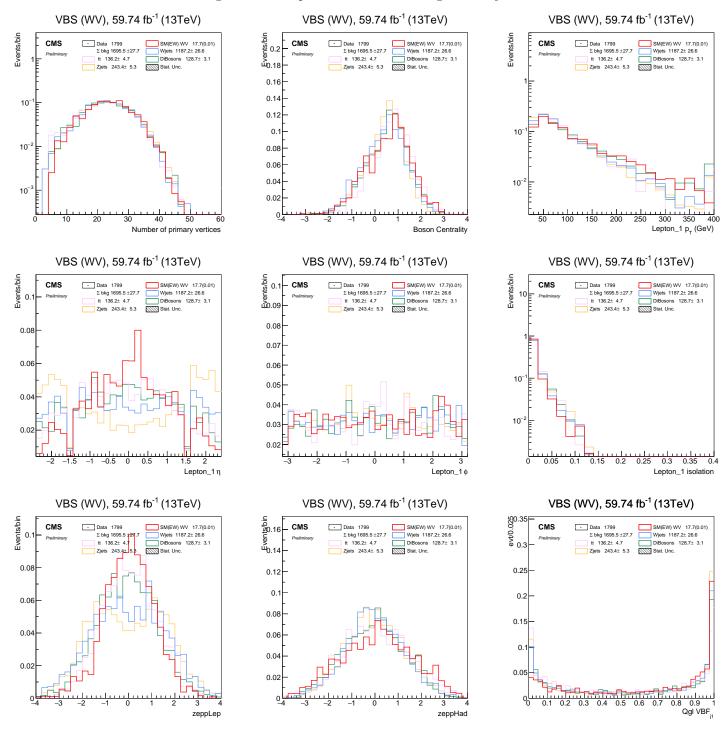


Figure 33: 2018 plot of s1 variables using cut: "Wjets_CR"

Figure 34: 2018 plot of s2 variables using cut: "Wjets_CR"

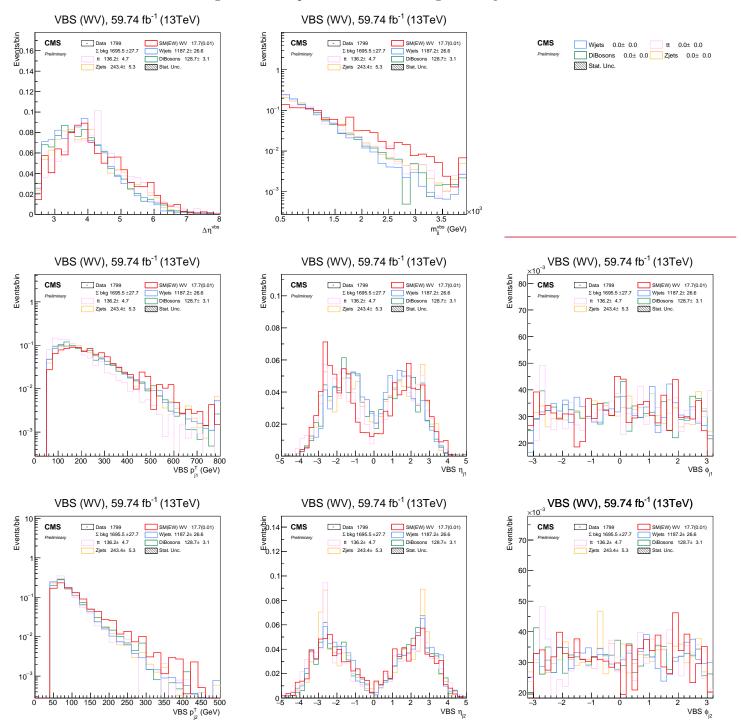
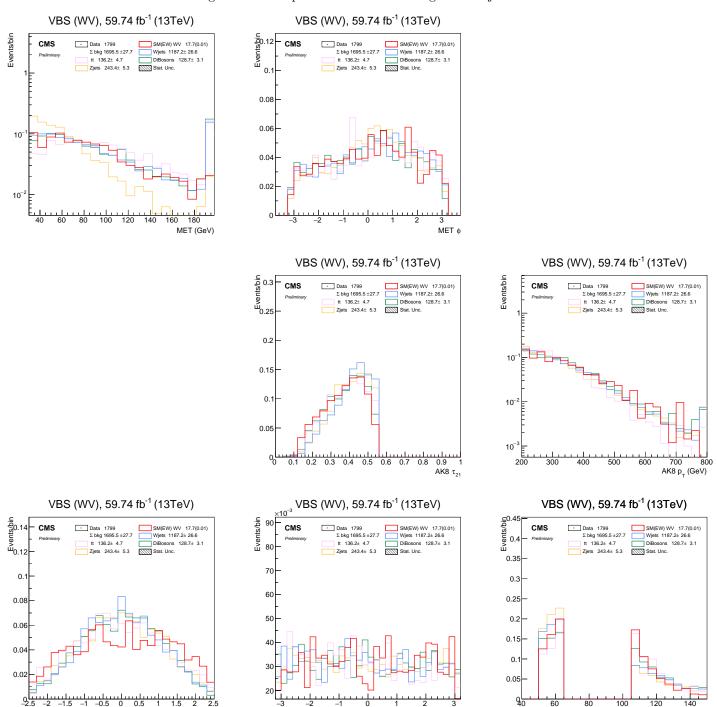


Figure 35: 2018 plot of s3 variables using cut: "Wjets_CR"



ΑΚ8 φ

AK8 Mass sd0 corr

-ΑΚ8 η

Figure 36: 2018 plot of s4 variables using cut: "Wjets_CR"

