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test

2017

$Full_SR$

Figure 1: 2017 plot of s1 variables using cut: "Full_SR"

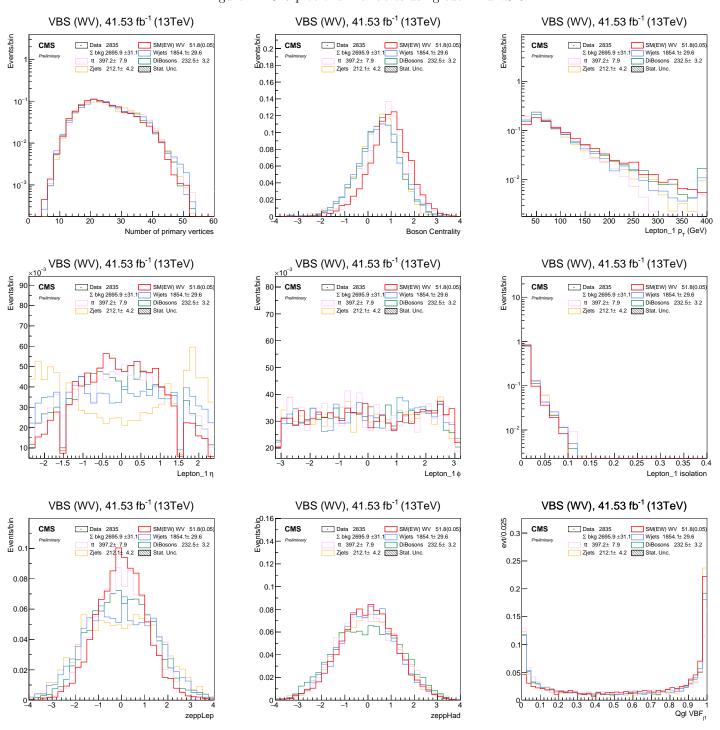


Figure 2: 2017 plot of s2 variables using cut: "Full_SR"

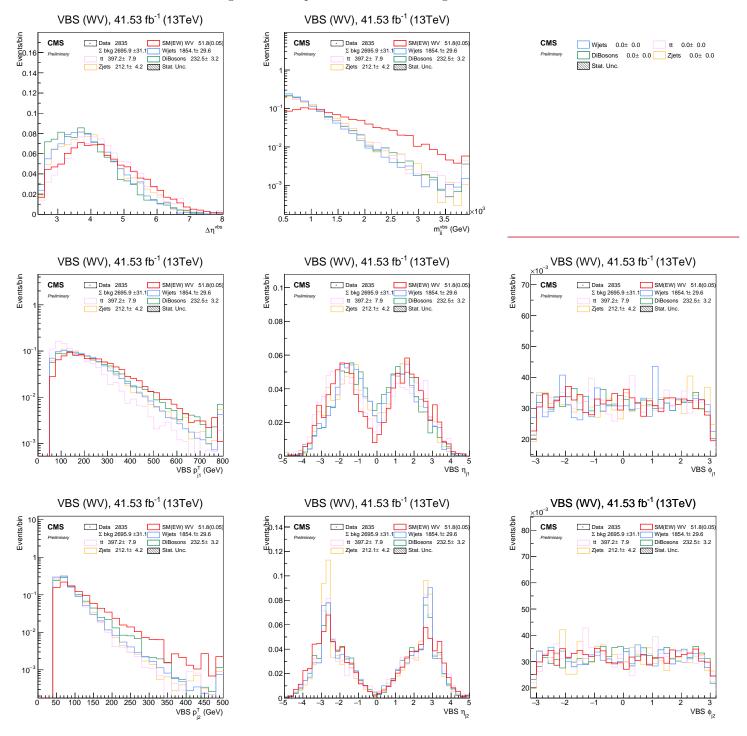


Figure 3: 2017 plot of s3 variables using cut: "Full_SR"

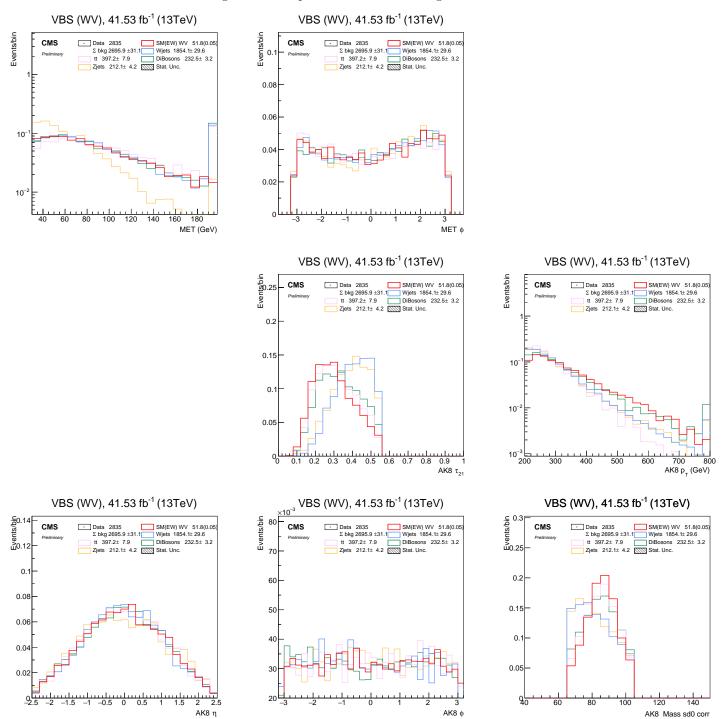
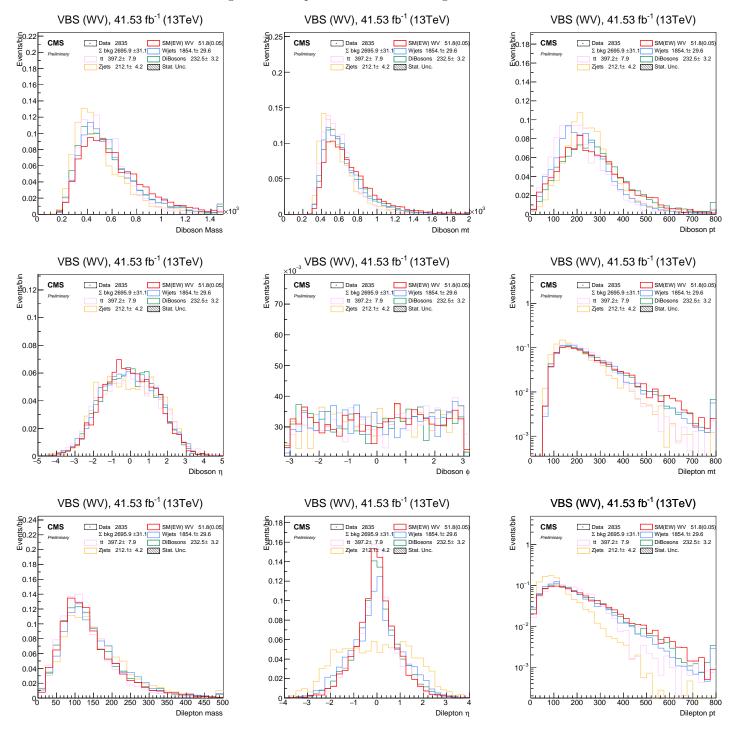


Figure 4: 2017 plot of s4 variables using cut: "Full_SR"



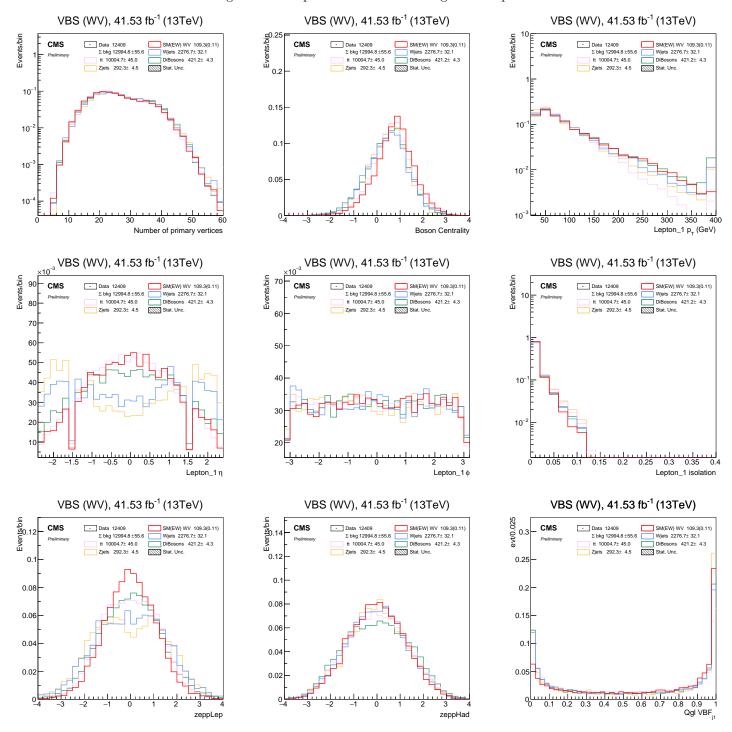


Figure 5: 2017 plot of s1 variables using cut: "Top_CR"

Figure 6: 2017 plot of s2 variables using cut: "Top_CR"

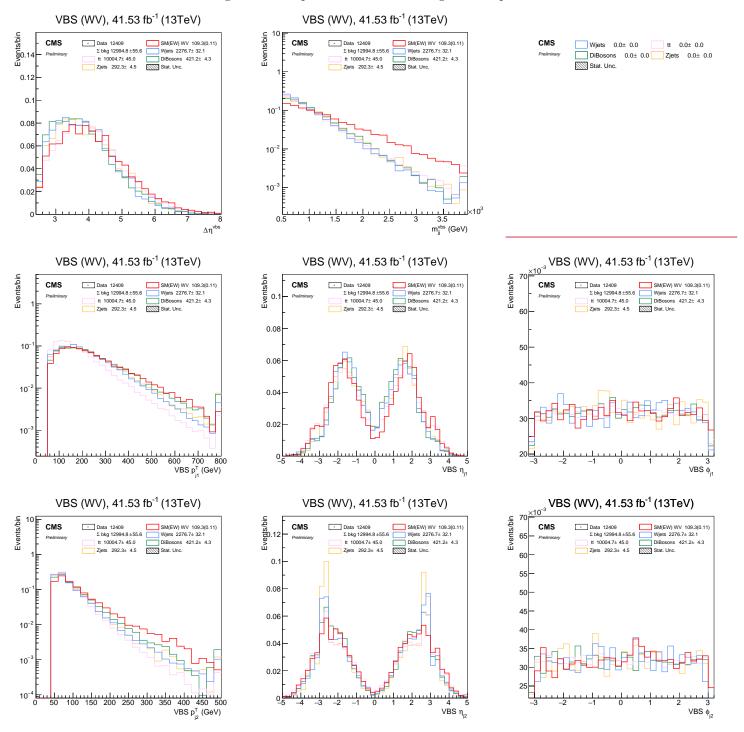


Figure 7: 2017 plot of s3 variables using cut: "Top_CR"

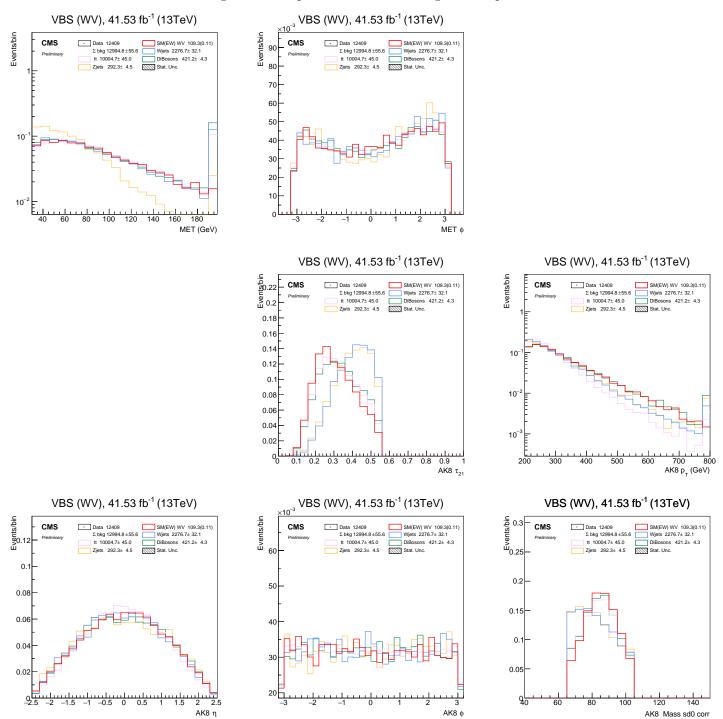
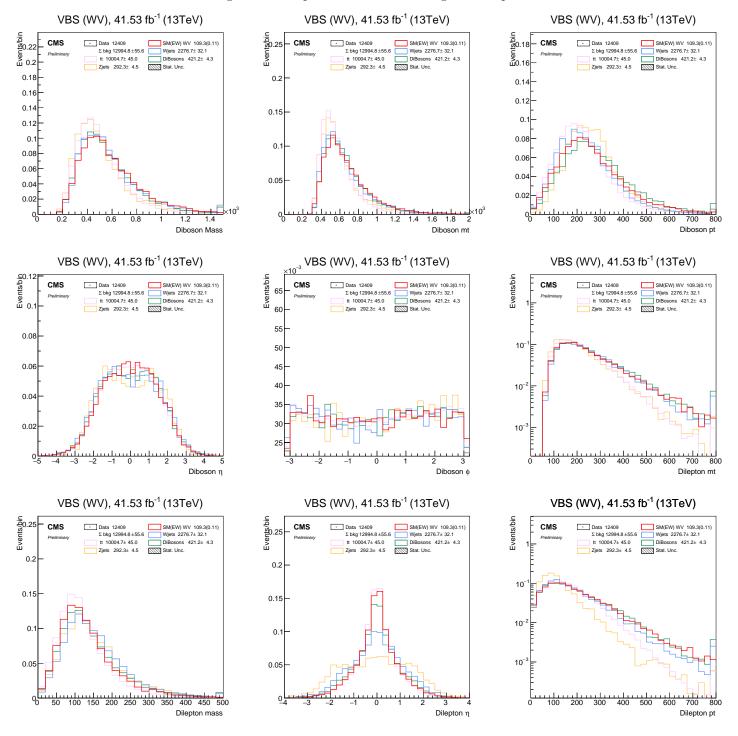


Figure 8: 2017 plot of s4 variables using cut: "Top_CR"



VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) VBS (WV), 41.53 fb⁻¹ (13TeV) Events/bin . Data 1816 SM(EW) WV 10.9(0.01 Σ bkg 1779.1±25.7 Wjets 1400.t± 24.8 tt 127.6± 5.3 DiBosons 90.t± 1.9 Zjets 161.2± 3.8 Stat. Unc. Data 1816 SM(EW) WV 10.9(0.01 Σ bkg 1779.1 ±25.7 Wjets 1400.1± 24.8 tt 127.6± 5.3 DiBosons 90.1± 1.9 Zjets 161.2± 3.8 Stat. Unc. Data 1816 SM(EW) WV 10.9(0.0°
Σ bkg 1779.1±25.7 Wjets 1400.1± 24.8

It 127.6± 5.3 DiBosons 90.1± 1.9

Zjets 161.2± 3.8 Stat. Unc. Data 1816 Σ bkg 1779.1 ±25.7 Data 1816 Σ bkg 1779.1 ±25.7 0.2 0.16 0.14 10 0. 10 10 0.08 0.06 10 0.04 10 Lepton_1 p_T (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) Events/bin Events/bin Events/bir Data 1816 SM(EW) WV 10.9(0.01)
Σ bkg 1779.1±25.7 Wjets 1400.1±24.8

tt 127.6±5.3 DiBosons 90.1±1.9

Zjets 161.2±3.8 Stat. Unc. Data 1816 SM(EW) WV 10.9(0.01
Σ bkg 1779.1±25.7 Wjets 1400.1± 24.8

tt 127.6± 5.3 DiBosons 90.1± 1.9 Data 1816 SM(EW) WV 10.9(0.01 Σ bkg 1779.1 ±25.7 Wjets 1400.1± 24.8 It 127.6± 5.3 DiBosons 90.1± 1.9 Σ bkg 1779.1 ±25.7 Wjets 140 tt 127.6± 5.3 DiBosons Zjets 161.2± 3.8 Stat. Unc. Zjets 161.2± 3.8 Stat. Unc. 60 60 50 10 10 20 0.05 0.1 0.15 0.3 0.35 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
 1816
 SM(EW) WV
 10.9(0.01

 Σ bkg 1779.1±25.7
 Wjets 1400.1± 24.8

 tt 127.6± 5.3
 DiBosons
 90.1± 1.9

 Zjets
 181.2± 3.8
 Stat. Unc.
 Data 1816 SM(EW) WV 10.9(0.01 Σ bkg 1779.1±25.7 Wjets 1400.1±24.8 tt 127.6±5.3 DiBosons 90.1±1.9 Zjets 161.2±3.8 Stat. Unc. - Data 1816 SM(EW) WV 10.9(0.01 Σ bkg 1779.1±25.7 Wjets 1400.1± 24.8 tt 127.6± 5.3 DiBosons 90.1± 1.9 Zjets 161.2± 3.8 Stat. Unc. - Data 1816 - Data 1816 evt/0. Zjets 0.25 0.12 0.08 0.1 0.2 0.06 0.08 0.15 0.04 0.06 0.1 0.04 0.02 0.05 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 Qgl VBF zeppLep zeppHad

Figure 9: 2017 plot of s1 variables using cut: "Wjets_CR"

Figure 10: 2017 plot of s2 variables using cut: "Wjets_CR"

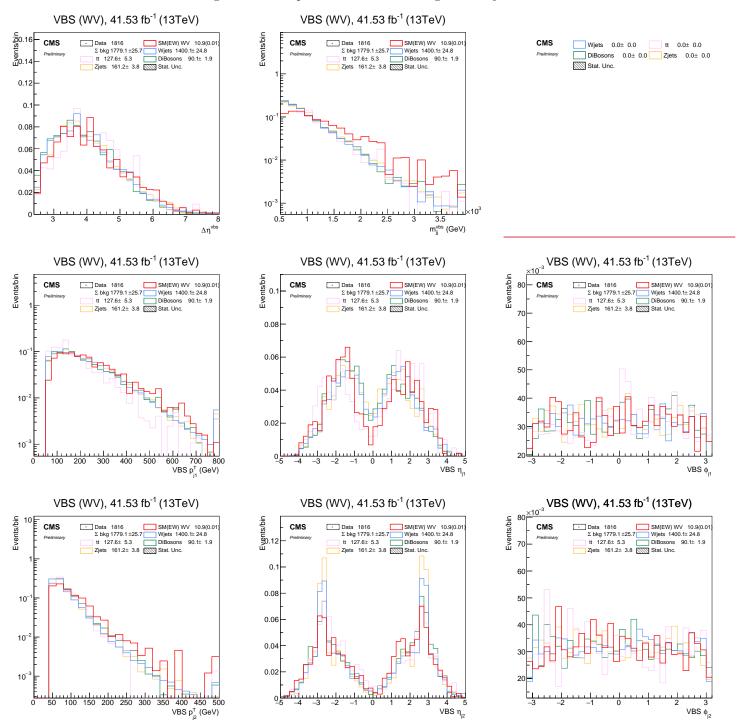
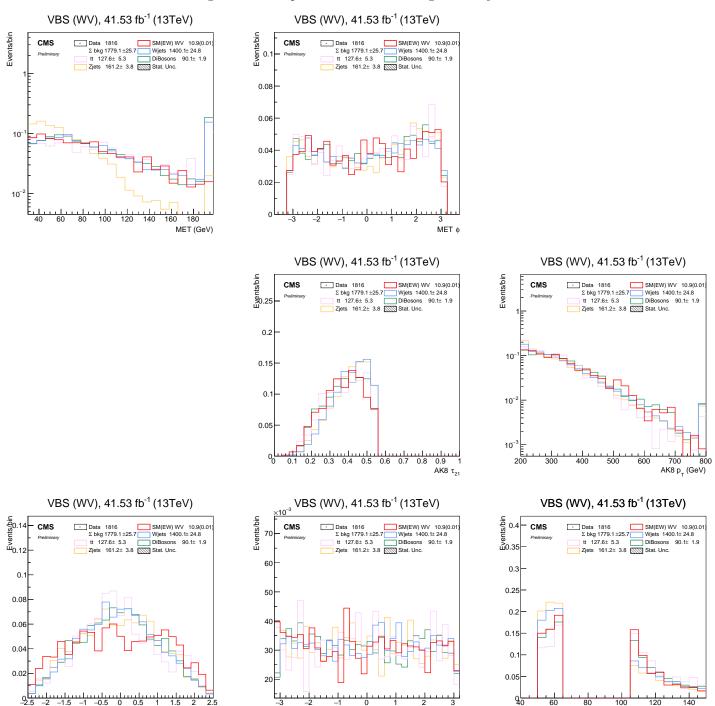


Figure 11: 2017 plot of s3 variables using cut: "Wjets_CR"

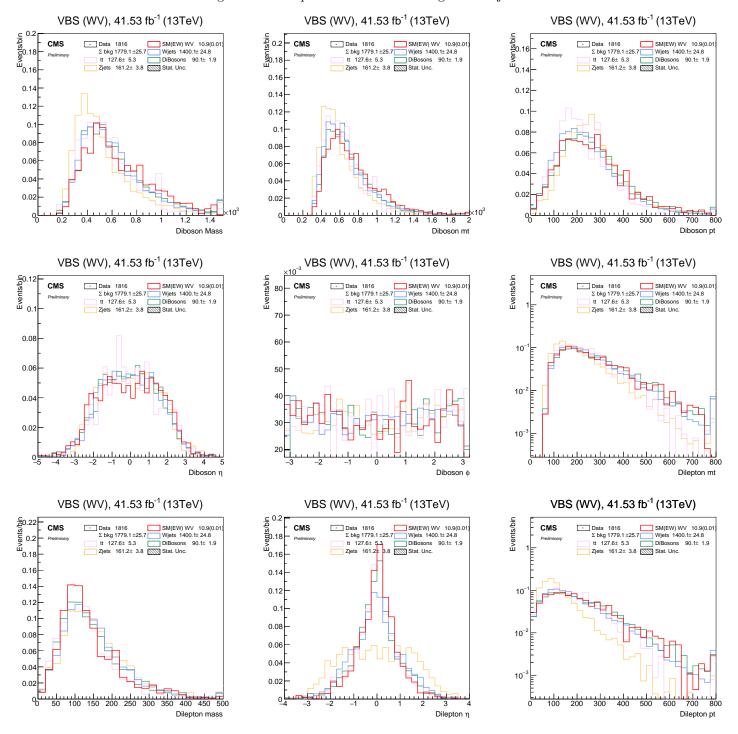


ΑΚ8 φ

AK8 Mass sd0 corr

ΑΚ8 η

Figure 12: 2017 plot of s4 variables using cut: "Wjets_CR"



$Full_SR$

VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) VBS (WV), 59.74 fb⁻¹ (13TeV) 0.22 Events/bi 0.2 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 0.02 0.05 0.4 0.5 0.6 0.7 0.2 0.3 0.8

Figure 13: 2018 plot of s1 variables using cut: "Full_SR"

zeppHad

zeppLep

Qgl VBF

Figure 14: 2018 plot of s2 variables using cut: "Full_SR"

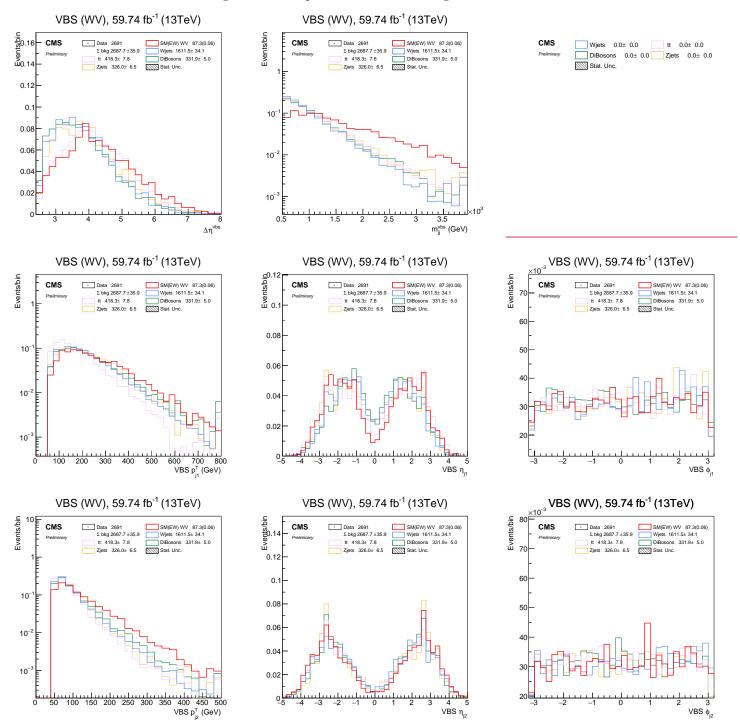
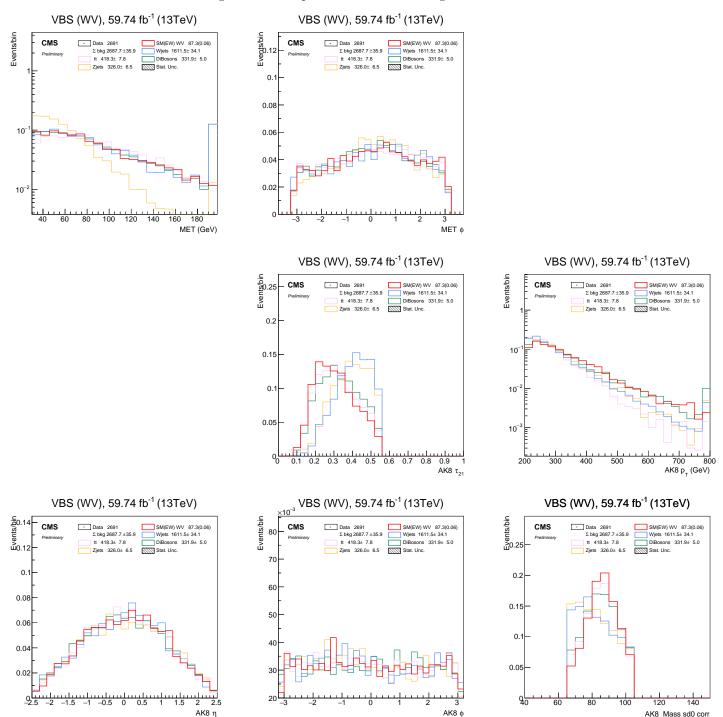
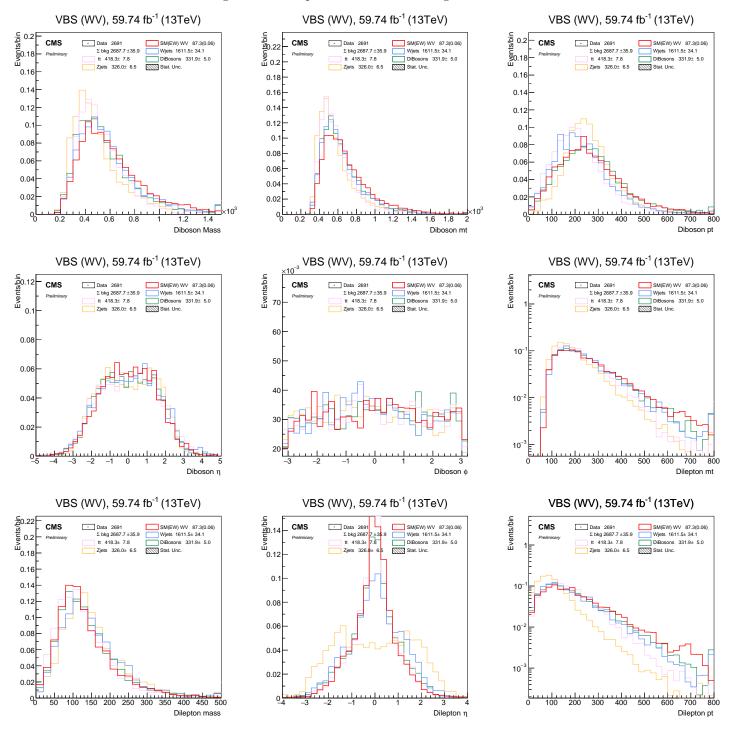


Figure 15: 2018 plot of s3 variables using cut: "Full_SR"



AK8 Mass sd0 corr

Figure 16: 2018 plot of s4 variables using cut: "Full_SR"



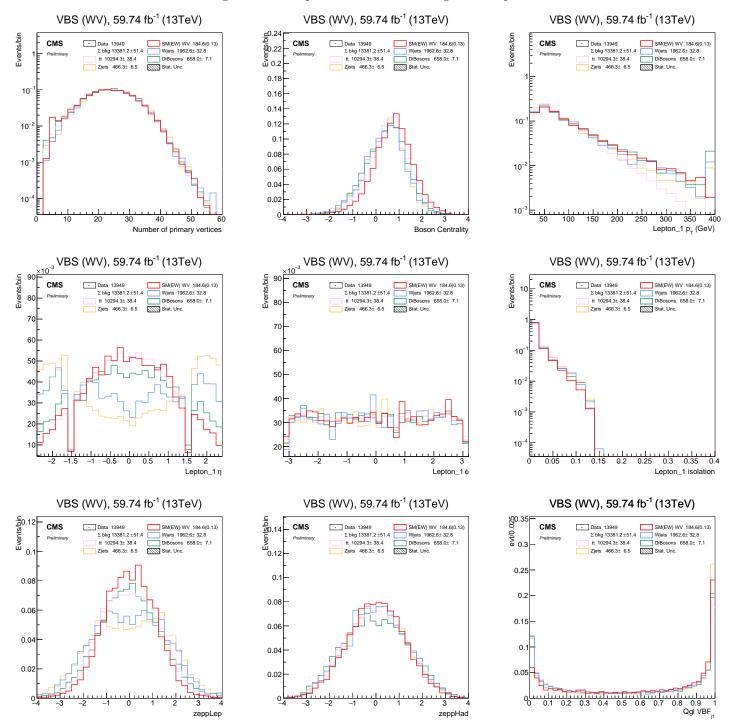


Figure 17: 2018 plot of s1 variables using cut: "Top_CR"

Figure 18: 2018 plot of s2 variables using cut: "Top_CR"

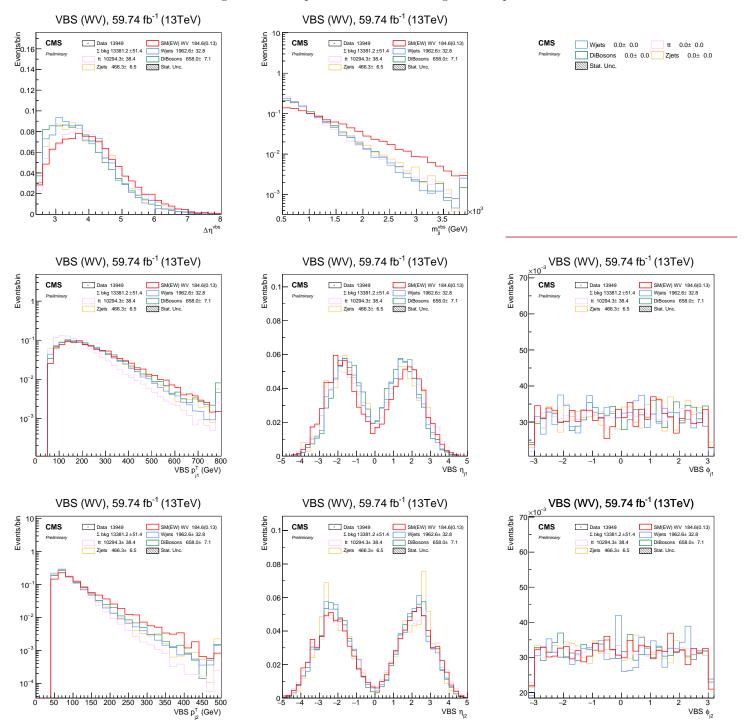


Figure 19: 2018 plot of s3 variables using cut: "Top_CR"

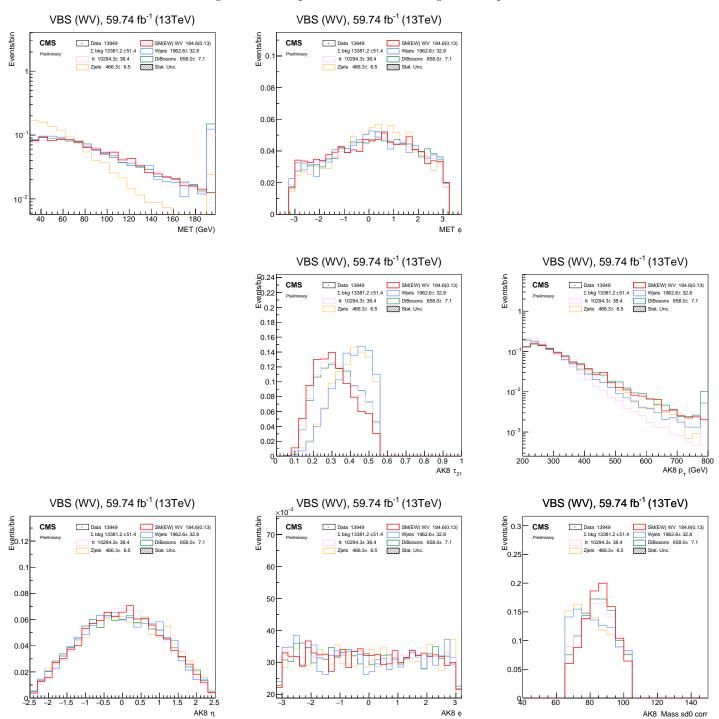
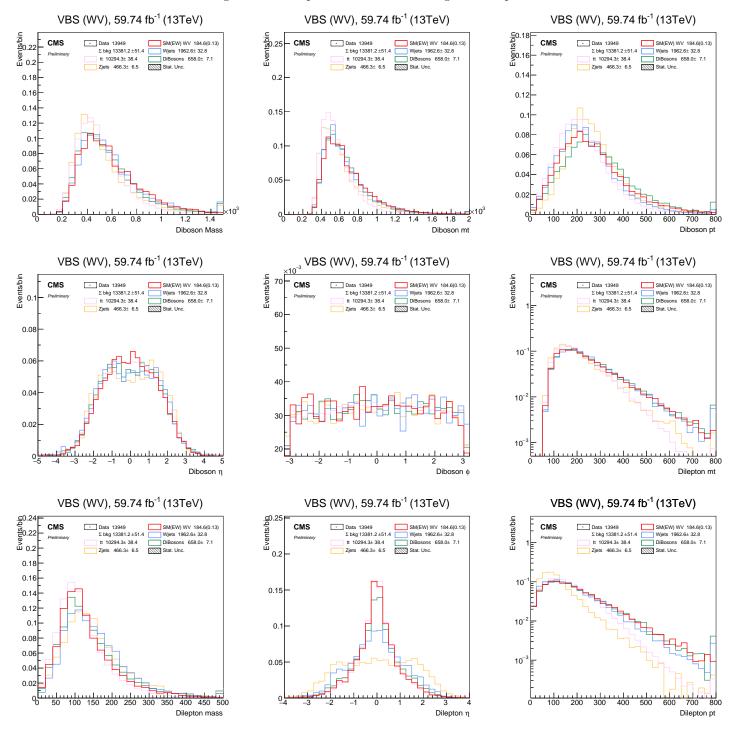


Figure 20: 2018 plot of s4 variables using cut: "Top_CR"



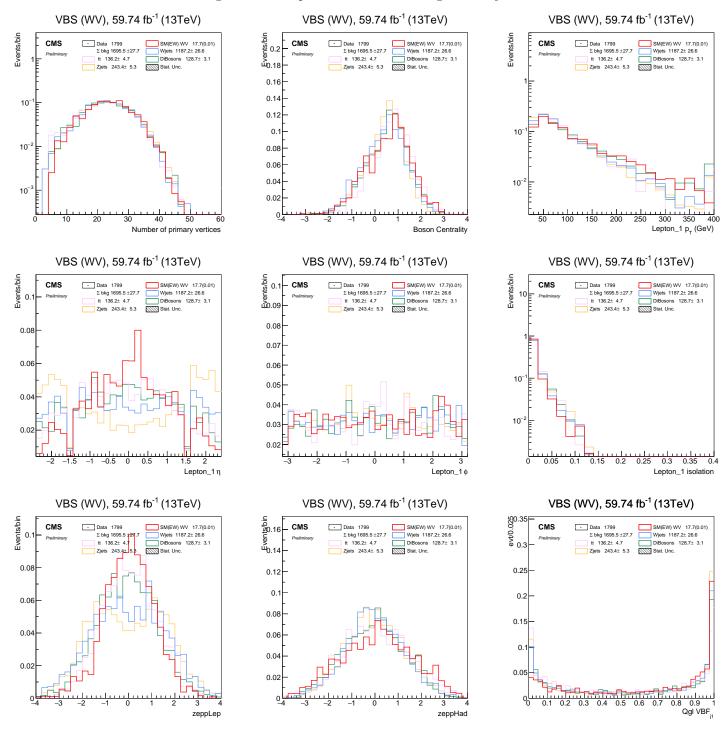


Figure 21: 2018 plot of s1 variables using cut: "Wjets_CR"

Figure 22: 2018 plot of s2 variables using cut: "Wjets_CR"

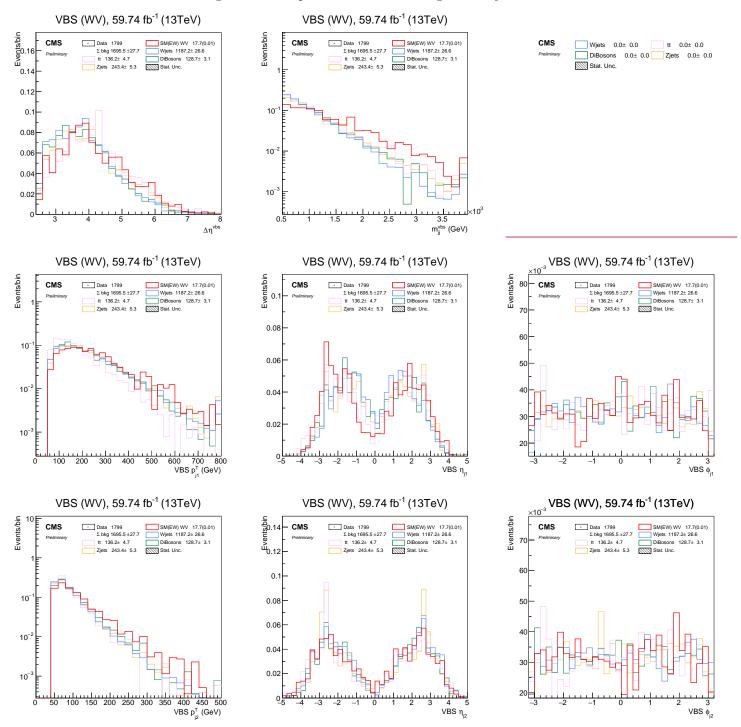
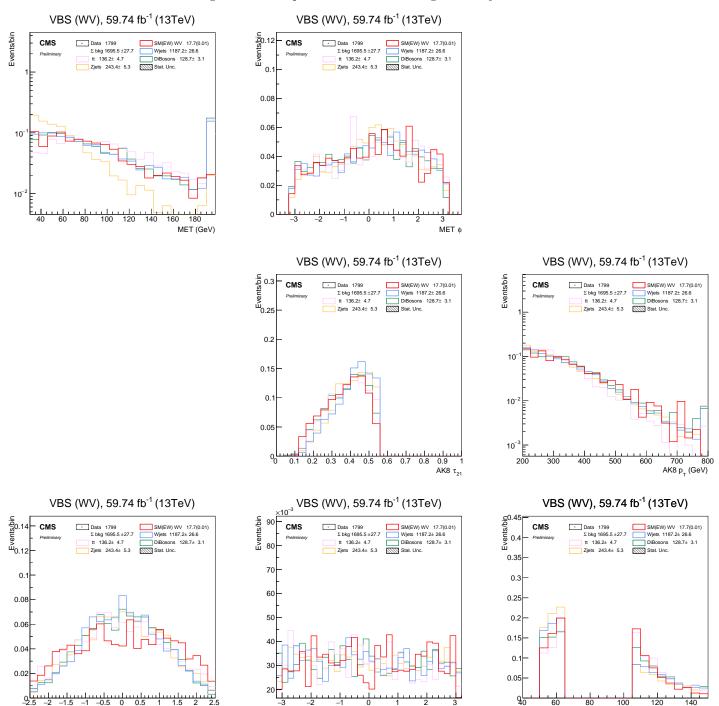


Figure 23: 2018 plot of s3 variables using cut: "Wjets_CR"

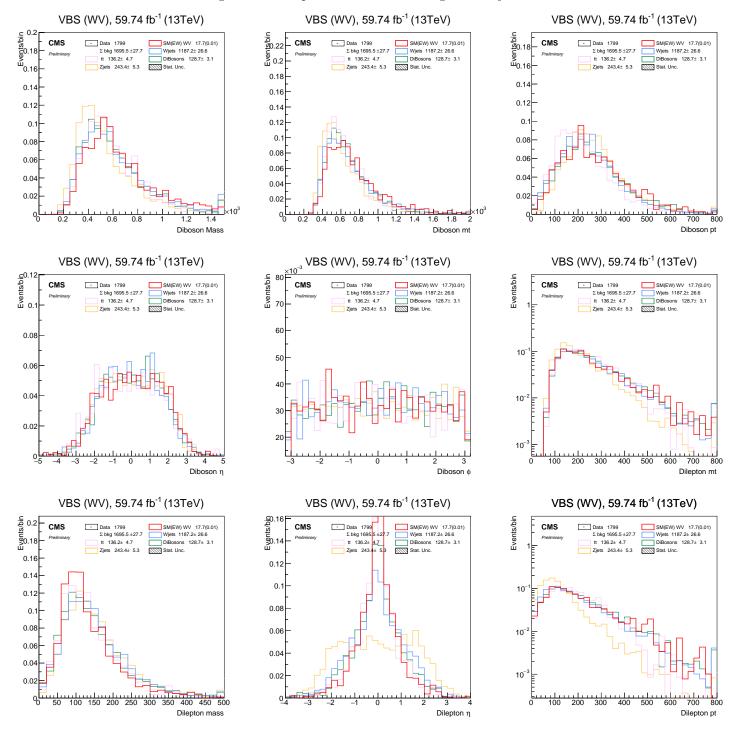


ΑΚ8 φ

AK8 Mass sd0 corr

ΑΚ8 η

Figure 24: 2018 plot of s4 variables using cut: "Wjets_CR"



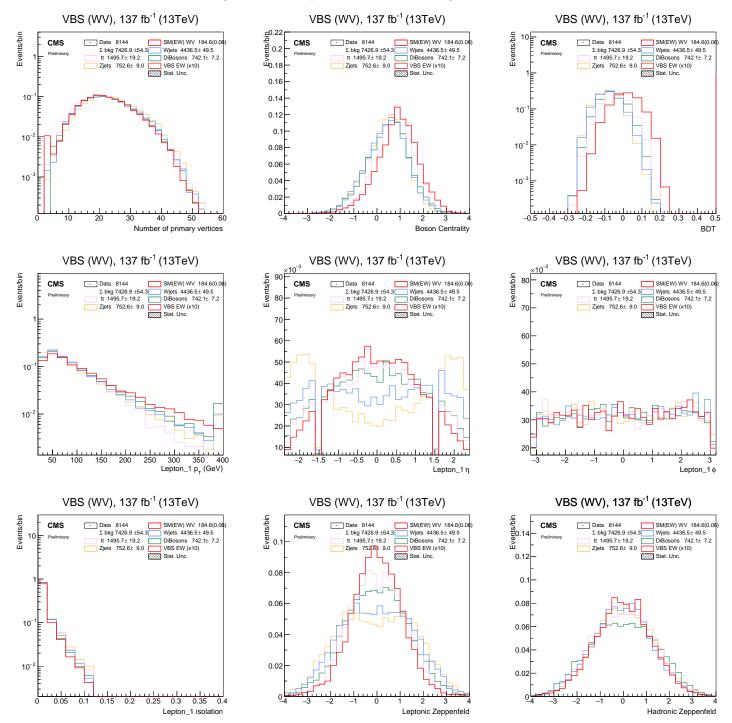


Figure 25: Run2 plot of s1 variables using cut: "Full_SR"

Figure 26: Run2 plot of s1 variables using cut: "Full_SR"

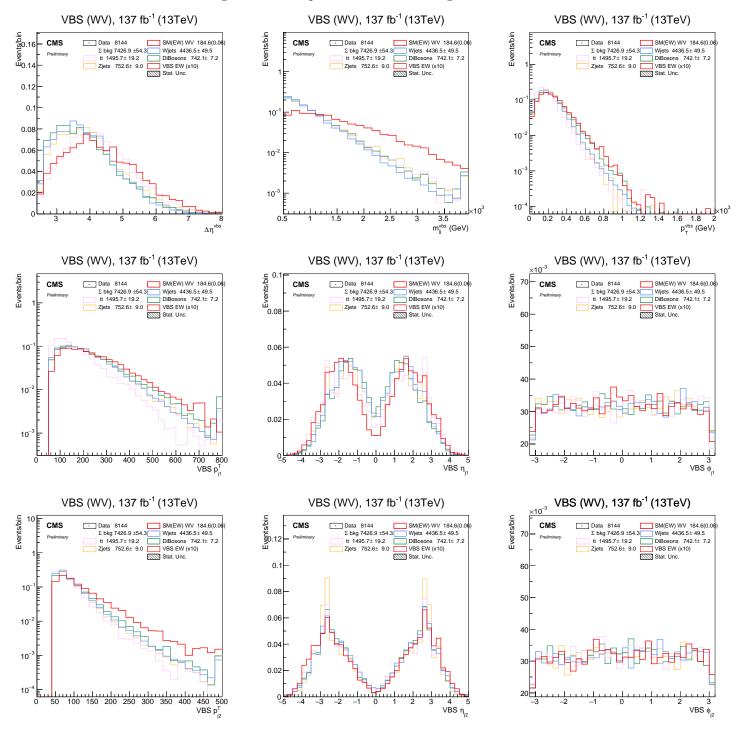


Figure 27: Run2 plot of s1 variables using cut: "Full_SR"

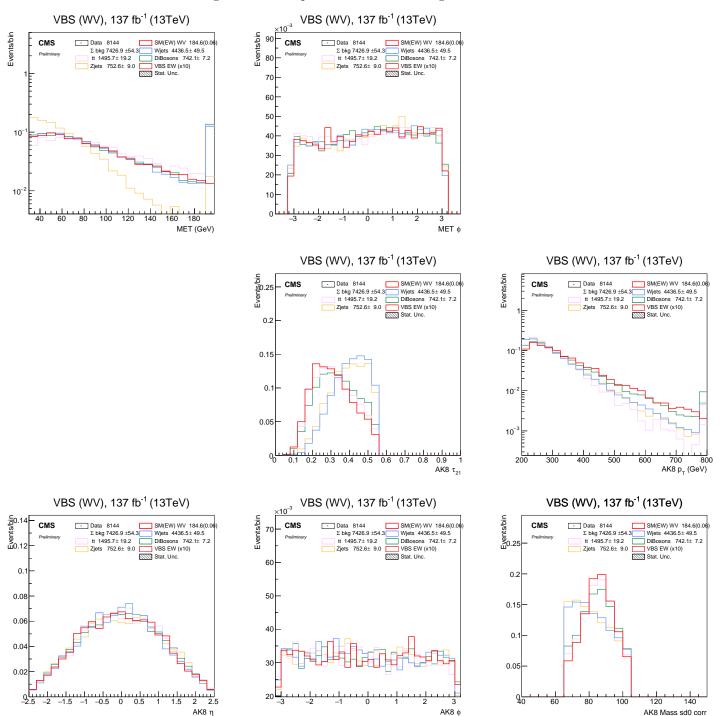


Figure 28: Run2 plot of s1 variables using cut: "Full_SR"

