

Electrons (Jay)

- Triggers: HLT_Ele27_WPTight_Gsf OR HLT_Ele28_WPTight_Gsf OR HLT_Ele32_WPTight_Gsf OR HLT_Ele35_WPTight_Gsf OR HLT_Ele38_WPTight_Gsf OR HLT_Ele40_WPTight_Gsf OR HLT_Ele23_Ele12_CaloIdL_TrackIdL_IsoVL_DZ OR HLT_Ele23_Ele12_CaloIdL_TrackIdL_IsoVL OR HLT_DiEle27_WPTightCaloOnly_L1DoubleEG OR HLT_DoubleEle33_CaloIdL_MW OR HLT_DoubleEle25_CaloIdL_MW OR HLT_DoubleEle27_CaloIdL_MW
- $l_{\text{etal}} < 1.4442$ OR $1.566 < l_{\text{etal}} < 2.5$
- Veto ID: Loose cut-based ID + (endcap-only) $|\text{dxy}| < 0.03$ + (endcap-only) $e_{\text{InvMinusPInv}} < 0.014$ + $|\text{dxy}| < 0.05(0.1)$ + $|\text{dz}| < 0.1(0.2)$
- Veto $p_T > 10$ GeV
- Selection ID: mvaFall17V2Iso ID
- Selection $p_T > 35$ GeV

Muons (Jay)

- Triggers: HLT_IsoMu24 OR HLT_IsoMu27 OR HLT_IsoMu30 OR HLT_Mu50 OR HLT_Mu17_TrkIsoVVL_Mu8_TrkIsoVVL_DZ_Mass3p8 OR HLT_Mu17_TrkIsoVVL_Mu8_TrkIsoVVL_DZ_Mass8 OR HLT_Mu19_TrkIsoVVL_Mu9_TrkIsoVVL_DZ_Mass3p8 OR HLT_Mu19_TrkIsoVVL_Mu9_TrkIsoVVL_DZ_Mass8
- $l_{\text{etal}} < 2.4$
- Veto ID: Loose ID + $\text{pfRelIso04_all} < 0.25$
- Veto $p_T > 10$ GeV
- Selection ID: Tight ID + $|\text{dxy}| < 0.02$ + $|\text{dz}| < 0.1$ + $\text{pfRelIso04_all} < 0.15$
- Selection $p_T > 35$ GeV

MET (Jay)

- $\text{PFMET} (\text{MET}_*) > 30$ GeV

AK8 jets (Jay)

- Selection $p_T > 200$ GeV + $l_{\text{etal}} < 2.4$ + $\tau_2/\tau_1 < 0.55$
- If multiple AK8 jets, select object with mass closest to W mass
- Pre-selection soft-drop mass $40 < m < 150$ GeV
- SR/TTCR: $65 < m < 105$ GeV
- VCR: $40 < m < 65$ GeV OR $105 < m < 150$ GeV

AK4 jets (Jay)

- Selection $p_T > 30$ GeV + $l_{\text{etal}} < 5.0$
- No pileup jet ID or SF applied
- SR/VCR: no jets with $\text{btagDeepB} > 0.1241$
- TTCR: at least 1 jet with $\text{btagDeepB} > 0.1241$
- For resolved V, select dijet pair with mass closest to W mass
- Where noted, apply $l_{\text{etal}} < 2.4$ cut to jets considered for resolved V pair
- For VBS jets, select dijet pair with largest mass after removing selected V jet(s)
- For VBS jets, require $|\text{dEtal}| > 2.5$ + $m(\text{jj}) > 500$ GeV and jets in opposite ends of detector
- VBS jet p_T requirements listed per table

No Resolved jet $|\eta|$ cut, VBS jets $p_T > 30(30)$

2018 sig.	SR-el	SR-mu	VCR-el	VCR-mu	TTCR-el	TTCR-mu
Resolved	382.4	432.5	80.0	91.6	1222.5	1361.5
Boosted	88.8	100.2	27.1	31.1	248.1	267.8

From /eos/cms/store/user/jlawhorn/WVJTree_Jul17/no-cent/

No Resolved jet $|\eta|$ cut, VBS jets $p_T > 50(30)$

2018 sig.	SR-el	SR-mu	VCR-el	VCR-mu	TTCR-el	TTCR-mu
Resolved	367.2	414.2	77.5	89.0	1148.4	1278.1
Boosted	86.6	97.9	26.3	30.3	240.7	260.3

From /eos/cms/store/user/jlawhorn/WVJTree_Jul17/no-cent/

Resolved jet $|\eta| < 2.4$, VBS jets $p_T > 50(30)$

2018 sig.	SR-el	SR-mu	VCR-el	VCR-mu	TTCR-el	TTCR-mu
Resolved	308.3	348.4	88.6	102.2	1048.7	1161.1
Boosted	86.9	98.2	26.2	30.4	240.8	260.6

From /eos/cms/store/user/jlawhorn/WVJTree_Jul17/cent/

Resolved jet $|\eta| < 2.4$, VBS jets $p_T > 50(50)$

2018 sig.	SR-el	SR-mu	VCR-el	VCR-mu	TTCR-el	TTCR-mu
Resolved	212.8	241.4	58.3	67.3	643.8	706.2
Boosted	63.4	72.1	17.2	20.5	166.0	181.7

From /eos/cms/store/user/jlawhorn/WVJTree_Jul17/cent/

-- JayMathewLawhorn - 2020-07-17

This topic: [Sandbox > Run2VBSSemiLeptonicSync](#)

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