

## Z+Jets background: Central + inverted VBF selections (2017 results)

Process	Data	DY+Jets	EWK W+2jets	EWK Z+2jets	QCD	SingleTop	$V_\ell + jets$	VBF Higgs	VV	VVV	W+Jets	$t\bar{t}$	tt+X
NRecoVertex	739384588.0	261606677.1 ± 5268.6	1903298.5 ± 55.0	329697.4 ± 15.5	1249399149538.2 ± 6472079.8	11626747.7 ± 243.3	3681750.7 ± 476.6	649957.8 ± 171.7	5387659.3 ± 141.2	16557.0 ± 6.8	2547180197.8 ± 55452.1	31948106.4 ± 571.1	82170.5 ± 29.0
NRecoTriggers1	480099871.0	53587226.6 ± 10208.8	422323.2 ± 285.1	53329.6 ± 79.3	54357395.5 ± 752251.5	947644.9 ± 320.0	899907.1 ± 370.0	901.8 ± 8.2	622692.3 ± 290.8	2718.2 ± 8.4	343755075.5 ± 98720.3	4126838.6 ± 609.4	12083.8 ± 13.2
NRecoMuon1	20054689.0	21041238.5 ± 6900.1	129.2 ± 5.7	22198.7 ± 57.8	25436.0 ± 3306.6	15556.1 ± 57.0	127929.7 ± 149.2	77.6 ± 0.3	39794.9 ± 67.7	268.2 ± 2.6	2680.4 ± 178.4	147663.5 ± 92.0	755.4 ± 2.7
NRecoMuon2	20054689.0	21041238.5 ± 6900.1	129.2 ± 5.7	22198.7 ± 57.8	25436.0 ± 3306.6	15556.1 ± 57.0	127929.7 ± 149.2	77.6 ± 0.3	39794.9 ± 67.7	268.2 ± 2.6	2680.4 ± 178.4	147663.5 ± 92.0	755.4 ± 2.7
NDiMuonCombinations	19391648.0	20653554.8 ± 6847.6	24.1 ± 2.4	20900.6 ± 56.4	330.4 ± 277.9	5782.2 ± 34.5	115956.3 ± 142.2	68.4 ± 0.2	28067.8 ± 49.2	161.8 ± 1.8	837.1 ± 105.7	56406.5 ± 57.0	333.9 ± 1.5
NRecoElectron1	19357721.0	20618877.6 ± 6842.7	23.9 ± 2.4	20805.9 ± 56.2	330.4 ± 277.9	5737.3 ± 34.4	112473.3 ± 140.1	59.4 ± 0.2	27496.5 ± 48.5	156.0 ± 1.8	833.5 ± 105.7	55809.8 ± 56.7	318.6 ± 1.5
NRecoTau1	19341803.0	20618874.0 ± 6842.7	23.9 ± 2.4	20805.9 ± 56.2	330.4 ± 277.9	5735.0 ± 34.3	112473.0 ± 140.1	59.3 ± 0.2	27447.6 ± 48.5	155.1 ± 1.8	833.5 ± 105.7	55794.3 ± 56.7	317.6 ± 1.5
METCut	19341803.0	20618874.0 ± 6842.7	23.9 ± 2.4	20805.9 ± 56.2	330.4 ± 277.9	5735.0 ± 34.3	112473.0 ± 140.1	59.3 ± 0.2	27447.6 ± 48.5	155.1 ± 1.8	833.5 ± 105.7	55794.3 ± 56.7	317.6 ± 1.5
NRecoJet1	19341803.0	20618874.0 ± 6842.7	23.9 ± 2.4	20805.9 ± 56.2	330.4 ± 277.9	5735.0 ± 34.3	112473.0 ± 140.1	59.3 ± 0.2	27447.6 ± 48.5	155.1 ± 1.8	833.5 ± 105.7	55794.3 ± 56.7	317.6 ± 1.5
NRecoJet2	19341803.0	20618874.0 ± 6842.7	23.9 ± 2.4	20805.9 ± 56.2	330.4 ± 277.9	5735.0 ± 34.3	112473.0 ± 140.1	59.3 ± 0.2	27447.6 ± 48.5	155.1 ± 1.8	833.5 ± 105.7	55794.3 ± 56.7	317.6 ± 1.5
NRecoJ1et	19192178.0	20509183.6 ± 6831.5	21.5 ± 2.3	20034.5 ± 55.3	330.4 ± 277.9	3236.6 ± 25.3	112124.8 ± 139.9	58.9 ± 0.2	26690.1 ± 48.2	146.2 ± 1.8	815.7 ± 105.6	20484.7 ± 35.2	120.7 ± 1.0
NDiJetCombinations	19185160.0	20502925.2 ± 6831.3	21.5 ± 2.3	19106.3 ± 54.2	326.4 ± 277.8	3223.0 ± 25.3	111955.3 ± 139.8	58.1 ± 0.2	26589.0 ± 48.1	143.8 ± 1.8	814.3 ± 105.6	20259.5 ± 35.0	117.4 ± 0.9

$$SF = \frac{N_{Data} - N_{non-Z+Jets}}{N_{Z+Jets}}$$

$$SF^{CR3} = 0.93 \pm 0.004$$