

Table 1: Background MC Summary

Sample Name	xSec(pb)	NEvt	Lumi(pb^{-1})	k Factor	Weight
SingleTs	3.362	622990	35866.9	1	0.193558
SingleTatW	35.6	6.93309e+06	35866.9	1	0.184169
SingleTtW	35.6	6.95283e+06	35866.9	1	0.183646
SingleTat	80.95	3.8811e+07	35866.9	1	0.0748094
SingleTt	136.02	6.72408e+07	35866.9	1	0.0725545
TTJets	831.76	7.70812e+07	35866.9	1	0.387029
WJets	50690	8.67318e+07	35866.9	1.21	25.3643
W1Jets	9493	4.5367e+07	35866.9	1.21	9.08119
W2Jets	3120	6.01978e+07	35866.9	1.21	2.24933
W3Jets	942.3	5.83984e+07	35866.9	1.21	0.700273
W4Jets	524.2	2.99953e+07	35866.9	1.21	0.758444
DYJetsToLL10to50	18610	5.77901e+07	35866.9	1.21	13.9757
DY1JetsToLL10to50	725	3.98408e+07	35866.9	1.21	0.78975
DY2JetsToLL10to50	394.5	1.94429e+07	35866.9	1.21	0.880572
DY3JetsToLL10to50	96.47	4.9642e+06	35866.9	1.21	0.843379
DY4JetsToLL10to50	34.84	2.08785e+06	35866.9	1.21	0.7242
DYJetsToLL50toInf	4895	2.27584e+08	35866.9	1.18	0.910305
DY1JetsToLL50toInf	1016	6.26272e+07	35866.9	1.18	0.686605
DY2JetsToLL50toInf	331.4	1.99706e+07	35866.9	1.18	0.702326
DY3JetsToLL50toInf	96.36	5.85611e+06	35866.9	1.18	0.696408
DY4JetsToLL50toInf	51.4	4.19787e+06	35866.9	1.18	0.518216
TGJets	2.967	368562	35866.9	1	0.288736
TTGJets	3.697	1.57783e+06	35866.9	1	0.0840393
TTWJetslnu	0.2043	1.60353e+06	35866.9	1	0.00456969
TTZJets2l2nu	0.2529	927976	35866.9	1	0.00977477
WW2l2nu	12.178	1.999e+06	35866.9	1	0.218503
WWlnu2q	49.997	1.8974e+07	35866.9	1	0.0945106
WW4q	51.723	1.9984e+06	35866.9	1	0.928315
WZ	47.13	1e+06	35866.9	1	1.69041
ZZ	17.72	1.9881e+06	35866.9	1	0.319683
WWW	0.2086	210538	35866.9	1	0.0355368
WWZ	0.1651	221468	35866.9	1	0.0267381
WZZ	0.05565	216366	35866.9	1	0.00922509
ZZZ	0.01398	213197	35866.9	1	0.00235191
QCDPt80To120EMEnr	350000	7.76953e+07	35866.9	1	161.573
QCDPt120To170EMEnr	62964	7.77713e+07	35866.9	1	29.038
QCDPt170To300EMEnr	18810	1.15402e+07	35866.9	1	58.4617
QCDPt300ToInfEMEnr	1350	7.37363e+06	35866.9	1	6.56669
QCDPt80to120MuEnrPt5	106034	2.35842e+07	35866.9	1	161.256
QCDPt120to170MuEnrPt5	25190.5	8.04272e+06	35866.9	1	112.338
QCDPt170to300MuEnrPt5	8654.49	1.73502e+07	35866.9	1	17.8908
QCDPt300to470MuEnrPt5	797.353	4.82145e+07	35866.9	1	0.593154
QCDPt470to600MuEnrPt5	79.0255	1.93629e+07	35866.9	1	0.146383
QCDPt600to800MuEnrPt5	25.0951	9.98131e+06	35866.9	1	0.0901768
QCDPt800to1000MuEnrPt5	4.70737	1.97674e+07	35866.9	1	0.00854126
QCDPt1000toInfMuEnrPt5	1.62132	1.35999e+07	35866.9	1	0.00427588
QCDPt80to170bcToE	3.221e+06	1.49767e+07	35866.9	1	7713.81
QCDPt170to250bcToE	105771	9.72076e+06	35866.9	1	390.266
QCDPt250toInfbcToE	21094.1	9.77362e+06	35866.9	1	77.4105