

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	3.79043e+07	35866.9	1	0.0765989
SingleTt	136.02	6.72408e+07	35866.9	1	0.0725545
TTJetsslt	182.7	6.1974e+07	35866.9	1	0.105736
TTJetsslat	182.7	6.02104e+07	35866.9	1	0.108833
TTJetsdl	88.2877	3.04447e+07	35866.9	1	0.104012
WJets	61526.7	8.67318e+07	35866.9	1.21	30.7868
DYJetsToLL10to50	18610	5.1885e+07	35866.9	1	12.8647
DYJetsToLL50toInf	5765.4	8.17811e+07	35866.9	1	2.52855
TGJets	2.967	368562	35866.9	1	0.288736
TTGJets	3.697	1.57783e+06	35866.9	1	0.0840393
TTWJetshu	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	8.9978e+06	35866.9	1	0.199298
WZ	47.13	3.87106e+06	35866.9	1	0.436678
ZZ	16.523	1.9881e+06	35866.9	1	0.298089
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	3.58418e+07	35866.9	1	350.246
QCDPt120To170EMEnr	62964	3.58173e+07	35866.9	1	63.0513
QCDPt170To300EMEnr	18810	1.15402e+07	35866.9	1	58.4617
QCDPt300ToInfEMEnr	1350	7.37363e+06	35866.9	1	6.56669
QCDPt20ToInfMuEnr	302672	2.20941e+07	35866.9	1	491.35