

Table 1: Background MC Summary

Sample Name	xSec(pb)	NEvt	Lumi(pb^{-1})	k Factor	Weight
SingleTs	3.354	1.24586e+07	59740.6	1	0.0160828
SingleTtWantitop	35.6	7.58818e+06	59740.6	1	0.280273
SingleTtWtop	35.6	9.55391e+06	59740.6	1	0.222607
SingleTtantiTop	26.3087	7.42271e+07	59740.6	1	0.0211742
SingleTttop	44.2065	1.44095e+08	59740.6	1	0.0183277
TTTo2L2Nu	88.29	6.37915e+07	59740.6	1	0.0826834
TTToHadronic	377.96	1.32726e+08	59740.6	1	0.170122
TTToSemiLeptonic	365.34	1.00729e+08	59740.6	1	0.216677
WJets	50690	7.09664e+07	59740.6	1.21	51.6326
W1Jets	9493	5.10479e+07	59740.6	1.21	13.4425
W2Jets	3120	2.32728e+07	59740.6	1.21	9.69082
W3Jets	942.3	1.44929e+07	59740.6	1.21	4.6999
W4Jets	524.2	1.00623e+07	59740.6	1.21	3.76576
DYJetsToLL10to50	18610	3.93608e+07	59740.6	1.21	34.1773
DYJetsToLLM50	4895	1.00114e+08	59740.6	1.18	3.44673
DY1JetsToLLM50	1016	1.06804e+08	59740.6	1.18	0.670591
DY2JetsToLLM50	331.4	2.04411e+07	59740.6	1.18	1.14288
DY3JetsToLLM50	96.36	5.6466e+06	59740.6	1.18	1.20299
DY4JetsToLLM50	51.4	2.81248e+06	59740.6	1.18	1.28832
TGJets	2.967	374278	59740.6	1	0.473579
TTGJets	3.697	1.84239e+06	59740.6	1	0.119878
TTWJetslnu	0.2043	2.6861e+06	59740.6	1	0.00454377
TTZJets2l2nu	0.2529	6.27405e+06	59740.6	1	0.00240808
WminusH	0.03369	1.87456e+06	59740.6	1	0.00107367
WplusH	0.053	1.83824e+06	59740.6	1	0.00172244
ZH	0.04865	6.62435e+06	59740.6	1	0.000438741
WW	118.7	7.85e+06	59740.6	1	0.903338
WZ	47.13	3.885e+06	59740.6	1	0.724729
ZZ	16.523	1.979e+06	59740.6	1	0.498784
WWW	0.2086	210100	59740.6	1	0.0593141
WWZ	0.1651	219910	59740.6	1	0.0448509
WZZ	0.05565	219250	59740.6	1	0.0151633
ZZZ	0.01398	214282	59740.6	1	0.00389754
QCDPt80To120EMEnr	350000	9.64879e+06	59740.6	1	2167.03
QCDPt120To170EMEnr	62964	9.96414e+06	59740.6	1	377.504
QCDPt170To300EMEnr	18810	3.71217e+06	59740.6	1	302.712
QCDPt300ToInfEMEnr	1350	2.90136e+06	59740.6	1	27.7973
QCDPt80to120MuEnrPt5	106034	2.56523e+07	59740.6	1	246.938
QCDPt120to170MuEnrPt5	25190.5	633668	59740.6	1	2374.9
QCDPt170to300MuEnrPt5	8654.49	3.59785e+07	59740.6	1	14.3704
QCDPt300to470MuEnrPt5	797.353	492418	59740.6	1	96.7355
QCDPt470to600MuEnrPt5	79.0255	492716	59740.6	1	9.58165
QCDPt600to800MuEnrPt5	25.0951	1.6619e+07	59740.6	1	0.0902097
QCDPt800to1000ext3MuEnrPt5	4.70737	2.31239e+07	59740.6	1	0.0121615
QCDPt1000toInfMuEnrPt5	1.62132	1.07198e+07	59740.6	1	0.00903547