

Source	Uncertainty	Contribution to:		Applies to samples:
	Uncertainty	Cut-based	NN	
Diboson cross section	50%		✓	VV only
Rare top quark process cross sections	50%		✓	$t\bar{t}V$, $t\bar{t}\bar{t}$
Higgs boson cross section	50%		✓	H only
W+jets cross section	15%	✓	✓	W+jets only
Z+jets cross section	15%		✓	Z+jets only
Integrated luminosity measurement	2.5%	✓	✓	All simulation
Pileup reweighting	$\pm 1\sigma$	✓	✓	All simulation
Jet energy scale	$\pm 1\sigma(p_T, \eta)$	✓	✓	All simulation
Jet energy resolution	$\pm 1\sigma(\eta)$	✓	✓	All simulation
Parton distribution functions	$\pm 1\sigma$	✓	✓	$t\bar{t}$, VLQ
Renormalization and factorization scales	$\pm 1\sigma$	✓	✓	$t\bar{t}$, VLQ
CSVv2 discriminant reshaping	$\delta(\text{wgt.}, \text{unwgt.})$		✓	All simulation
BEST classification fractions	$\pm 1\sigma(p_T)$		✓	QCD multijet
BEST classification scale factor	5%		✓	All simulation
BEST misclassification scale factor	5%		✓	All simulation
Trigger	2%	✓		All simulation
W tag scale factor	$\pm 1\sigma$	✓		All simulation
Soft drop jet mass scale	$\pm 1\sigma$	✓		All simulation
Soft drop jet mass resolution	$\pm 1\sigma$	✓		All simulation
b tag scale factor	$\pm 1\sigma$	✓		All simulation
Extrapolation fit	$\pm 1\sigma$	✓		Background from data
Normalization of 1Wbackground prediction	1.9%	✓		Background from data
Normalization of 2Wbackground prediction	1.1%	✓		Background from data