

Systematic uncertainty source	Type (shape or normalization)	Relative size (or description)
QCD transfer factor	both	profile $a_{kl}$ and QCD normalization
Luminosity	normalization	2.5%
V-tag ( $N_2^{1,DDT}$ ) efficiency	normalization	4.3%
Muon veto efficiency	normalization	0.5%
Electron veto efficiency	normalization	0.5%
Trigger efficiency	normalization	4%
Muon ID efficiency	shape	up to 0.2%
Muon isolation efficiency	shape	up to 0.1%
Muon trigger efficiency	shape	up to 8%
$t\bar{t}$ normalization SF	normalization	from $1\mu$ CR: 8%
$t\bar{t}$ double-b mis-tag SF	normalization	from $1\mu$ CR: 15%
W/Z NLO QCD corrections	normalization	10%
W/Z NLO EWK corrections	normalization	15% – 35%
W/Z NLO EWK ratio decorrelation	normalization	5% – 15%
double-b tagging efficiency	normalization	4%
Jet energy scale	normalization	up to 10%
Jet energy resolution	normalization	up to 15%
Jet mass scale	shape	shift $m_{SD}$ peak by $\pm 0.4\%$
Jet mass resolution	shape	smear $m_{SD}$ distribution by $\pm 9\%$
Jet mass scale $p_T$	normalization	0.4%/100 GeV ( $p_T$ )
Monte Carlo statistics	normalization	-
H $p_T$ correction (gluon fusion)	both	30%