

Source	Typical input uncertainty size
PDF uncertainties (including α_S)	25–100% mass shape variations
NNLO QCD + NLO EWK PDF corrections	$\approx 10\%$ mass shape variations
Factorization and renormalization scale	$\approx 1\text{--}3\%$ mass shape variations
Final state radiation	$\approx 40\%$ on radiation rate
Initial state radiation	$\approx 10\%$ on radiation rate
Pileup	$\pm 4.6\%$ on total inelastic pp cross section
Top quark background	$\approx 1\%$ (from control sample studies)
b tagging for top quark veto	$\approx 3\%$ on top quark contribution
Diboson background	10%
Muon momentum scale	$\Delta(1/m_{\mu\mu}) \approx 1\% [\text{TeV}^{-1}]$
Electron energy scale	1–2% on the reconstructed mass
Muon momentum resolution	10% of nominal resolution