

Source of uncertainty	signal ($m_H = 120$ GeV)		$t\bar{t}$		non- $t\bar{t}$		QCD multijet	
	2 b-tag	3 b-tag	2 b-tag	3 b-tag	2 b-tag	3 b-tag	2 b-tag	3 b-tag
$t\bar{t}$ cross section	6.5	20	6.5	20				
Top quark mass	5 (s)	5 (s)	5 (s)	5 (s)				
$t\bar{t}$ p_T reweighting	(s)	(s)	(s)	(s)				
NLO-vs-LO shape (Powheg-vs-MadGraph)	8.5–9.0 (s)	7.6–8.8 (s)	8.3–8.5 (s)	8.0 (s)				
PYTHIA–MADGRAPH $p_T(t\bar{t})$ difference	(s)	(s)						
ME-PS matching			0.6–0.8 (s)	0.8–1.4 (s)				
Renormalization and factorization scales	4.0–4.2 (s)	6.8–7.2 (s)	1.3–1.7 (s)	1.3–2.0 (s)				
Jet energy scale (JES)	4.6–5.3 (s)	5.0–5.9 (s)	3.4 (s)	3.3 (s)	7.5–9.6 (s)	0.9–2.8 (s)		
Flavour-dependent JES (b quark)	0.3–0.4 (s)	0.2–0.6 (s)	0.1 (s)	9.0 (s)	0.1–0.7 (s)	0.5–0.9 (s)		
Flavour-dependent JES (udsc,g)	0.9–1.2 (s)	0.4–0.6 (s)	1.0 (s)	9.0 (s)	3.1–4.1 (s)	1.1–1.8 (s)		
Jet energy resolution	0.1–0.2 (s)	0.2–0.8 (s)	0.3 (s)	0.4 (s)	1.1 (s)	1.5 (s)		
B-tag scale factor for b/c quark jets	1.2–2.1	5.6–5.8	3.6	5.7	2.9–3.0	4.0–4.4		
Mis-tag scale factor for light quark jets	0.1–0.2	0.2–0.7	0.2	0.3–0.7	0.7–1.3	0.3–0.4		
Pileup reweighting	≈ 0.5							
Electron scale factor (e+jets)	2.0							
Muon scale factor (μ +jets)	2.0							
Luminosity	2.6							
Data driven prediction								Shift anti-Iso _{rel} region (s)