

Systematic source	Channel				
	$e\tau_h$	$\mu\tau_h$	$\tau_h\tau_h$	$e\mu$	$\mu\mu$
Normalization					
Integrated luminosity			1.2–2.5%		
Electron ident.	2%	—	—	2%	—
Electron trigger	2%	—	—	—	—
Muon ident.	—	2%	—	2%	2%
Muon trigger	—	2%	—	2%	2%
τ_h trigger	—	—	10%	—	—
e misident. as τ_h rate	12%	—	12%	—	—
μ misident. as τ_h rate	—	25%	25%	—	—
p_T^{miss} scale			Up to 4%		
QCD multijet normalization	—	—	—	20%	20%
Z + jets cross section	20% in $\geq 1b$, 3% otherwise				
$t\bar{t}$ cross section	5.5%				
W + jets cross section	—	—	—	6%	6%
Diboson cross section	6%				
Single top quark cross section	5.5%				
FF norm., 0b	3.0%	2.5%	2.2%	—	—
FF norm., $\geq 1b$	2.5%	1.8%	1.7%	—	—
FF norm., 0j, $200 < m_{\text{vis}} < 400$ GeV	1.4%	1.1%	0.3%	—	—
FF norm., 0j, $400 < m_{\text{vis}} < 600$ GeV	3.9%	3.1%	3.0%	—	—
FF norm., 0j, $m_{\text{vis}} > 600$ GeV	4.0%	3.6%	3.0%	—	—
Jet energy scale	5% in 0j				
Shape					
τ_h ident. efficiency	± 1 s.d. in SF			—	—
τ_h energy scale	± 1 s.d. on the energy scale			—	—
μ misident. as τ_h energy scale	$\pm 1\%$ on the energy scale			—	—
e misident. as τ_h energy scale	± 1 s.d. on the energy scale			—	—
FF shape variations	Syst. shape variations			—	—
b tagging efficiency	± 1 s.d. in b tagging SFs				
b tagging mistag rate	± 1 s.d. in b tagging SFs				
Jet energy scale	± 1 s.d. in SF in 0b, $\geq 1b$				
Jet energy resolution	± 1 s.d. in SF in 0b, $\geq 1b$				
PDF variations	Envelope of PDF variations				
μ_R & μ_F variations	Envelope of scale variations				
Z p_T reweighting	Weight applied $\pm 50\%$				
Top p_T reweighting	(top p_T weight) ^p with $p = 5$ or -5				