

Uncertainty	Magnitude
$\tau_h$ ID	$p_T$ /decay-mode dependent (2–3%)
$\tau_h$ separation from $e/\mu$	3%
$e \rightarrow \tau_h$ ID	$\eta$ dependent (9–40%)
$\mu \rightarrow \tau_h$ ID	$\eta$ dependent (10–70)%
e ID	2%
$\mu$ ID	1%
b jet veto	0–10%
Luminosity	1.6%
Trigger	2% for $e/\mu$ , $p_T$ /decay-mode dep. for $\tau_h$ ( $\mathcal{O}(10\%)$ )
$t\bar{t}$ cross section	4.2%
Diboson cross section	5%
Single top cross section	5%
Drell-Yan cross section	2%
L1 trigger timing (2016 and 2017)	Event-dependent (0.2–15%)
$\mathcal{B}(H \rightarrow \tau\tau)$	2.1%
$\tau_h$ energy scale	Decay-mode dependent (0.2–1.2%)
$e \rightarrow \tau_h$ energy scale	Decay-mode dependent (1–7%)
$\mu \rightarrow \tau_h$ energy scale	1%
Electron energy scale	$p_T/\eta$ dependent ( $< 1.25\%$ )
Muon energy scale	$\eta$ dependent 0.4–2.7%
Jet energy scale	$p_T/\eta$ dependent ( $\sim 0.5$ –14%)
Jet energy resolution	$\eta$ dependent (2–95%)
$p_T^{\text{miss}}$ unclustered energy scale	Event-dependent ( $\sim 0$ –20%)
$p_T^{\text{miss}}$ recoil corrections	0.3–5.8%
Jet $\rightarrow \tau_h$ mis-ID	Event-dependent ( $\mathcal{O}(10\%)$ )
QCD multijet in the $e\mu$ channel	Event-dependent ( $\mathcal{O}(20\%)$ )
Embedded yield	4%
$t\bar{t}$ in embedded	10%
Signal theoretical uncertainty	Event-dependent (up to $\sim 25\%$ )
Top $p_T$ reweighting	$p_T$ dependent (0–21%)
DY $p_T$ -mass reweighting	$p_T$ /mass dependent (0–11%)