

Source of uncertainty	Magnitude	Process
	Experimental uncertainties	
$\tau_h$ id.	2–4%	All simulations
$\tau_h$ energy scale <sup>†</sup>	0.5–1.5%	All simulations
electron energy scale <sup>†</sup>	1–2%	All simulations
e id. & isolation	1.5–4.5%	All simulations
e trigger	2%	All simulations
$\mu$ id. & isolation	1.5–4.5%	All simulations
$\mu$ trigger	2%	All simulations
<i>b</i> -tag uncertainties	1–4% (heavy flavor) 5–10% (light flavour)	All simulations
$\vec{p}_T^{\text{miss}}$ unclustered energy scale <sup>†</sup>	2–4%	All simulations
Jet energy scale <sup>†</sup>	1–3%	All simulations
Jet energy resolution <sup>†</sup>	< 1%	All simulations
Limited statistics of MC events	bin-by-bin unc.	All simulations
Integrated luminosity	< 2%	All simulations
Uncertainties in reducible background estimate		
		misidentified $\tau$ leptons (data-driven estimate)
statistics in AR	20–40%	( <i>b</i> -tag category)
	10–20%	(no <i>b</i> -tag category)
nonclosure of method	30%	$e\tau_h$ channel
	20%	$\mu\tau_h$ channel
	20%	$\tau_h\tau_h$ channel
Theoretical uncertainties in background estimate		
qq $\rightarrow$ ZZ cross section	5%	qq $\rightarrow$ ZZ
gg $\rightarrow$ ZZ cross section	10%	gg $\rightarrow$ ZZ
gg $\rightarrow$ ZZ NNLO <i>K</i> factor estimate	10%	gg $\rightarrow$ ZZ
t $\bar{t}$ Z cross section	25%	t $\bar{t}$ Z
triboson cross section	25%	triboson
Theoretical uncertainty in $\mathcal{B}(h \rightarrow \tau\tau)$	<2%	gg $\rightarrow$ A, $b\bar{b}A$ , Higgs bkg.
PDFs	1.3–3.6%	Higgs bkg.
$\mu_F$ and $\mu_R$ scales	1–8%	Higgs bkg.
Theoretical uncertainties in signal estimate (applied in MSSM interpretation)		
signal cross section		
( $\mu_F, \mu_R$ scale, PDFs, $\alpha_S$ )	5–20% (10–25%)	gg $\rightarrow$ A ( $b\bar{b}A$ )