

Source of uncertainty	Magnitude	Process
Experimental uncertainties		
τ_h id. [†]	2–10%	all simulations
μ trigger	2%	all simulations
μ id. & isolation	1.5–4.5%	all simulations
e trigger	2%	all simulations
e id. & isolation	1.5–4.5%	all simulations
limited MC event count	bin-by-bin uncertainties	all simulations
τ_h energy scale [†]	0.5–1.5%	all simulations
integrated luminosity	<2%	all simulations
e energy scale [†]	1–2%	all simulations
b jet identification efficiency	1–4%	all simulations
b jet misidentification rate	5–10%	all simulations
jet energy scale [†]	1–3%	all simulations
\vec{p}_T^{miss} unclustered energy scale [†]	1–3%	all simulations
jet energy resolution [†]	<1%	all simulations
Uncertainties in reducible background estimate		
		misidentified τ leptons
normalization uncertainty	30%	$e\tau_h$ channel
	20%	$\mu\tau_h$ channel
	20%	$\tau_h\tau_h$ channel
event count in AR	20–40%	(<i>b-tag</i> category)
	10–20%	(<i>no b-tag</i> category)
Theoretical uncertainties in background estimate		
$q\bar{q} \rightarrow ZZ$ normalization	5%	$q\bar{q} \rightarrow ZZ$
$gg \rightarrow ZZ$ normalization	15%	$gg \rightarrow ZZ$
$t\bar{t}Z$ normalization	25%	$t\bar{t}Z$
triboson normalization	25%	triboson
μ_F and μ_R scales	1–8%	Higgs bkg.
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.
Theoretical uncertainties in the signal estimate (applied in the MSSM interpretation)		
signal cross section		
$(\mu_F, \mu_R \text{ scale, PDFs, } \alpha_S)$	5–20% (10–25%)	$gg \rightarrow A (b\bar{b}A)$