

Uncertainty	Process	Magnitude
Luminosity	All simulations	1.6%
DY cross section	DY	2%
Inclusive diboson cross section	WW, WZ, ZZ	5%
e ID, iso, trigger	All simulations	up to 2%
e ID low- $N_{\text{tracks}}$ correction	All simulations	1%
$\mu$ ID, iso, trigger	All simulations	<2%
$\tau_h$ ID	All simulations	1–5%
$\tau_h$ trigger	All simulations	up to 5%
$e \rightarrow \tau_h$ mis-ID	Z/ $\gamma^* \rightarrow ee$ and $\gamma\gamma \rightarrow ee$	<10%
$\mu \rightarrow \tau_h$ ID	Z/ $\gamma^* \rightarrow \mu\mu$ and $\gamma\gamma \rightarrow \mu\mu$	<10%
$\tau_h$ energy scale	All simulations	<1.2%
$e \rightarrow \tau_h$ energy scale	Z/ $\gamma^* \rightarrow ee$ and $\gamma\gamma \rightarrow ee$	<5%
$\mu \rightarrow \tau_h$ energy scale	Z/ $\gamma^* \rightarrow \mu\mu$ and $\gamma\gamma \rightarrow \mu\mu$	<1%
$\tau_h$ ID low- $N_{\text{tracks}}$ correction	All simulations	2.1%
e ID low- $N_{\text{tracks}}$ correction	All simulations	2.0%
$e \rightarrow \tau_h$ ID low- $N_{\text{tracks}}$ correction	Z/ $\gamma^* \rightarrow ee$ and $\gamma\gamma \rightarrow ee$	22%
$\mu \rightarrow \tau_h$ ID low- $N_{\text{tracks}}$ correction	Z/ $\gamma^* \rightarrow \mu\mu$ and $\gamma\gamma \rightarrow \mu\mu$	15%
$N_{\text{tracks}}^{\text{PU}}$ reweighting	All simulations	2%
$N_{\text{tracks}}^{\text{HS}}$ reweighting	DY and inclusive VV	1.5–6.5%
Acoplanarity correction	DY	5%
DY extrapolation from $N_{\text{tracks}} < 10$	DY simulation	1.4–2.0%
$\mu_R, \mu_f$	DY simulation	Shape
PDF	DY simulation	Shape
jet $\rightarrow \tau_h$ MF, extrapolation with $p_T^{\tau_h}$	jet $\rightarrow \tau_h$ mis-ID bkg.	<50%
jet $\rightarrow \tau_h$ MF, $N_{\text{tracks}}$ extrapolation (stat.)	jet $\rightarrow \tau_h$ mis-ID bkg.	6–18%
jet $\rightarrow \tau_h$ MF, inversion of CR selection	jet $\rightarrow \tau_h$ mis-ID bkg.	<10%
jet $\rightarrow \tau_h$ MF, $x^{\text{QCD}}$ fraction	jet $\rightarrow \tau_h$ mis-ID bkg.	9%
jet $\rightarrow \tau_h$ MF, $N_{\text{tracks}}$ extrapolation (syst.)	jet $\rightarrow \tau_h$ mis-ID bkg.	<10%
jet $\rightarrow e/\mu$ OS-to-SS (stat.)	jet $\rightarrow e/\mu$ mis-ID bkg.	<20%
jet $\rightarrow e/\mu$ OS-to-SS (syst.)	jet $\rightarrow e/\mu$ mis-ID bkg.	10%
jet $\rightarrow e/\mu$ OS-to-SS $N_{\text{tracks}}$ extrapolation	jet $\rightarrow e/\mu$ mis-ID bkg.	8%
Elastic rescaling (stat.)	$\gamma\gamma \rightarrow \tau\tau/\mu\mu/ee, WW$	1.3–3.7%
Elastic rescaling (syst., shape)	$\gamma\gamma \rightarrow \tau\tau/\mu\mu/ee, WW$	Mass-dependent
Limited statistics	All processes	Bin-dependent
Pileup reweighting	All simulations	Event-dependent