

Uncertainty (%)	Signal	Misidentified $\tau_h$	DY+jets	Top quark	Other SM
$\tau_h$ efficiency	5–13	—	5–15	1–14	10–51
$e/\mu$ efficiency ( $\ell\tau_h$ )	2–3	—	2–3	2–3	2–3
$\tau_h$ energy scale	0.5–12	—	2.6–27	1.2–11	4.1–13
$e/\mu$ energy scale ( $\ell\tau_h$ )	0.1–25	0.1–5	0.1–30	0.1–20	0.1–10
Jet energy scale	0.5–38	—	1.1–19	0.6–13	2.4–14
Jet energy resolution	0.3–22	—	1.9–10	0.7–22	0.2–11
Unclustered energy	0.3–21	—	2.6–30	0.2–6.4	1.7–14
b tagging	0.2–0.9	—	0.2–23	1.7–25	0.2–1.2
Pileup	0.9–9.1	—	2–22	0.1–24	0.3–25
BDT distribution ( $\ell\tau_h$ )	9	—	9	9	9
$\ell \rightarrow \tau_h$ misidentification rate ( $\ell\tau_h$ )	—	—	—	1	1
Integrated luminosity	2.3–2.5	—	2.3–2.5	2.3–2.5	2.3–2.5
Background normalization	—	10	5–15	2.5–15	15–25
DY+jets mass and $p_T$	—	—	0.2–11	—	—
$\tau_h$ misidentification rate	—	4.6–51	—	—	—
Signal ISR	0.2–8.2	—	—	—	—
Renormalization and factorization scales	1.6–7	—	0.7–14	0.7–30	6.7–16
PDFs	—	—	0.1–1.2	0.1–0.4	0.1–0.6