

Sources	B or S	Effect on	Magnitude	Nuisance parameters
Parton shower + selection bias for $W, \mathit{R}^{\ell\text{q}}$	B+S	Shape+rate	—	4 for deep-W (deep-WH) \times LL, LH
Parton shower + selection bias for t^2	B	Shape+rate	—	2(+4) for deep-W (deep-WH) LL, LH (LL, ..., HH)
Parton shower + selection bias for $t^{3,4}, \mathit{R}^{3\text{q},4\text{q}}$	B+S	Shape+rate	—	4 for deep-W (deep-WH) \times HL, HH
Parton shower + selection bias for q/g	B	Shape+rate	—	2(+4) for deep-W (deep-WH) LL, LH (LL, ..., HH)
Proxy uncertainty for $\mathit{R}^{\ell\text{q}}$	S	Rate	10–35%	2, for deep-W (deep-WH)
Proxy uncertainty for $\mathit{R}^{3\text{q},4\text{q}}$	S	Rate	12–43%	2, for deep-W (deep-WH)
Proxy uncertainty for unmatched	S	Rate	100%	2, for deep-W (deep-WH)
High- p_T extrapolation for W	S	Rate	100%	2, for deep-W (deep-WH)
High- p_T extrapolation for $\mathit{R}^{\ell\text{q}}$	S	Rate	23–30%	2, for deep-W (deep-WH)
High- p_T extrapolation for $\mathit{R}^{3\text{q}}$	S	Rate	16–34%	2, for deep-W (deep-WH)
High- p_T extrapolation for $\mathit{R}^{4\text{q}}$	S	Rate	24–33%	2, for deep-W (deep-WH)
QCD multijet normalization	B	Rate	5–40%	5, common for SR4,5
$t\bar{t}$ normalization	B	Rate	15–30%	5, common for SR4,5
Other background normalization	B	Rate	30%	5, common for SR4,5
m_{jj}, m_{jjj} tail shape	B	Shape	—	6, one for each SR
$t\bar{t}$ shape	B	Shape	—	6, one for each SR
Pileup and integrated luminosity	S	Rate	1.7%	1, common for all SRs
PDFs, renormalization and factorization scales	S	Rate	1.4%	1, common for all SRs
Jet energy scale and resolution	S	Shape	—	2, common for all SRs
Jet mass scale	S	Shape	—	1, common for all SRs