

| Uncertainty source | Signal/Background process | Variation (%) | Correlation |
|---|---------------------------------------|---------------|-------------|
| Integrated Luminosity | Signal/Rare/Non- $Z\gamma$ conversion | 2.3–2.5 | No |
| Lepton reconstruction, identification, and isolation efficiency | Signal/Background* | 4–5 | No |
| Lepton displacement efficiency (only in 3L) | Signal/Background* | 3–5 | Yes |
| Trigger efficiency | Signal/Background* | <3 | No |
| b tagging efficiency | Signal/Background* | <5 | No |
| Pileup modeling | Signal/Background* | <3 | Yes |
| Factorization/renormalization scales & PDF | Signal/Background* | <10 | Yes |
| Jet energy scale | Signal/Background* | <5 | Yes |
| Unclustered energy scale | Signal/Background* | <5 | Yes |
| Muon energy scale and resolution | Signal/Background* | <5 | Yes |
| Electron energy scale and resolution | Signal/Background* | <2 | Yes |
| WZ normalization (0/1/2/ ≥ 3 jets) | WZ | 5–10 | Yes |
| ZZ normalization (0/1/ ≥ 2 jets) | ZZ | 5–10 | Yes |
| $t\bar{t}Z$ normalization | $t\bar{t}Z$ | 15–20 | Yes |
| Conversion normalization | Conversion | 20–50 | Yes |
| Rare normalization | Rare | 50 | Yes |
| Lepton misidentification rates | Misidentified lepton | 30–40 | Yes |
| Electron charge misidentification | WZ/ZZ [†] | <20 | No |

*WZ, ZZ, $t\bar{t}Z$, rare, and conversion background processes.

[†]Only in 3L OSSF0, 4L OSSF0, and 4L OSSF1 signal regions.