Source of uncertainty Implementation on simulated signal sample Integrated luminosity Normalization shift by  $\pm 2.5\%$ Statistical uncertainty Normalization shift by  $\pm 1$  s.d. Correction factor varied by  $\pm 1$  s.d. **Jet correction Jet resolution** Jet resolution shift by  $\pm 1$  s.d. b tagging SF SF varied by  $\pm 1$  s.d. Lepton efficiency SF SF varied by  $\pm 1$  s.d. pp inelastic cross section shifted by  $\pm 4.6\%$  [41] Pileup Smoothing parameter  $\rho$  varied over range [1.17, 1.66] Modeling PDF uncertainty Generator parameter varied by  $\pm 1$  s.d. Scale uncertainty Generator parameter varied by  $\pm 1$  s.d.