

|                           |              | Uncertainty         | Variation | Effect on the measured cross section |
|---------------------------|--------------|---------------------|-----------|--------------------------------------|
| Normalization             | Uncorrelated | $t\bar{t}$          | 3.5%      | 3.8%                                 |
|                           |              | Single top          | 5.4%      | 2.5%                                 |
|                           |              | W+udscg             | 13.2%     | <2%                                  |
|                           |              | W+c $\bar{c}$       | 13.2%     | <2%                                  |
|                           |              | Diboson             | 8.1%      | <2%                                  |
|                           |              | Drell–Yan           | 7.9%      | <2%                                  |
|                           |              | $\gamma$ +jets      | 10.0%     | <2%                                  |
|                           |              | QCD                 | 50%       | 2–3%                                 |
| Shape                     | Correlated   | b tag eff rescaling | 8.4%      | 9.2%                                 |
|                           |              | JES rescaling       | 0–6%      | 3.8%                                 |
|                           |              | UES                 | 0–3%      | <2%                                  |
|                           |              | MES                 | 0–3%      | <2%                                  |
|                           |              | EES                 | 0–3%      | <2%                                  |
|                           |              | Id/Iso/Trg          | 0–4%      | <2%                                  |
| Luminosity                |              |                     | 2.6%      |                                      |
| Scales ( $\mu_R, \mu_F$ ) |              |                     | 10%       |                                      |
| PDF choice                |              |                     | 1%        |                                      |