

|                                 | Correlations         |                      |
|---------------------------------|----------------------|----------------------|
|                                 | $\rho_{\text{chan}}$ | $\rho_{\text{year}}$ |
| Experimental uncertainties      |                      |                      |
| Method calibration              | 0                    | 0                    |
| JEC: Intercalibration           | 1                    | 1                    |
| JEC: In situ calibration        | 1                    | 1                    |
| JEC: Uncorrelated non-pileup    | 0                    | 1                    |
| Lepton energy scale             | 1                    | 1                    |
| $E_T^{\text{miss}}$ scale       | 1                    | 1                    |
| Jet energy resolution           | 1                    | 1                    |
| b tagging                       | 1                    | 1                    |
| Pileup                          | 0                    | 1                    |
| Non-tt̄ background (data)       | 0                    | 0                    |
| Non-tt̄ background (simulation) | 1                    | 1                    |
| Trigger                         | 0                    | 0                    |
| Modeling of hadronization       |                      |                      |
| JEC: Flavor-dependent           | 1                    | 1                    |
| b jet modeling                  | 1                    | 1                    |
| Modeling of perturbative QCD    |                      |                      |
| PDF                             | 1                    | 1                    |
| Ren. and fact. scales           | 1                    | 1                    |
| ME-PS matching threshold        | 1                    | 1                    |
| ME generator                    | 1                    | 1                    |
| Top quark $p_T$                 | 1                    | 1                    |
| Modeling of soft QCD            |                      |                      |
| Underlying event                | 1                    | 1                    |
| Color reconnection modeling     | 1                    | 1                    |