

| ATLAS Internal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | BTag_B_0 | 100.0 | 0.0 | 0.0 | -0.0 | 0.0 | -0.0 | 0.0 | 0.1 | 0.0 | -0.0 | -0.0 | 0.0 | -0.0 | -0.0 | 0.0 | -0.0 | 0.1 | 0.0 | 0.5 | -0.1 | -0.0 | -0.0 | 0.1 | -0.1 | -0.1 | -0.1 | -0.7 | -0.2 | -0.1 | 8.4 | 7.7 | 9.3 | 11.1 | 10.7 | 7.5 | 2.7 | | | | | | | | | | | | | |
| | | 0.0 | 100.0 | 0.2 | 0.2 | -0.0 | 0.4 | 0.1 | 0.2 | -0.5 | 0.5 | 0.4 | 0.5 | 0.2 | -0.6 | 0.3 | 0.3 | -1.2 | 0.1 | -6.1 | -0.7 | 0.6 | 1.5 | -0.2 | 0.3 | 1.0 | 5.3 | 1.1 | 2.4 | 10.0 | 1.5 | 7.5 | 7.3 | 6.8 | 6.5 | 6.7 | | | | | | | | | | | | | | |
| | BTag_Light_0 | 0.0 | 0.2 | 100.0 | -0.0 | -0.0 | -0.2 | -0.0 | 0.1 | 0.1 | -0.3 | -0.1 | 0.0 | -0.0 | 0.2 | -0.1 | -0.1 | 0.2 | -0.0 | 2.8 | -0.2 | -0.2 | -0.8 | -0.0 | 0.0 | 0.0 | -0.2 | -0.7 | -0.3 | -0.9 | -5.4 | -5.4 | -7.9 | -11.1 | -7.3 | -6.7 | | | | | | | | | | | | | | |
| | | -0.0 | 0.2 | -0.0 | 100.0 | 0.0 | -0.1 | -0.0 | -0.1 | 0.1 | -0.0 | -0.1 | -0.1 | -0.0 | 0.1 | -0.1 | -0.1 | 0.2 | -0.0 | 0.8 | 0.1 | -0.1 | -0.2 | 0.0 | -0.1 | -0.2 | -1.2 | -0.2 | -0.5 | -13.4 | -6.7 | -10.5 | -10.7 | -10.6 | -8.2 | -4.3 | | | | | | | | | | | | | | |
| | EG_SCALE_ALL | 0.0 | -0.0 | -0.0 | 0.0 | 100.0 | -0.0 | -0.0 | 0.0 | -0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -0.0 | 0.0 | 0.0 | -0.0 | -0.0 | -0.2 | -0.0 | 0.0 | -0.1 | -0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | -6.4 | -7.6 | -12.1 | -12.5 | -10.1 | -5.1 | -1.8 | | | | | | | | | | | | | | |
| | | -0.0 | 0.4 | -0.2 | -0.1 | -0.0 | 100.0 | 0.0 | 0.3 | 0.2 | -0.6 | -0.2 | -0.0 | -0.1 | 0.3 | -0.1 | -0.1 | 0.8 | -0.2 | 5.1 | 0.2 | -0.5 | -1.4 | 0.2 | -0.1 | -0.5 | -2.9 | -0.8 | -1.0 | -3.0 | -8.9 | -12.8 | -13.9 | -10.7 | -7.3 | -4.1 | | | | | | | | | | | | | | |
| | Electron_Iso_SF_0 | 0.0 | 0.1 | -0.0 | -0.0 | -0.0 | 0.0 | 100.0 | -0.3 | 0.0 | 0.2 | -0.0 | -0.2 | -0.0 | 0.1 | -0.0 | -0.0 | -0.0 | 0.0 | -0.8 | 0.2 | 0.1 | 0.1 | -0.1 | -0.0 | -0.1 | -0.4 | 0.0 | -0.3 | 8.0 | -9.3 | -11.3 | -12.0 | -9.0 | -8.3 | -4.5 | | | | | | | | | | | | | | |
| | | 0.1 | 0.2 | 0.1 | -0.1 | 0.0 | 0.3 | -0.3 | 100.0 | 0.3 | 1.6 | -0.2 | -1.0 | -0.1 | 0.2 | -0.2 | -0.2 | -0.2 | 0.4 | -4.4 | 0.1 | 0.5 | 1.2 | -0.2 | -0.3 | -0.4 | -1.6 | -0.0 | -1.7 | -29.2 | -11.9 | -13.6 | -10.0 | -10.0 | -7.2 | -3.4 | | | | | | | | | | | | | | |
| | JET_BJES_Response | 0.0 | -0.5 | 0.1 | 0.1 | -0.0 | 0.2 | 0.0 | 0.3 | 100.0 | 0.0 | 0.3 | 0.4 | 0.1 | -0.4 | 0.2 | 0.2 | -0.8 | 0.0 | 3.9 | -0.1 | 0.3 | 0.9 | -0.2 | 0.3 | 0.7 | 3.9 | 1.0 | 1.8 | 5.9 | 8.4 | 10.9 | 10.6 | 8.4 | 4.3 | -0.1 | | | | | | | | | | | | | | |
| | | -0.0 | 0.4 | -0.2 | -0.1 | -0.0 | 100.0 | 0.0 | 0.3 | 0.2 | -0.6 | -0.2 | -0.0 | -0.1 | 0.3 | -0.1 | -0.1 | 0.8 | -0.2 | 5.1 | 0.2 | -0.5 | -1.4 | 0.2 | -0.1 | -0.5 | -2.9 | -0.8 | -1.0 | -3.0 | -8.9 | -12.8 | -13.9 | -10.7 | -7.3 | -4.1 | | | | | | | | | | | | | | |
| | JET_EffectiveNP_Modelling1 | 0.0 | 0.1 | -0.0 | -0.0 | -0.0 | 0.0 | 100.0 | -0.3 | 0.0 | 0.2 | -0.0 | -0.2 | -0.0 | 0.1 | -0.0 | -0.0 | -0.0 | 0.0 | -0.8 | 0.2 | 0.1 | 0.1 | -0.1 | -0.0 | -0.1 | -0.4 | 0.0 | -0.3 | 8.0 | -9.3 | -11.3 | -12.0 | -9.0 | -8.3 | -4.5 | | | | | | | | | | | | | | |
| | | 0.1 | 0.2 | 0.1 | -0.1 | 0.0 | 0.3 | -0.3 | 100.0 | 0.3 | 1.6 | -0.2 | -1.0 | -0.1 | 0.2 | -0.2 | -0.2 | -0.2 | 0.4 | -4.4 | 0.1 | 0.5 | 1.2 | -0.2 | -0.3 | -0.4 | -1.6 | -0.0 | -1.7 | -29.2 | -11.9 | -13.6 | -10.0 | -10.0 | -7.2 | -3.4 | | | | | | | | | | | | | | |
| | JET_Flavor_Composition | 0.0 | -0.5 | 0.1 | 0.1 | -0.0 | 0.2 | 0.0 | 0.3 | 100.0 | 0.0 | 0.3 | 0.4 | 0.1 | -0.4 | 0.2 | 0.2 | -0.8 | 0.0 | 3.9 | -0.1 | 0.3 | 0.9 | -0.2 | 0.3 | 0.7 | 3.9 | 1.0 | 1.8 | 5.9 | 8.4 | 10.9 | 10.6 | 8.4 | 4.3 | -0.1 | | | | | | | | | | | | | | |
| | | -0.0 | 0.5 | -0.3 | -0.0 | 0.0 | -0.6 | 0.2 | 1.6 | 0.0 | 100.0 | -0.1 | 0.6 | -0.0 | 0.5 | -0.1 | -0.1 | 1.1 | -0.4 | 10.2 | 1.1 | -1.2 | -2.7 | 0.3 | 0.2 | -0.5 | -2.6 | -0.5 | -0.3 | 3.1 | 4.0 | 3.9 | 3.8 | 5.0 | 0.8 | 0.9 | | | | | | | | | | | | | | |
| | JET_JER_EffectiveNP_4 | -0.0 | 0.4 | -0.1 | -0.1 | 0.0 | -0.2 | -0.0 | -0.2 | 0.3 | -0.1 | 100.0 | -0.3 | -0.1 | 0.2 | -0.1 | -0.2 | 0.6 | -0.1 | 2.9 | -0.0 | -0.2 | -0.7 | 0.1 | -0.2 | -0.5 | -2.8 | -0.8 | -1.3 | -4.3 | -6.1 | -10.3 | -9.9 | -7.3 | -5.5 | -2.6 | | | | | | | | | | | | | | |
| | | 0.0 | 0.5 | 0.0 | -0.1 | 0.0 | -0.0 | -0.2 | -1.0 | 0.4 | 0.6 | -0.3 | 100.0 | -0.1 | 0.2 | -0.2 | -0.2 | 0.5 | 0.1 | 0.6 | 0.1 | -0.1 | -0.1 | -0.1 | -0.3 | -0.7 | -3.1 | -0.6 | -2.0 | -25.0 | -18.1 | -26.7 | -26.0 | -21.7 | -14.2 | -6.8 | | | | | | | | | | | | | | |
| | Luminosity | -0.0 | 0.2 | -0.0 | -0.0 | 0.0 | -0.1 | -0.0 | -0.1 | 0.1 | -0.0 | -0.1 | -0.1 | 100.0 | 0.1 | -0.1 | -0.1 | 0.2 | -0.0 | 1.0 | 0.1 | -0.1 | -0.3 | 0.0 | -0.1 | -0.3 | -1.3 | -0.3 | -0.6 | -14.0 | -6.9 | -10.8 | -11.5 | -11.3 | -9.0 | -4.9 | | | | | | | | | | | | | | |
| | | -0.0 | -0.6 | 0.2 | 0.1 | -0.0 | 0.3 | 0.1 | 0.2 | -0.4 | 0.5 | 0.2 | 0.2 | 0.1 | 100.0 | 0.2 | 0.2 | -0.7 | -0.5 | -3.4 | -1.4 | 0.0 | 0.9 | -0.2 | 0.6 | 0.4 | 2.8 | 1.5 | 1.7 | 17.9 | 4.6 | 6.0 | 2.2 | -0.6 | 3.4 | 0.7 | | | | | | | | | | | | | | |
| | PileupRW | -0.0 | 0.3 | -0.1 | -0.1 | 0.0 | -0.1 | -0.0 | -0.2 | 0.2 | -0.1 | -0.1 | -0.2 | -0.1 | 0.2 | 100.0 | -0.1 | 0.4 | -0.0 | 2.2 | 0.2 | -0.2 | -0.4 | 0.0 | -0.2 | -0.3 | -1.8 | -0.5 | -0.9 | -29.2 | -4.4 | -8.1 | -8.1 | -8.5 | -7.3 | -4.3 | | | | | | | | | | | | | | |
| | | -0.0 | 0.3 | -0.1 | -0.1 | 0.0 | -0.1 | -0.0 | -0.2 | 0.2 | -0.1 | -0.2 | -0.2 | -0.1 | 0.2 | -0.1 | 100.0 | 0.5 | -0.1 | 2.4 | 0.1 | -0.2 | -0.5 | 0.0 | -0.2 | -0.4 | -2.3 | -0.5 | -1.0 | -28.0 | -8.5 | -13.8 | -14.3 | -14.3 | -11.6 | -6.5 | | | | | | | | | | | | | | |
| | Photon_ID | 0.1 | -1.2 | 0.2 | 0.2 | -0.0 | 0.8 | -0.0 | -0.2 | -0.8 | 1.1 | 0.6 | 0.5 | 0.2 | -0.7 | 0.4 | 0.5 | 100.0 | 0.3 | -10.5 | -0.9 | 1.0 | 2.3 | -0.7 | 0.7 | 1.9 | 9.8 | 2.4 | 3.8 | 3.1 | -2.9 | -3.1 | -2.9 | -3.7 | -1.6 | -1.0 | | | | | | | | | | | | | | |
| | | 0.0 | 0.1 | -0.0 | -0.0 | -0.0 | -0.2 | 0.0 | 0.4 | 0.0 | -0.4 | -0.1 | 0.1 | -0.0 | -0.5 | -0.0 | -0.1 | 0.3 | 100.0 | 2.2 | -0.4 | -0.5 | -0.7 | 0.0 | 0.2 | -0.3 | -1.2 | -0.2 | -0.2 | -6.6 | -16.8 | -22.8 | -25.9 | -24.7 | -16.7 | -5.2 | | | | | | | | | | | | | | |
| | Photon_effIso | 0.5 | -6.1 | 2.8 | 0.8 | -0.2 | 5.1 | -0.8 | -4.4 | -3.9 | 10.2 | 2.9 | 0.6 | 1.0 | -3.4 | 2.2 | 2.4 | -10.5 | 2.2 | 100.0 | 10.8 | 11.0 | 25.5 | -1.0 | -0.9 | 1.8 | 18.9 | 18.9 | 15.7 | 7.6 | -14.9 | -13.2 | 1.7 | 13.6 | 15.0 | -18.2 | | | | | | | | | | | | | | |
| | | -0.1 | -0.7 | -0.2 | 0.1 | -0.0 | 0.2 | 0.2 | 0.1 | -0.1 | 1.1 | -0.0 | 0.1 | 0.1 | -1.4 | 0.2 | 0.1 | -0.9 | -0.4 | 10.8 | 100.0 | -0.7 | -1.5 | -0.6 | 0.8 | 2.1 | 7.9 | -1.5 | 1.5 | -17.2 | 10.6 | -4.7 | -2.8 | 6.4 | -1.3 | 0.7 | | | | | | | | | | | | | | |
| | Wty_Herwig7 | -0.0 | 0.6 | -0.2 | -0.1 | 0.0 | -0.5 | 0.1 | 0.5 | 0.3 | -1.2 | -0.2 | -0.1 | -0.1 | 0.0 | -0.2 | -0.2 | 1.0 | -0.5 | 11.0 | -0.7 | 100.0 | -2.6 | 0.0 | 0.3 | -0.3 | -1.8 | -1.5 | -1.5 | 3.0 | -3.4 | -2.7 | -1.9 | -4.7 | -1.8 | 2.0 | | | | | | | | | | | | | | |
| | | -0.0 | 1.5 | -0.8 | -0.2 | -0.1 | -1.4 | 0.1 | 1.2 | 0.9 | -2.7 | -0.7 | -0.1 | -0.3 | 0.9 | -0.4 | -0.5 | 2.3 | -0.7 | 25.5 | -1.5 | -2.6 | 100.0 | 0.2 | -0.2 | -0.5 | -5.1 | -4.0 | -3.2 | 19.4 | -42.6 | -21.4 | 2.2 | -3.9 | 32.2 | -16.4 | | | | | | | | | | | | | | |
| | ttt_dec_Herwig7 | 0.1 | -0.2 | -0.0 | 0.0 | -0.0 | 0.2 | -0.1 | -0.2 | -0.2 | 0.3 | 0.1 | -0.1 | 0.0 | -0.2 | 0.0 | 0.0 | -0.7 | 0.0 | -1.0 | -0.6 | 0.0 | 0.2 | 100.0 | 0.3 | 0.7 | 3.4 | 0.5 | 0.7 | 0.2 | 1.7 | 0.4 | -1.9 | -10.3 | -7.6 | -11.7 | | | | | | | | | | | | | | |
| | | -0.1 | 0.3 | 0.0 | -0.1 | 0.0 | -0.1 | -0.0 | -0.3 | 0.3 | 0.2 | -0.2 | -0.3 | -0.1 | 0.6 | -0.2 | -0.2 | 0.7 | 0.2 | 0.9 | 0.8 | 0.3 | -0.2 | 0.3 | 100.0 | -0.9 | -4.8 | -0.6 | -1.3 | 5.8 | -2.6 | 4.0 | 4.2 | -6.9 | -4.1 | -12.0 | | | | | | | | | | | | | | |
| | ttt_dec_fsr | -0.1 | 1.0 | 0.0 | -0.2 | 0.0 | -0.5 | -0.1 | -0.4 | 0.7 | -0.5 | -0.5 | -0.7 | -0.3 | 0.4 | -0.3 | -0.4 | 1.9 | -0.3 | 1.8 | 2.1 | -0.3 | -0.5 | 0.7 | -0.9 | 100.0 | -10.5 | -1.6 | -3.7 | 3.0 | 1.3 | 1.4 | 0.7 | 1.6 | 0.6 | -6.5 | | | | | | | | | | | | | | |
| | | -0.7 | 5.3 | -0.2 | -1.2 | 0.1 | -2.9 | -0.4 | -1.6 | 3.9 | -2.6 | -2.8 | -3.1 | -1.3 | 2.8 | -1.8 | -2.3 | 9.8 | -1.2 | 18.9 | 7.9 | -1.8 | -5.1 | 3.4 | -4.8 | -10.5 | 100.0 | -9.7 | -18.4 | 10.8 | 5.6 | 4.6 | 4.3 | 5.4 | -9.9 | -40.6 | | | | | | | | | | | | | | |
| | ttt_dec_var3c | -0.2 | 1.1 | -0.7 | -0.2 | 0.0 | -0.8 | 0.0 | -0.0 | 1.0 | -0.5 | -0.8 | -0.6 | -0.3 | 1.5 | -0.5 | -0.5 | 2.4 | -0.2 | 18.9 | -1.5 | -1.5 | -4.0 | 0.5 | -0.6 | -1.6 | -9.7 | 100.0 | -4.0 | -28.8 | -7.1 | -11.1 | -13.8 | -17.7 | -24.1 | -10.4 | | | | | | | | | | | | | | |
| | | -0.1 | 2.4 | -0.3 | -0.5 | 0.1 | -1.0 | -0.3 | -1.7 | 1.8 | -0.3 | -1.3 | -2.0 | -0.6 | 1.7 | -0.9 | -1.0 | 3.8 | -0.2 | 15.7 | 1.5 | -1.5 | -3.2 | 0.7 | -1.3 | -3.7 | -18.4 | -4.0 | 100.0 | -31.3 | 2.0 | -0.4 | 0.9 | 0.7 | -9.8 | -12.2 | | | | | | | | | | | | | | |
| | Wty Norm | 8.4 | 10.0 | -0.9 | -13.4 | -6.4 | -3.0 | -8.0 | -29.2 | 5.9 | 3.1 | -4.3 | -25.0 | -14.0 | 17.9 | -29.2 | -28.0 | -3.1 | -8.6 | 7.6 | -17.2 | 3.0 | 19.4 | 0.2 | 5.8 | 3.0 | 10.8 | -28.8 | -31.3 | 100.0 | 4.6 | 18.0 | 21.8 | 26.0 | 38.0 | 16.2 | | | | | | | | | | | | | | |
| | | 7.7 | 1.5 | -5.4 | -6.7 | -7.6 | -8.9 | -9.3 | -11.9 | 8.4 | 4.0 | -6.1 | -18.1 | -6.9 | 4.6 | -4.4 | -8.5 | -2.9 | -16.8 | 14.9 | 10.6 | -3.4 | -42.6 | 1.7 | -2.6 | 1.3 | 5.6 | -7.1 | 2.0 | 4.6 | 100.0 | 33.3 | 27.3 | 26.7 | 4.3 | 16.3 | | | | | | | | | | | | | | |
| | Zy Norm | 9.3 | 7.5 | -5.4 | -10.5 | -12.1 | -12.8 | -11.3 | -13.6 | 10.9 | 3.9 | -10.3 | -26.7 | -10.8 | 6.0 | -8.1 | -13.8 | -3.1 | -22.8 | -13.2 | -4.7 | -2.7 | -21.4 | 0.4 | 4.0 | 1.4 | 4.6 | -11.1 | -0.4 | 18.0 | 33.3 | 100.0 | 37.1 | 35.4 | 18.8 | 16.2 | | | | | | | | | | | | | | |
| | | 11.1 | 7.3 | -7.9 | -10.7 | -12.5 | -13.9 | -12.0 | -10.0 | 10.6 | 3.8 | -9.9 | -26.0 | -11.5 | 2.2 | -8.1 | -14.3 | -2.9 | -25.9 | 1.7 | -2.8 | -1.9 | 2.2 | -1.9 | 4.2 | 0.7 | 4.3 | -13.8 | 0.9 | 21.8 | 27.3 | 37.1 | 100.0 | 34.2 | 29.6 | 12.8 | | | | | | | | | | | | | | |
| | Norm factor for ttt dec | 10.7 | 6.8 | -11.1 | -10.6 | -1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |