

|                           |       |               |       |       |                   |                        |                     |                        |                           |          |           |               |                  |
|---------------------------|-------|---------------|-------|-------|-------------------|------------------------|---------------------|------------------------|---------------------------|----------|-----------|---------------|------------------|
| $\mu$                     | 100.0 | -1.9          | 1.1   | -4.9  | 1.8               | -3.8                   | 0.5                 | -3.4                   | 1.8                       | 1.1      | -26.8     | 0.0           | 3.5              |
| ABCD electron             | -1.9  | 100.0         | 14.0  | 1.4   | -17.7             | -0.7                   | -17.6               | 1.2                    | -21.6                     | 6.2      | -0.0      | -5.8          | -4.0             |
| FSR                       | 1.1   | 14.0          | 100.0 | -5.5  | -11.6             | 12.9                   | -4.4                | -8.6                   | 9.6                       | 47.2     | 0.7       | 17.5          | -16.9            |
| ISR                       | -4.9  | 1.4           | -5.5  | 100.0 | -5.1              | -8.4                   | -3.3                | -2.6                   | -4.4                      | 1.1      | 0.2       | -23.7         | -8.3             |
| JET_BJES_Response         | 1.8   | -17.7         | -11.6 | -5.1  | 100.0             | 2.3                    | -31.8               | 3.3                    | -34.4                     | 8.8      | -0.3      | 0.0           | 1.1              |
| JET_Flavor_Composition    | -3.8  | -0.7          | 12.9  | -8.4  | 2.3               | 100.0                  | 0.8                 | -35.3                  | 2.7                       | 0.4      | 0.1       | -18.5         | -11.2            |
| JET_Pileup_OffsetMu       | 0.5   | -17.6         | -4.4  | -3.3  | -31.8             | 0.8                    | 100.0               | 1.0                    | -36.6                     | 6.9      | 0.5       | -4.4          | -0.5             |
| JET_Pileup_RhoTopology    | -3.4  | 1.2           | -8.6  | -2.6  | 3.3               | -35.3                  | 1.0                 | 100.0                  | 6.6                       | 7.0      | -0.2      | -11.7         | -8.4             |
| JET_SingleParticle_HighPt | 1.8   | -21.6         | 9.6   | -4.4  | -34.4             | 2.7                    | -36.6               | 6.6                    | 100.0                     | -0.9     | 0.1       | -3.6          | -1.4             |
| btag_B_0                  | 1.1   | 6.2           | 47.2  | 1.1   | 8.8               | 0.4                    | 6.9                 | 7.0                    | -0.9                      | 100.0    | 0.2       | -28.1         | 3.1              |
| signal PS                 | -26.8 | -0.0          | 0.7   | 0.2   | -0.3              | 0.1                    | 0.5                 | -0.2                   | 0.1                       | 0.2      | 100.0     | 0.5           | 0.2              |
| $t\bar{t}$ PS             | 0.0   | -5.8          | 17.5  | -23.7 | 0.0               | -18.5                  | -4.4                | -11.7                  | -3.6                      | -28.1    | 0.5       | 100.0         | -48.9            |
| $t\bar{t}$ hdamp          | 3.5   | -4.0          | -16.9 | -8.3  | 1.1               | -11.2                  | -0.5                | -8.4                   | -1.4                      | 3.1      | 0.2       | -48.9         | 100.0            |
|                           | $\mu$ | ABCD electron | FSR   | ISR   | JET_BJES_Response | JET_Flavor_Composition | JET_Pileup_OffsetMu | JET_Pileup_RhoTopology | JET_SingleParticle_HighPt | btag_B_0 | signal PS | $t\bar{t}$ PS | $t\bar{t}$ hdamp |