

| source / bin                        | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| PDF eigenvector 15                  | 0.0  | 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  | -0.1 | -0.1 |
|                                     | 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  | 0.0  | 0.0  |
| PDF eigenvector 16                  | 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  | 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  | 0.0  | 0.0  | 0.0  | 0.0  |
| PDF eigenvector 17                  | 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  | 0.0  | 0.0  |
|                                     | -0.1 | 0.0  | 0.0  | +0.1 | 0.0  | +0.1 | 0.0  | +0.1 | -0.1 | 0.0  | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 |
| PDF eigenvector 18                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | +0.1 | +0.1 |
|                                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 | -0.1 | -0.1 | -0.1 |
| PDF eigenvector 19                  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  | +0.1 | -0.1 | -0.1 | 0.0  | 0.0  | 0.0  | +0.1 | +0.1 | +0.1 |
|                                     | 0.0  | 0.0  | -0.1 | -0.1 | 0.0  | 0.0  | -0.1 | -0.2 | +0.1 | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 | -0.2 |
| PDF eigenvector 20                  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  | -0.1 | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  | -0.1 |
|                                     | 0.0  | 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  |
| PDF eigenvector 21                  | 0.0  | 0.0  | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | +0.1 | +0.1 | +0.1 |
|                                     | 0.0  | +0.1 | +0.1 | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 | -0.1 | -0.1 |
| PDF eigenvector 22                  | -0.1 | 0.0  | -0.1 | -0.1 | 0.0  | 0.0  | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | +0.2 | +0.2 | +0.2 | +0.1 |
|                                     | 0.0  | +0.1 | +0.1 | +0.1 | 0.0  | +0.1 | 0.0  | +0.1 | -0.1 | 0.0  | 0.0  | +0.1 | -0.2 | -0.2 | -0.2 | -0.1 |
| PDF eigenvector 23                  | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 | +0.1 | +0.1 | +0.1 | 0.0  | -0.2 | -0.2 | -0.2 | -0.2 |
|                                     | 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  | 0.0  | 0.0  |
| PDF eigenvector 24                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 | -0.1 |
|                                     | 0.0  | 0.0  | -0.1 | -0.1 | 0.0  | 0.0  | -0.1 | -0.1 | +0.1 | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | -0.1 |
| PDF eigenvector 25                  | +0.1 | -0.1 | -0.1 | -0.1 | 0.0  | -0.1 | 0.0  | -0.1 | +0.1 | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 |
|                                     | 0.0  | 0.0  | 0.0  | -0.1 | 0.0  | 0.0  | -0.1 | -0.2 | +0.1 | +0.1 | +0.1 | 0.0  | 0.0  | 0.0  | -0.1 | -0.2 |
| PDF eigenvector 26                  | 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  | 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  | 0.0  | 0.0  | 0.0  | 0.0  |
| PDF eigenvector 27                  | +0.1 | +0.1 | +0.1 | +0.1 | -0.1 | -0.2 | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | -0.1 | 0.0  | 0.0  | +0.1 |
|                                     | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | 0.0  |
| PDF eigenvector 28                  | 0.0  | 0.0  | 0.0  | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.1 |
|                                     | -0.1 | 0.0  | 0.0  | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | -0.1 | 0.0  | -0.1 | 0.0  | 0.0  | +0.1 | 0.0  | +0.1 |
| $\alpha_S$                          | +0.1 | +0.1 | +0.1 | +0.1 | -0.1 | -0.1 | 0.0  | 0.0  | +0.1 | 0.0  | 0.0  | +0.1 | -0.1 | 0.0  | -0.1 | 0.0  |
|                                     | -0.1 | 0.0  | -0.1 | -0.1 | 0.0  | +0.2 | 0.0  | 0.0  | -0.1 | 0.0  | -0.1 | -0.1 | +0.1 | +0.1 | 0.0  | 0.0  |
| $m_t^{\text{MC}}$                   | -1.4 | -2.0 | -1.8 | -0.9 | -0.2 | +0.1 | -0.1 | -0.9 | +0.8 | +1.1 | +0.6 | +0.3 | +2.0 | +2.3 | +1.3 | +0.9 |
|                                     | +1.1 | +1.6 | +2.1 | +1.1 | +0.2 | +0.2 | +0.6 | +1.1 | -0.7 | -1.0 | -0.9 | -0.2 | -2.3 | -2.3 | -1.5 | -1.2 |
| $\mu_{r,f}$                         | +1.1 | +0.8 | +0.5 | +1.2 | -0.3 | -0.8 | -0.5 | +1.1 | +0.3 | -0.2 | -0.5 | +0.6 | -1.2 | -0.5 | -0.9 | +0.8 |
|                                     | -1.3 | -1.0 | -0.7 | -1.8 | +0.3 | +0.8 | +0.6 | -1.4 | -0.1 | +0.3 | +0.7 | -1.2 | +1.4 | +0.9 | +1.2 | -1.0 |
| $h_{\text{damp}}$                   | -0.2 | -0.3 | +1.0 | -2.7 | -0.2 | -0.2 | +0.4 | -0.8 | +0.9 | 0.0  | -0.1 | +0.2 | -0.9 | +2.2 | -0.7 | -0.6 |
|                                     | -0.9 | -0.8 | +1.6 | -2.9 | -0.4 | +0.3 | +1.4 | +2.2 | 0.0  | +0.7 | -0.6 | -0.6 | -1.1 | +1.2 | 0.0  | -0.1 |
| PS ISR                              | -0.4 | -0.7 | +0.3 | +0.5 | -0.4 | +0.4 | +0.2 | -0.8 | +0.8 | +1.0 | -0.7 | +0.1 | -1.2 | +1.6 | -0.7 | -0.9 |
|                                     | -1.3 | -0.2 | +3.3 | -0.1 | -1.3 | +0.3 | +1.3 | +0.7 | -1.1 | +1.5 | +0.8 | +0.6 | -0.3 | -0.4 | -0.1 | +1.5 |
| PS FSR                              | -1.2 | +0.2 | +2.0 | +1.0 | -0.8 | +0.6 | +2.4 | +2.1 | -1.1 | +0.1 | +1.1 | +1.0 | -3.4 | +0.7 | -1.0 | +0.6 |
|                                     | +0.3 | -0.1 | -0.1 | -2.1 | -0.6 | +0.1 | -0.5 | -1.1 | -0.1 | +0.9 | +0.5 | -0.6 | +0.2 | +2.3 | -0.3 | -0.5 |
| UE tune                             | +0.2 | -1.0 | +0.5 | -0.9 | -0.2 | +0.3 | +1.0 | +1.1 | +0.2 | -0.3 | -0.8 | +0.3 | -0.8 | +1.7 | -1.5 | -0.3 |
|                                     | -0.6 | -0.6 | -1.0 | +1.3 | -0.1 | +0.6 | +1.1 | -0.8 | -0.1 | +1.0 | +0.6 | +0.2 | -1.8 | +0.8 | +0.2 | -0.7 |
| colour reconnection                 | -0.2 | -1.4 | +0.8 | +0.8 | +0.1 | -0.3 | +0.2 | -1.0 | +0.1 | +0.3 | +1.4 | -0.7 | 0.0  | +0.8 | -0.8 | +1.1 |
|                                     | +0.7 | -1.5 | -0.2 | -0.2 | +1.2 | -0.6 | -0.6 | -1.3 | +1.8 | -0.5 | -2.2 | -1.2 | +0.1 | +1.9 | -0.9 | -0.9 |
|                                     | -0.5 | -0.6 | +0.6 | -0.1 | -0.2 | +0.3 | +0.4 | -2.2 | +0.4 | +0.3 | 0.0  | +1.1 | +0.4 | +0.3 | 0.0  | +0.1 |
| fragmentation $b \rightarrow B$     | +0.5 | +0.7 | +1.2 | +0.6 | -0.3 | -0.2 | 0.0  | +0.2 | -0.5 | -0.1 | +0.1 | +0.3 | -1.2 | -0.3 | -0.3 | +0.2 |
|                                     | -0.3 | -0.3 | -0.6 | -0.3 | +0.1 | +0.1 | 0.0  | -0.1 | +0.2 | +0.1 | -0.1 | -0.1 | +0.6 | +0.3 | +0.2 | 0.0  |
|                                     | +0.1 | +0.1 | +0.2 | +0.1 | -0.1 | 0.0  | 0.0  | +0.1 | -0.1 | 0.0  | 0.0  | +0.1 | -0.2 | 0.0  | 0.0  | +0.1 |
|                                     | +0.7 | +1.0 | +1.2 | +1.4 | -0.4 | -0.2 | 0.0  | -0.2 | -0.5 | -0.2 | 0.0  | -0.1 | -1.0 | -0.6 | -0.2 | 0.0  |
| branching ratio $B \rightarrow \mu$ | -0.1 | -0.1 | -0.1 | -0.2 | +0.1 | +0.1 | 0.0  | +0.1 | 0.0  | +0.1 | +0.1 | 0.0  | -0.1 | -0.1 | -0.1 | 0.0  |
|                                     | +0.1 | +0.2 | +0.1 | +0.2 | -0.1 | -0.1 | -0.1 | 0.0  | -0.1 | -0.1 | -0.1 | 0.0  | +0.1 | +0.1 | +0.1 | +0.1 |