

CMS, 13 TeV, AK8 jets, forward dijet region, $88 < p_T^{\text{dijet}} < 120$ GeV
 Rivet 4.1.0, $\geq 100k$ events
 mcplots.cern.ch [arXiv:1306.3436]
 (CMS_2021_I1920187)

The top panel shows the differential event rate $\frac{1}{\lambda} \frac{dN}{dp_T d\lambda}$ on a logarithmic scale (from 10^{-6} to 10^0) versus the groomed multiplicity (from 0 to 80). The data points are from CMS (black squares). The theoretical predictions are from Herwig++ 2.7.1 default (orange dashed line with circles), Pythia 8.315 default (blue solid line with triangles), Pythia 8.315 vincia-default (cyan dash-dotted line with triangles), and Sherpa 2.2.9 default (red dotted line with diamonds).

The bottom panel shows the ratio of the groomed multiplicity distribution to the CMS distribution on a linear scale (from 0.5 to 2.5) versus the groomed multiplicity (from 0 to 80). The ratio is shown for the same models as the top panel. A horizontal line at 1.0 indicates the ratio of 1. The shaded regions represent the uncertainty: yellow for $0 < \text{groomed multiplicity} < 30$ and green for $30 < \text{groomed multiplicity} < 80$.

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