

Z+Jet

■ CMS
▲ Pythia 8.170 default

CMS_2021_11920187

The figure displays two panels related to groomed multiplicity (charged only) for CMS data and Pythia 8.170 default model.

Top Panel: Shows the distribution of groomed multiplicity (charged only) for CMS (black squares) and Pythia 8.170 default (blue line with triangles). The x-axis is labeled "groomed multiplicity (charged-only)" and ranges from 0 to 25. The y-axis is labeled "1 / dN / d lambda_0^0 (charged only) (CMS jet substructure)" and ranges from 0 to 400. The Pythia 8.170 default distribution is significantly higher than the CMS data, peaking around a multiplicity of 5.

Bottom Panel: Shows the ratio of the Pythia 8.170 default distribution to the CMS distribution. The x-axis is labeled "groomed multiplicity (charged-only)" and ranges from 0 to 25. The y-axis is labeled "Ratio to CMS" and ranges from 0.5 to 2. The ratio is shown as a green shaded region, with a yellow shaded region indicating the uncertainty. The ratio is generally close to 1, indicating a good fit, but shows some deviations at higher multiplicities.

Legend:

- CMS
- ▲— Pythia 8.170 default

Text:

Groomed multiplicity λ_0^0 (charged only) (CMS jet substructure)

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mcplots.cern.ch [arXiv:1306.3436]

Rivet 3.1.10, 400k events