

Z+Jet

The figure displays the groomed LHA distribution for CMS data and two Pythia 8.170 models. The top panel shows the distribution of groomed LHA values, with the CMS data (black squares) and the Pythia 8.170 default model (blue triangles) showing a peak around 0.15. The Pythia 8.170 tune-4cx model (orange squares) shows a slightly different distribution. The bottom panel shows the ratio of the Pythia 8.170 default model to the CMS data, with a green band indicating the ratio is within 10% of 1.0.

Top Panel: Groomed LHA Distribution

Y-axis: $\frac{1}{N} \frac{dN}{d\lambda_{0.5}^1}$ (left axis, 0 to 10000) and Rivet 3.1.10, $\geq 400k$ events (right axis, 0 to 20000).
 X-axis: groomed LHA (0 to 1).
 Legend:
 - CMS (black squares)
 - Pythia 8.170 default (blue triangles)
 - Pythia 8.170 tune-4cx (orange squares)

Bottom Panel: Ratio to CMS

Y-axis: Ratio to CMS (0.5 to 2).
 X-axis: groomed LHA (0 to 1).
 The plot shows a green band representing the ratio of the Pythia 8.170 default model to the CMS data, with a yellow band representing the ratio of the Pythia 8.170 tune-4cx model to the CMS data.

Rivet 3.1.10, $\geq 400k$ events

mcplots.cern.ch [arXiv:1306.3436]

2

0.5

groomed LHA