

Jets

The figure displays two panels comparing CMS data with Pythia models for groomed pTD2.

Top Panel: Shows the distribution of groomed pTD2 for CMS (black squares) and four Pythia models (red triangles, grey squares, orange squares, and blue triangles). The x-axis is labeled "groomed pTD2" and ranges from 0 to 1. The y-axis is labeled $\frac{1}{N} \frac{dN}{dp_T}$ and ranges from 0 to 1000. The CMS data shows a sharp peak at low pTD2 values, while the Pythia models show a broader distribution with a peak around pTD2 = 0.1.

Bottom Panel: Shows the ratio of the Pythia models to the CMS data. The x-axis is labeled "groomed pTD2" and ranges from 0 to 1. The y-axis is labeled "Ratio to CMS" and ranges from 0.5 to 2. The ratio is shown as a green shaded band, indicating the uncertainty or spread of the ratio. The ratio is generally close to 1, suggesting that the Pythia models are in good agreement with the CMS data.

Legend:

- CMS
- △ Pythia 6.428 370
- Pythia 6.428 391
- Pythia 6.428 default
- ▲ Pythia 8.308 default

Text:

Groomed $(p_T^D)^2 \lambda_0^2$ (CMS jet substructure)

CMS_2021_11920187

mcplots.cern.ch [arXiv:1306.3436]

Rivet 3.1.10, ≥ 2.7 M events

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2

0.5

groomed pTD2