

The figure displays two panels for dijet production in the forward region, defined by $408 < p_T^{\text{jets}} < 481$ GeV, using CMS data and two Pythia models.

Top Panel: The differential cross-section $\frac{1}{\sigma} \frac{dN}{dp_T} \frac{d\lambda}{d\lambda}$ is plotted on a logarithmic scale (y-axis, ranging from 10^{-2} to 10^3) against the groomed thrust λ (x-axis, ranging from 0 to 1). The data points are shown for CMS (black squares), Pythia 6.423 default (orange squares), and Pythia 8.201 default (blue triangles). The Pythia 8.201 default model shows a significantly higher cross-section than the other two models at higher λ values.

Bottom Panel: The ratio of the cross-section to the CMS data is plotted on a linear scale (y-axis, ranging from 0.5 to 2) against the groomed thrust λ (x-axis, ranging from 0 to 1). The ratio is shown for the same three models. The Pythia 8.201 default model (blue triangles) shows a ratio that is generally higher than 1, while the Pythia 6.423 default model (orange squares) shows a ratio that is generally lower than 1. A horizontal band between $\lambda \approx 0.2$ and $\lambda \approx 0.6$ is highlighted in yellow, indicating the region where the ratio is close to 1.

Legend:

- CMS
- Pythia 6.423 default
- ▲ Pythia 8.201 default

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