

Jets

The figure consists of two panels sharing a common x-axis labeled "groomed thrust" ranging from 0 to 1.

Top Panel: The y-axis is labeled $\frac{dN}{d\ln \lambda_2^1}$ and ranges from 10^3 to 10^5 . It shows the distribution of groomed thrust for three data series:

- CMS:** Represented by black squares, showing a sharp peak at low groomed thrust values (around 0.05) and then dropping to a low, flat baseline.
- Pythia 8.308 default:** Represented by blue triangles, showing a much higher peak at low groomed thrust values (around 0.05) and a broader distribution extending to higher groomed thrust values.
- Pythia 8.308 default-noCR:** Represented by grey triangles, showing a peak at low groomed thrust values (around 0.05) and a distribution that is slightly lower than the default model at higher groomed thrust values.

Bottom Panel: The y-axis is labeled "Ratio to CMS" and ranges from 0.5 to 2.0. It shows the ratio of the Pythia models to the CMS data.

- A horizontal line is drawn at a ratio of 1.0.
- A green shaded band represents the ratio of the Pythia 8.308 default model to the CMS data, which is mostly above 1.0.
- A yellow shaded band represents the ratio of the Pythia 8.308 default-noCR model to the CMS data, which is mostly below 1.0.

Text labels within the plot area include "Groomed thrust λ_2^1 (CMS jet substructure)" at the top, "CMS_2021_I1920187" in the middle of the top panel, and "Rivet 3.1.10, ≥ 2.6 M events" on the right side of the top panel.

■ CMS

▲ Pythia 8.308 default

Pythia 8.308 default-noCR

CMS_2021_I1920187

Rivet 3.1.10, $\geq 2.6\text{M}$ events

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5

groomed thrust

Ratio to CMS