

The figure displays two panels related to the groomed thrust distribution for AK8 jets in the central dijet region ($50 < p_{T}^{\text{jets}} < 65$ GeV) at CMS, 13 TeV.

Top Panel: Shows the differential cross-section $\frac{1}{\sigma} \frac{dN}{d\lambda} \frac{d\lambda}{dp_T}$ versus groomed thrust λ . The y-axis is logarithmic, ranging from 10^{-1} to 10^2 . The x-axis is linear, ranging from 0 to 1. Data points are shown for CMS (black squares) and three Monte Carlo models: Herwig++ 2.7.1 default (orange dashed line with circles), Herwig 7.2.1 default (green dashed line with squares), and Sherpa 2.2.9 default (red dotted line with diamonds). The CMS data points are generally higher than the model predictions at low λ .

Bottom Panel: Shows the ratio of the groomed thrust distribution to the CMS data, Ratio to CMS , versus groomed thrust λ . The y-axis is linear, ranging from 0.5 to 2.5. The x-axis is linear, ranging from 0 to 1. The ratio is shown for the same three Monte Carlo models. The Herwig++ 2.7.1 default model (orange) is generally higher than the CMS data, while the Herwig 7.2.1 default (green) and Sherpa 2.2.9 default (red) models are generally lower. Shaded regions (yellow for Herwig++, green for Herwig) indicate the uncertainty bands for the model predictions.

Source: (CMS_2021_I1920187)

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Rivet 4.1.0, $\geq 100\text{k}$ events

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5

groomed thrust