

Jets

Rivet 3.1.10, $\geq 2.1\text{M}$ events

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5

pTD2

The figure displays two panels related to the observable $(p_T^D)^2 \lambda_0^2$ (CMS jet substructure).

Top Panel: A line plot showing the distribution of the observable. The x-axis is $pTD2$ (ranging from 0 to 1). The y-axis is $1/N \frac{dN}{dpTD2}$ (ranging from 0 to 1000). The plot compares three models:

- CMS:** Black squares.
- Pythia 8.308 default:** Blue line with upward triangles.
- Pythia 8.308 default-noCR:** Grey line with upward triangles.

The Pythia models show a sharp peak around $pTD2 \approx 0.1$, while the CMS data is relatively flat. A label "CMS_2021_I1920187" is present near the Pythia curves.

Bottom Panel: A histogram showing the ratio of the Pythia models to the CMS data. The x-axis is $pTD2$ (ranging from 0 to 1). The y-axis is "Ratio to CMS" (ranging from 0.5 to 2.0). The histogram is colored green, with yellow bands indicating the uncertainty. A horizontal line is drawn at Ratio to CMS = 1.0.