

Jets

The figure displays two panels related to the distribution of p_{TD2} (charged-only) for CMS data and Pythia 6.425 models.

Top Panel: Shows the distribution of p_{TD2} (charged-only) for CMS data (black squares) and Pythia 6.425 models (orange triangles for ambt1, green circles for z2). The x-axis is p_{TD2} (charged-only) ranging from 0 to 1. The y-axis is $\frac{1}{N} \frac{dN}{dp_T d\ln \lambda_0^2}$ (charged only) (CMS jet substructure) ranging from 0 to 10000. The CMS data shows a sharp peak around $p_{TD2} \approx 0.15$. The Pythia 6.425 models show a broader distribution with a peak around $p_{TD2} \approx 0.2$.

Bottom Panel: Shows the ratio of the Pythia 6.425 models to the CMS data. The x-axis is p_{TD2} (charged-only) ranging from 0 to 1. The y-axis is Ratio to CMS ranging from 0.5 to 2.0. The ratio is generally close to 1, indicating good agreement between the models and the CMS data. The green shaded band represents the ratio range, and the yellow shaded band represents the uncertainty.

Pythia 6.425 z2

CMS 2021 11920187

Ratio to CMS

pTD2 (charged-only)

Rivet 3.1.10, $\geq 200k$ events

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5