

Jets

Rivet 3.1.10, $\geq 2.7\text{M}$ events

mcplots.cern.ch [arXiv:1306.3436]

2

0.5

pTD2

The figure displays two panels related to the CMS data and Pythia models for the process $(p_T^D)^2 \lambda_0^2$ (CMS jet substructure).

Top Panel: Shows the differential cross-section $\frac{dN}{dp_{TD2}}$ versus p_{TD2} (ranging from 0 to 1). The y-axis ranges from 0 to 10000. The data points (black squares) represent CMS measurements. Theoretical predictions are shown for various Pythia models:

- Pythia 6.428 345 (red dashed line with open circles)
- Pythia 6.428 346 (yellow dotted line with open squares)
- Pythia 6.428 370 (red solid line with open triangles)
- Pythia 6.428 default (orange dashed line with open squares)
- Pythia 8.308 default (blue solid line with solid triangles)

Bottom Panel: Shows the ratio of the theoretical predictions to the CMS data, Ratio to CMS , versus p_{TD2} (ranging from 0 to 1). The y-axis ranges from 0.5 to 2.0. The ratio is plotted for the same Pythia models as in the top panel. The ratio is generally close to 1.0, indicating good agreement between the models and the CMS data.