

Z+Jet

The figure displays two panels related to the groomed p_{TD2} distribution.

Top Panel: Shows the distribution of groomed p_{TD2} for CMS data (black squares) and four Pythia 6.428 models (Pythia 6.428 345, Pythia 6.428 370, Pythia 6.428 ambt1, and Pythia 6.428 z2). The x-axis is labeled "groomed p_{TD2} " and ranges from 0 to 1. The y-axis is labeled "1/N dN/dln(p_{TD2})" and ranges from 0 to 1000. The CMS data shows a sharp peak around 0.1. The Pythia models show a broader distribution with a peak around 0.15.

Bottom Panel: Shows the ratio of the Pythia models to the CMS data. The y-axis is labeled "Ratio to CMS" and ranges from 0.5 to 2.0. The x-axis is labeled "groomed p_{TD2} " and ranges from 0 to 1. The ratio is shown as a green band, indicating that the Pythia models generally predict a higher ratio than the CMS data, especially at low p_{TD2} .

Rivet 3.1.10, $\geq 2.8\text{M}$ events

mcplots.cern.ch [arXiv:1306.3436]

2

0.5

groomed pTD2