

Z+Jet

The figure displays the distribution of the groomed p_{TD2} observable for CMS data and various Pythia models. The top panel shows the distribution of groomed p_{TD2} for CMS data (black squares) and several Pythia models (various colored lines and markers). The bottom panel shows the ratio of the Pythia models to the CMS data, with a green band indicating the ratio is within 10% and a yellow band indicating it is within 20%.

Top Panel: Groomed p_{TD2} Distribution

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 plot shows the distribution of groomed p_{TD2} for CMS data (black squares) and several Pythia models (various colored lines and markers). The CMS data shows a sharp peak at low p_{TD2} values, while the Pythia models show a broader distribution with a peak around 0.1.

Bottom Panel: Ratio to CMS

The x-axis is labeled "groomed p_{TD2} " and ranges from 0 to 1. The y-axis is labeled "Ratio to CMS" and ranges from 0.5 to 2. The plot shows the ratio of the Pythia models to the CMS data. A green band indicates the ratio is within 10% (0.9 to 1.1), and a yellow band indicates the ratio is within 20% (0.8 to 1.2). The ratio is generally close to 1, indicating good agreement between the models and the CMS data.

Legend:

- CMS
- Pythia 6.428 345
- Pythia 6.428 346
- △--- Pythia 6.428 370
- Pythia 6.428 default
- ▲--- Pythia 8.308 default

Text in Plot:

Groomed $(p_T^D)^2 \lambda_0^2$ (CMS jet substructure)

CMS_2021_1920187

mcplots.cern.ch [arXiv:1306.3436]

Rivet 3.1.10, ≥ 2.1M events

mcplots.cern.ch [arXiv:1306.3436]

0.

groomed pTD2