

Z+Jet

Rivet 3.1.10, 400k events

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5

pTD2

The figure displays two panels comparing CMS data and the Pythia 8.170 default model for the ratio of the number of jets to the number of top quarks, N/N_{top} , as a function of the top quark transverse momentum, $p_{\text{TD}2}$.

Top Panel: Shows the distribution of N/N_{top} for CMS (black squares) and Pythia 8.170 default (blue triangles). The x-axis is $p_{\text{TD}2}$ (ranging from 0 to 1), and the y-axis is N/N_{top} (ranging from 0 to 1000). The Pythia 8.170 default distribution shows a sharp peak around $p_{\text{TD}2} \approx 0.1$, while the CMS data is relatively flat and low.

Bottom Panel: Shows the ratio of the Pythia 8.170 default distribution to the CMS distribution, labeled "Ratio to CMS". The x-axis is $p_{\text{TD}2}$ (ranging from 0 to 1), and the y-axis is the ratio (ranging from 0.5 to 2.0). The ratio is mostly between 0.5 and 1.5, with a green band indicating the ratio is between 0.5 and 1.5.

Labels in the figure include: $(p_{\text{TD}2})^2 \lambda_0^2$ (CMS jet substructure), CMS, Pythia 8.170 default, N/N_{top} , Ratio to CMS, and $p_{\text{TD}2}$.