

## Z+Jet

Figure 1 displays the distribution of the dimensionless variable  $(p_T^D)^2 \lambda_0^2$  (CMS jet substructure) for the CMS data and three Monte Carlo models. The top panel shows the distribution  $\frac{dN}{d\ln((p_T^D)^2 \lambda_0^2)}$  versus  $p_{TD2}$  (ranging from 0 to 1). The CMS data (black squares) shows a sharp peak around  $p_{TD2} \approx 0.1$ . The Monte Carlo models (Herwig 7.2.1 softTune, Pythia 6.428 370, and Pythia 8.308 default) show a broader distribution with a peak around  $p_{TD2} \approx 0.15$ . The bottom panel shows the ratio of the Monte Carlo models to the CMS data, with a yellow band indicating the ratio range and a green band indicating the ratio uncertainty. The ratio is generally close to 1, indicating good agreement between the models and the data.

mcplots.cern.ch [arXiv:1306.3436]

0.

pTD2