

Jets

Figure 1 consists of two panels. The top panel shows the normalized differential cross-section $\frac{d\sigma}{d\ln(\Delta E_T)}$ as a function of width for three Monte Carlo models: Herwig++ 2.6.1a default (orange dashed line with circles), Herwig 7.2.1 default (green dashed line with squares), and Pythia 8.308 default (blue solid line with triangles). The x-axis is 'width' ranging from 0 to 1. The y-axis is $\frac{d\sigma}{d\ln(\Delta E_T)}$ ranging from 0 to 1000. The bottom panel shows the ratio of these models to the CMS data (black squares) as a function of width. The x-axis is 'width' ranging from 0 to 1. The y-axis is 'Ratio to CMS' ranging from 0.5 to 2.0. The CMS data points are shown as black squares with error bars. The Herwig++ model is consistently lower than the CMS data, while the Herwig and Pythia models are closer to the CMS data. The ratio plot shows that the Herwig++ model is consistently below 1, while the Herwig and Pythia models are around 1.0.

CMS_2021_I1920187

Rivet 3.1.10, $\geq 400\text{k}$ events

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5

width