

Z+Jet

Figure 1 displays the multiplicity distribution of jets in CMS and Monte Carlo models. The top panel shows the distribution of the number of jets, N , as a function of multiplicity. The bottom panel shows the ratio of the Monte Carlo models to the CMS data.

Top Panel: Multiplicity λ_0^0 (CMS jet substructure)

The top panel shows the distribution of the number of jets, N , as a function of multiplicity. The x-axis is multiplicity (0 to 60), and the y-axis is $\frac{1}{N} \frac{dN}{d\lambda_0^0}$ (0 to 160). The CMS data (black squares) is compared with Herwig++ 2.6.3 default (orange dashed line with circles) and Herwig 7.2.1 default (green dashed line with squares). The Herwig 7.2.1 default model shows a peak at multiplicity 15, while the Herwig++ 2.6.3 default model shows a peak at multiplicity 10. The CMS data shows a peak at multiplicity 10.

Bottom Panel: Ratio to CMS

The bottom panel shows the ratio of the Monte Carlo models to the CMS data. The x-axis is multiplicity (0 to 60), and the y-axis is the ratio (0.5 to 2.0). The ratio is shown for Herwig++ 2.6.3 default (orange) and Herwig 7.2.1 default (green). The Herwig 7.2.1 default model shows a ratio of approximately 1.5 for multiplicities between 10 and 20, while the Herwig++ 2.6.3 default model shows a ratio of approximately 1.5 for multiplicities between 10 and 20. The ratio is approximately 1.0 for multiplicities greater than 20.

mcplots.cern.ch [arXiv:1306.3436]