

Jets

Figure 1 consists of two panels. The top panel is a line plot showing the normalized multiplicity distribution $\frac{1}{N} \frac{dN}{dp_T}$ as a function of multiplicity. The x-axis ranges from 0 to 100, and the y-axis ranges from 0 to 140. The plot compares CMS data (black squares) with three Monte Carlo models: Herwig++ 2.5.0 default (orange dashed line with open circles), Herwig 7.2.1 default (green dashed line with open squares), and Herwig 7.2.1 softTune (teal solid line with filled triangles). The CMS data shows a sharp peak at multiplicity 1, while the Monte Carlo models show a broader distribution with peaks around multiplicity 10-15. The bottom panel is a stacked histogram showing the ratio of the Monte Carlo models to the CMS data. The y-axis ranges from 0.5 to 2.0. The histogram is divided into two regions: a yellow region for ratios between 0.5 and 1.0, and a green region for ratios between 1.0 and 2.0. The yellow region is concentrated at low multiplicities (0-10), while the green region is concentrated at high multiplicities (10-100).

Rivet 3.1.10, $\geq 300k$ events

mcplots.cern.ch [arXiv:1306.3436]

2

1

10

multiplicity