

Z+Jet

Figure 1 consists of two panels. The top panel is a line plot showing the multiplicity distribution $\frac{1}{N} \frac{dN}{d\lambda_0}$ versus multiplicity λ_0 (CMS jet substructure). The x-axis ranges from 0 to 60, and the y-axis ranges from 0 to 240. The plot compares three models: CMS (black squares), Pythia 8.308 default (blue triangles), and Pythia 8.308 vincia-default (cyan inverted triangles). The CMS data points are very low, while the Pythia models show a peak around $\lambda_0 \approx 15$. The Pythia 8.308 default model has a higher peak than the vincia-default model. A horizontal line at $y \approx 15$ is labeled 'CMS_2021_11920187'. The bottom panel is a stacked histogram showing the ratio of the multiplicity distribution to the CMS distribution, $\frac{1}{N} \frac{dN}{d\lambda_0} / \left(\frac{1}{N} \frac{dN}{d\lambda_0} \right)_{\text{CMS}}$, versus multiplicity. The x-axis ranges from 0 to 60, and the y-axis ranges from 0.5 to 2. The histogram is divided into three regions: yellow (ratio < 1), green (ratio > 1), and white (ratio < 0.5). The ratio is generally higher for the Pythia models compared to the CMS data, especially in the region $\lambda_0 > 20$.

Rivet 3.1.10, $\geq 2.7\text{M}$ events

mcplots.cern.ch [arXiv:1306.3436]

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multiplicity