

Z+Jet

The figure displays two panels showing the ratio of the differential cross-section to the CMS result as a function of the longitudinal momentum fraction LHA .

Top Panel: The y-axis represents the differential cross-section $\frac{dN}{d\ln T}$ on a logarithmic scale, ranging from 10^0 to 10^5 . The x-axis represents LHA from 0 to 1.0. Three theoretical models are compared:

- Herwig 7.2.1 softTune (green line with downward triangles)
- Pythia 6.428 370 (red line with upward triangles)
- Pythia 8.308 default (blue line with upward triangles)

The data points show a peak around $LHA \approx 0.25$. The Pythia models show a higher peak than the Herwig model. The CMS data points are shown as black squares at the bottom of the plot.

Bottom Panel: The y-axis represents the ratio to CMS on a linear scale, ranging from 0.5 to 2.0. The x-axis represents LHA from 0 to 1.0. A green shaded band indicates the ratio to CMS, centered around 1.0. The ratio is generally close to 1.0, with some fluctuations.

Rivet 3.1.10, $\geq 2.2\text{M}$ events

mcplots.cern.ch [arXiv:1306.3436]

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0.

LHA