

The figure displays the groomed multiplicity distribution for CMS data and several Monte Carlo models. The top panel shows the distribution $\frac{1}{N} \frac{dN}{dp_T d\lambda}$ on a logarithmic scale versus groomed multiplicity. The bottom panel shows the ratio of the distribution to the CMS data on a linear scale, with shaded regions indicating the uncertainty bands for the models.

Top Panel: Groomed Multiplicity Distribution

Y-axis: $\frac{1}{N} \frac{dN}{dp_T d\lambda}$ (log scale, ranging from 10^{-6} to 1)

X-axis: groomed multiplicity (ranging from 0 to 80)

Legend:

- CMS
- Herwig 7.2.1 default
- ▲— Pythia 8.315 default
- - - ▼ - - - Pythia 8.315 vincia-default
- ...◆... Sherpa 2.2.9 default

Bottom Panel: Ratio to CMS

Y-axis: Ratio to CMS (linear scale, ranging from 0.5 to 2.5)

X-axis: groomed multiplicity (ranging from 0 to 80)

Legend:

- CMS
- Herwig 7.2.1 default
- ▲— Pythia 8.315 default
- - - ▼ - - - Pythia 8.315 vincia-default
- ...◆... Sherpa 2.2.9 default

Shaded regions in the bottom panel represent the uncertainty bands for the models.