

The figure displays two panels related to dijet production in the forward region at CMS, 13 TeV, using AK8 jets.

Top Panel: Shows the differential cross-section $\frac{1}{\sigma} \frac{dN}{dp_T} \frac{d\lambda}{d\lambda}$ on a logarithmic scale (y-axis, ranging from 10^{-2} to 10^2) versus p_{TD2} (charged-only) on a linear scale (x-axis, ranging from 0 to 1). The data points are shown for CMS (black squares), Pythia 8.301 default (blue triangles), and Sherpa 2.2.9 default (red diamonds). The cross-section decreases as p_{TD2} increases. The legend indicates: CMS (black square), Pythia 8.301 default (blue triangle), and Sherpa 2.2.9 default (red diamond). The text "(CMS_2021_I1920187)" is present in the plot area.

Bottom Panel: Shows the Ratio to CMS on a linear scale (y-axis, ranging from 0.5 to 2) versus p_{TD2} (charged-only) on a linear scale (x-axis, ranging from 0 to 1). The ratio is plotted for the same three models. The ratio starts high (around 1.8) for Pythia 8.301 default at low p_{TD2} and decreases towards 1. The ratio for Sherpa 2.2.9 default is closer to 1. The plot includes shaded regions (yellow and green) representing uncertainty bands and a horizontal line at 1.0.

(CMS_2021_I1920187)

mcplots.cern.ch [arXiv:1306.3436]

2

1

0.5

pTD2 (charged-only)