

The figure displays two panels related to the dijet invariant mass distribution in the CMS 13 TeV, AK4 jets, central dijet region, with $1000 < p_{T}^{\text{jets}} < 4000$ GeV.

Top Panel: Shows the differential event rate $\frac{1}{\text{dN}} \frac{dN}{dp_T} \frac{d\lambda}{d\lambda}$ on a logarithmic scale (from 10^{-3} to 10^3) versus the width of the distribution. The data points (black squares) represent CMS measurements. Theoretical predictions are shown for five different Pythia models: Pythia 6.428 346 (brown dashed line with open squares), Pythia 6.428 347 (green dashed line with open triangles), Pythia 6.428 348 (blue dashed line with open diamonds), Pythia 6.428 349 (red solid line with open circles), and Pythia 6.428 370 (purple solid line with open triangles). The distribution is generally decreasing as width increases.

Bottom Panel: Shows the ratio of the theoretical predictions to the CMS data, Ratio to CMS , on a linear scale (from 0.5 to 2.0). The ratio is plotted against the width. The ratio is generally close to 1.0, indicating good agreement between the models and the CMS data. The ratio for Pythia 6.428 370 (purple) is notably lower than the others, especially at higher widths. The ratio for Pythia 6.428 348 (blue) is notably higher than the others at the highest width shown.

Both panels include a horizontal line at $\text{Ratio to CMS} = 1.0$ and a shaded region (yellow and green) representing the uncertainty band. The x-axis for both panels is labeled "width" and ranges from 0 to 1.0.