

Z+Jet

The figure displays the differential cross-section $\frac{d\sigma}{dp_{TD2}}$ for the production of a top quark and a D meson, along with the ratio of the cross-section to the CMS data.

Top Panel: The y-axis represents the differential cross-section $\frac{d\sigma}{dp_{TD2}}$ in fb/GeV, ranging from 1000 to 10000. The x-axis represents p_{TD2} in GeV, ranging from 0 to 1. The plot shows the following data series:

- CMS:** Black squares representing experimental data points.
- Herwig++ 2.7.1 default:** Orange dashed line with open circles.
- Herwig 7.2.1 default:** Green dashed line with open squares.
- Pythia 8.308 default:** Blue solid line with open triangles.

The theoretical predictions show a peak around $p_{TD2} \approx 0.15$ GeV, while the CMS data points are relatively flat and lower in magnitude.

Bottom Panel: The y-axis represents the ratio of the cross-section to the CMS data, ranging from 0.5 to 2.0. The x-axis is the same as the top panel. The plot shows the ratio of the cross-section to the CMS data, with a horizontal line at 1.0 and a shaded region indicating the uncertainty.

The ratio is generally close to 1.0, indicating that the theoretical predictions are in good agreement with the CMS data.

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