

Z+Jet

Legend:

- Pythia 6.428 345
- Pythia 6.428 346
- Pythia 6.428 370
- Pythia 6.428 default

Figure 1: A plot showing the top-mathrm p_T differential cross-sections for the production of a top quark and a Z boson, followed by the decay of the Z boson into a muon pair. The x-axis is the top-mathrm p_T (GeV) on a logarithmic scale from 10 to 1000. The y-axis is the differential cross-section $\frac{d\sigma}{d\ln p_T}$ (fb/GeV) on a logarithmic scale from 10 to 10000. The plot compares the results of the present study (solid red line with markers) with the results of the CMS experiment (dashed red line with markers). The data points are shown for the full data set (black circles) and for the data set with the Z boson decaying into a muon pair (red triangles). The cross-sections are highest at low p_T and decrease as p_T increases. The present study results are in good agreement with the CMS results.