

13000 GeV pp

WW

 p_T^l (ATLAS WW)Rivet 4.1.0, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

(ATLAS_2019_I1734263)

Ratio to ATLAS

- ATLAS
- ▲ Pythia 8.315 default
- ✱ Pythia 8.315 tune-4c
- Pythia 8.315 tune-4cx

10^{-1}

10^{-2}

10^{-3}

10^{-4}

10^{-5}

10^{-6}

2

1

0.5

2

0

500

1000

The figure displays two panels related to WW production at 13000 GeV. The top panel shows the absolute cross-section in fb on a logarithmic scale (from 10^-6 to 10^-1) versus the lepton transverse momentum p_T^l in GeV (from 0 to 1000). Data points from ATLAS (black squares) are compared with Pythia 8.315 models: default (blue triangles), tune-4c (red stars), and tune-4cx (orange squares). The bottom panel shows the ratio of the cross-section to the ATLAS measurement on a linear scale (from 0.5 to 2.0). The ratio is plotted for the same models, with shaded regions indicating uncertainty bands. The ATLAS data point is at a ratio of 1.0. The Pythia 8.315 default model is generally lower than ATLAS, while the tune-4c and tune-4cx models are closer to or slightly above ATLAS at higher p_T^l.

p_T^l (GeV)	ATLAS	Pythia 8.315 default	Pythia 8.315 tune-4c	Pythia 8.315 tune-4cx
50	0.015	0.020	0.020	0.020
100	0.005	0.006	0.006	0.006
200	0.001	0.001	0.001	0.001
300	0.0002	0.0003	0.0004	0.0003
500	4e-05	6e-05	8e-05	6e-05
700	4e-06	6e-06	8e-06	6e-06

p_T^l (GeV)	Pythia 8.315 default	Pythia 8.315 tune-4c	Pythia 8.315 tune-4cx
50	0.9	0.9	0.9
100	1.1	1.1	1.1
200	1.3	1.3	1.3
300	1.4	1.8	1.4
500	1.5	1.6	1.6
700	1.7	1.7	1.8