

7000 GeV pp

Top (parton level)

 $|\Delta y|$ (ttbar) ($dy < 0$)Rivet 4.1.0, $\geq 49k$ events

mcplots.cern.ch [arXiv:2401.10621]

- Pythia 6.427 350
- Pythia 6.427 370
- Pythia 6.427 p0
- Pythia 6.427 p2010

(MC_FBA_TTBAR)

Ratio to Pythia 6.427 350

10²

10

1

10⁻¹

10⁻²

2

1

0.5

2

0

1

2

3

4

The figure displays two panels related to ttbar production at 7000 GeV pp. The top panel shows the cross-section $|\Delta y|$ (ttbar) ($dy < 0$) on a logarithmic scale (from 10⁻² to 10²) versus the rapidity difference $|\Delta y|$ (from 0 to 4). The bottom panel shows the ratio of the cross-section to Pythia 6.427 350 on a linear scale (from 0.5 to 2) versus $|\Delta y|$. The top panel includes data from Rivet 4.1.0 for $\geq 49k$ events and four Pythia 6.427 models: 350 (yellow squares), 370 (red triangles), p0 (black circles), and p2010 (dashed black squares). The bottom panel shows the ratio of these models to Pythia 6.427 350, with shaded regions indicating the uncertainty of the ratio.

$ \Delta y $	Pythia 6.427 350	Pythia 6.427 370	Pythia 6.427 p0	Pythia 6.427 p2010
0.2	35	35	35	35
0.5	30	30	30	30
1.0	25	25	25	25
1.5	15	15	15	15
2.0	8	8	8	8
2.5	3	3	3	3
3.0	0.8	0.8	0.8	0.8
3.5	0.2	0.2	0.2	0.2
4.0	0.04	0.04	0.04	0.04

$ \Delta y $	Ratio to Pythia 6.427 350
0.2	1.0
0.5	1.0
1.0	1.0
1.5	1.0
2.0	1.0
2.5	1.0
3.0	1.0
3.5	1.0
4.0	1.0