

7000 GeV pp

Jets

Gap fraction

Gap fraction vs Δy (LJ) ($120 < p_T < 150$)

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.301 default
- - ◆ Sherpa 1.4.3 default

2

1.8

1.6

1.4

1.2

1.0

0.8

0.6

0.4

0.2

0

ATLAS_2011_S9126244

Rivet 3.1.0, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

Ratio to ATLAS

2

1

0.5

2

1

0.5

0

2

4

6

$|\Delta y|$

The figure displays two panels comparing ATLAS experimental data with Monte Carlo models for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction as a function of the absolute rapidity difference $|\Delta y|$ (ranging from 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data, with a horizontal line at 1.0. The bottom panel also includes a stacked histogram representing the distribution of ratios for Herwig (green) and Pythia (yellow) models.

$ \Delta y $	ATLAS	Herwig 7.2.0	Pythia 8.301	Sherpa 1.4.3
0.3	0.95	0.95	0.95	0.95
0.8	0.85	0.88	0.85	0.80
1.3	0.72	0.75	0.72	0.72
1.8	0.62	0.62	0.62	0.65
2.3	0.55	0.62	0.50	0.52
2.8	0.50	0.50	0.50	0.48
3.3	0.45	0.35	0.45	0.40
3.8	0.45	0.38	0.45	0.45
4.3	0.30	0.30	0.30	0.32
4.8	0.28	0.32	0.32	0.22
5.3	0.30	0.68	0.30	0.35
5.8	0.18	0.35	0.35	0.50