

7000 GeV pp

Jets

Gap fraction

Gap fraction vs Δy (FB) ($210 < p_T < 240$ ($Q_0 = \bar{p}_T$))

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.201 default
- - ◆ Sherpa 1.4.3 default

2.5

2.0

1.5

1.0

0.5

0

ATLAS_2011_S9126244

Rivet 3.1.0, ≥ 100 k 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 consists of two vertically stacked panels sharing a common x-axis representing the absolute rapidity difference $|\Delta y|$ from 0 to 6. The top panel displays the 'Gap fraction' on the left y-axis (0 to 2.5) and the number of events on the right y-axis (0 to 100k). The bottom panel displays the 'Ratio to ATLAS' on the left y-axis (0.5 to 2) and the number of events on the right y-axis (0.5 to 2). Both panels show ATLAS data points (black squares) and three Monte Carlo model predictions: Herwig 7.2.0 (green dashed line with squares), Pythia 8.201 (blue solid line with triangles), and Sherpa 1.4.3 (red dotted line with diamonds). Error bars are included for all data points. A horizontal line is drawn at a ratio of 1.0 in the bottom panel. A shaded region in the bottom panel, colored yellow and green, highlights the area where the ratio to ATLAS is between 0.5 and 2.0 for $|\Delta y| > 4$.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.201 Gap Fraction	Sherpa 1.4.3 Gap Fraction	Ratio to ATLAS
0.5	1.0	1.0	1.0	1.0	1.0
1.0	0.95	0.95	0.95	0.95	1.0
1.5	0.95	0.95	0.95	0.95	1.0
2.0	0.9	0.9	0.9	0.9	1.0
2.5	0.85	0.85	0.85	0.85	1.0
3.0	0.8	0.8	0.9	0.8	1.1
3.5	0.6	0.6	0.6	0.85	0.8
4.0	0.65	0.65	0.55	0.45	0.95
4.5	0.45	0.4	1.0	0.5	1.15
5.0	0.3	-	1.0	-	2.1
5.5	0.0	-	1.0	-	-