

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 8.210 default
- - ◆ Sherpa 2.1.1 default

2.5

2

1.5

1

0.5

0

Rivet 3.1.0, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS_2011_S9126244

Ratio to ATLAS

2

1

0.5

2

1

0.5

0

2

4

6

$|\Delta y|$

0

The figure consists of two vertically stacked panels sharing a common x-axis representing the rapidity difference $|\Delta y|$ from 0 to 6. The top panel shows 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 shows 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 include data points with error bars for ATLAS (black squares), Herwig 7.2.0 (green dashed line with open squares), Pythia 8.210 (blue solid line with solid triangles), and Sherpa 2.1.1 (red dotted line with solid diamonds). A horizontal line is drawn at a ratio of 1.0 in the bottom panel. A shaded region in the bottom panel, colored in yellow and green, highlights the distribution of the ratio to ATLAS for $|\Delta y| > 4$.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.210 Gap Fraction	Sherpa 2.1.1 Gap Fraction	Ratio to ATLAS
0.5	1.0	1.0	1.0	1.0	1.0
1.0	0.95	0.95	1.0	0.95	1.0
1.5	0.95	0.95	0.95	0.95	1.0
2.0	0.9	0.85	0.9	0.9	1.0
2.5	0.85	0.85	0.85	0.8	1.0
3.0	0.8	0.75	0.8	0.75	1.0
3.5	0.8	0.65	0.85	0.65	1.0
4.0	0.7	0.65	1.0	0.6	1.0
4.5	0.45	0.4	0.75	1.0	1.0
5.0	0.3	0.4	0.5	1.0	1.0
5.5	0.0	-	-	1.0	1.0