

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.209 default
- - ◆ Sherpa 2.2.8 default

2.5

2

1.5

1

0.5

0

Rivet 3.1.0, ≥ 100 k 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

$|\Delta y|$

The figure displays two panels sharing a common x-axis representing the rapidity difference $|\Delta y|$ from 0 to 6. The top panel shows the gap fraction, with data points from ATLAS (black squares) and three Monte Carlo models: Herwig 7.2.0 (green dashed line with squares), Pythia 8.209 (blue solid line with triangles), and Sherpa 2.2.8 (red dotted line with diamonds). The bottom panel shows the ratio of the gap fraction to the ATLAS data, with the same data points and models. A histogram in the bottom panel shows the distribution of the ratio to ATLAS, with a horizontal line at 1.0. The histogram is colored in shades of green and yellow, indicating the distribution of the ratio to ATLAS.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.209 Gap Fraction	Sherpa 2.2.8 Gap Fraction
0.3	1.0	1.0	1.0	1.0
0.8	0.95	1.0	0.95	0.95
1.3	0.95	0.95	0.95	0.95
1.8	0.9	0.9	0.85	0.95
2.3	0.9	0.85	0.85	0.9
2.8	0.85	0.85	0.85	0.85
3.3	0.8	0.75	0.75	0.75
3.8	0.8	0.65	0.7	0.6
4.3	0.7	0.65	0.65	0.6
4.8	0.45	0.4	1.0	0.4
5.3	0.3	-	1.0	-
5.8	0.0	-	-	-