

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.170 default
- - ◆ Sherpa 1.4.0 default

2

1.5

1

0.5

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 sharing a common x-axis representing the absolute rapidity difference $|\Delta y|$ from 0 to 6. The top panel shows the gap fraction, with data points from ATLAS (black squares) and theoretical predictions from Herwig 7.2.0 (green dashed line with squares), Pythia 8.170 (blue solid line with triangles), and Sherpa 1.4.0 (red dotted line with diamonds). The bottom panel shows the ratio of the gap fraction to the ATLAS data, with a shaded region representing the uncertainty. The ATLAS data points in the bottom panel are black squares, and the theoretical predictions are the same as in the top panel.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Ratio	Pythia 8.170 Ratio	Sherpa 1.4.0 Ratio
0.5	1.0	1.0	1.0	1.0
1.0	0.95	0.95	0.95	1.0
1.5	0.9	0.9	0.9	0.95
2.0	0.85	0.85	0.85	0.9
2.5	0.8	0.8	0.8	0.85
3.0	0.75	0.75	0.75	0.8
3.5	0.7	0.65	0.7	0.75
4.0	0.65	0.65	0.65	0.7
4.5	0.45	0.45	0.35	0.45
5.0	0.35	-	-	-
5.5	0.0	-	-	-