

Gap fraction

Gap fraction vs Δy (FB) ($90 < p_T < 120$ ($Q_0 = \overline{p_T}$))

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.130.p1 default
- - ◆ Sherpa 1.4.0 default

2.5

2

1.5

1

0.5

0

2

1

0.5

Rivet 3.1.0, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS_2011_S9126244

Ratio to ATLAS

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 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 feature four data series: ATLAS (black squares), Herwig 7.2.0 (green dashed line with squares), Pythia 8.130.p1 (blue solid line with triangles), and Sherpa 1.4.0 (red dotted line with diamonds). Error bars are shown for all data points. The bottom panel also includes shaded regions: a light green band around a ratio of 1.0 and a yellow band around a ratio of 1.1. The text 'ATLAS_2011_S9126244' is centered in the top panel.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.130.p1 Gap Fraction	Sherpa 1.4.0 Gap Fraction	Ratio to ATLAS
0.3	1.0	1.0	1.0	1.0	1.0
0.8	0.95	0.95	0.95	0.95	1.0
1.3	0.9	0.9	0.9	0.95	1.0
1.8	0.9	0.9	0.9	0.95	1.0
2.3	0.85	0.85	0.85	0.95	1.0
2.8	0.8	0.8	0.8	0.85	1.0
3.3	0.8	0.8	0.85	0.8	1.0
3.8	0.75	0.75	0.6	0.8	1.0
4.3	0.75	0.75	0.75	0.8	1.0
4.8	0.7	0.7	0.55	0.85	1.0
5.3	0.6	0.45	0.85	1.0	1.8
5.8	0.55	0.2	1.0	1.0	2.0