

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- - ◆ Sherpa 1.4.1 default

2.5

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

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 y-axis (0 to 2.5). It features three data series: ATLAS (black squares), Herwig 7.2.0 default (green dashed line with open squares), and Sherpa 1.4.1 default (red dotted line with filled diamonds). All series show a general downward trend as $|\Delta y|$ increases, with ATLAS data points showing significant scatter and a sharp drop to zero at $|\Delta y| \approx 5.8$. The bottom panel shows the 'Ratio to ATLAS' on the y-axis (0.5 to 2.0). It uses the same color scheme for the data series. A horizontal line is drawn at a ratio of 1.0. The plot includes shaded regions: a light green band around the Herwig data and a light yellow band around the Sherpa data, indicating uncertainty or model spread. The ATLAS data points are also overlaid on this ratio plot. The text 'ATLAS_2011_S9126244' is centered in the top panel, and 'Rivet 3.1.0, $\geq 100k$ events' and 'mcplots.cern.ch [arXiv:1306.3436]' are on the right side.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Ratio	Sherpa 1.4.1 Ratio
0.3	1.0	1.0	1.0
0.7	1.0	1.0	1.0
1.3	0.95	0.95	1.0
1.7	0.95	0.95	1.0
2.3	0.9	0.85	1.0
2.7	0.85	0.85	1.0
3.3	0.8	0.75	0.9
3.7	0.8	0.65	1.0
4.3	0.7	0.7	1.3
4.7	0.45	0.4	1.3
5.3	0.3	-	1.0
5.8	0.0	-	-