

Gap fraction

Gap fraction vs Δy (FB) ($70 < p_T < 90$ ($Q_0 = \bar{p}_T$))

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.170 default

2

1.8

1.6

1.4

1.2

1.0

0.8

0.6

0.4

0.2

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

$|\Delta y|$

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 (0.2 to 2.0) and 'Rivet 3.1.0, $\geq 100k$ events' on the right y-axis. It displays three data series: ATLAS (black squares), Herwig 7.2.0 default (green dashed line with open squares), and Pythia 8.170 default (blue solid line with solid triangles). All series show a general downward trend from $|\Delta y| \approx 0.5$ to $|\Delta y| \approx 5.8$. The bottom panel shows the 'Ratio to ATLAS' on the left y-axis (0.5 to 2.0) and 'mcplots.cern.ch [arXiv:1306.3436]' on the right y-axis. It uses the same three data series, with the values clustered around 1.0. A light green shaded region is present in the bottom panel, centered around a ratio of 1.0.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.170 Gap Fraction	ATLAS Ratio to ATLAS	Herwig 7.2.0 Ratio to ATLAS	Pythia 8.170 Ratio to ATLAS
0.5	1.00	1.00	0.98	1.00	1.00	0.98
1.0	0.97	0.96	0.96	1.00	0.96	0.96
1.5	0.93	0.93	0.93	1.00	0.93	0.93
2.0	0.91	0.90	0.91	1.00	0.90	0.91
2.5	0.88	0.85	0.85	1.00	0.85	0.85
3.0	0.86	0.86	0.84	1.00	0.86	0.84
3.5	0.83	0.78	0.82	1.00	0.78	0.82
4.0	0.80	0.76	0.78	1.00	0.76	0.78
4.5	0.75	0.72	0.80	1.00	0.72	0.80
5.0	0.70	0.68	0.66	1.00	0.68	0.66
5.5	0.63	0.69	0.69	1.00	0.69	0.69
6.0	0.60	0.66	0.69	1.00	0.66	0.69