

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.205 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 comparing ATLAS experimental data with three Monte Carlo (MC) models for the gap fraction and its ratio to ATLAS as a function of the rapidity difference $|\Delta y|$. The top panel shows the gap fraction, and the bottom panel shows the ratio to ATLAS. The x-axis for both panels is $|\Delta y|$, ranging from 0 to 6. The y-axis for the top panel is the gap fraction, ranging from 0 to 2. The y-axis for the bottom panel is the ratio to ATLAS, ranging from 0.5 to 2. The ATLAS data is represented by black squares with error bars. The MC models are represented by different symbols and line styles: Herwig 7.2.0 default (green dashed line with open squares), Pythia 8.205 default (blue solid line with solid triangles), and Sherpa 1.4.0 default (red dotted line with solid diamonds). A shaded histogram in the bottom panel represents the ATLAS data distribution.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.205 Gap Fraction	Sherpa 1.4.0 Gap Fraction	ATLAS Ratio to ATLAS
0.5	1.0	1.0	1.0	1.0	1.0
1.0	0.95	1.0	1.0	1.0	1.0
1.5	0.95	0.95	0.95	0.95	1.0
2.0	0.9	0.9	0.9	0.9	1.0
2.5	0.85	0.85	0.85	0.85	1.0
3.0	0.8	0.8	0.8	0.8	1.0
3.5	0.8	0.75	0.85	0.75	1.0
4.0	0.7	0.65	1.0	0.7	1.0
4.5	0.45	0.4	0.7	0.45	0.9
5.0	0.3	0.4	0.5	0.3	1.4
5.5	0.0	-	-	-	-