

Gap fraction

Gap fraction vs Δy (FB) ($240 < p_T < 270$ ($Q_0 = \bar{p}_T$))

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.176 default
- - ◆ Sherpa 1.2.2p default

2.5

2.0

1.5

1.0

0.5

0

Rivet 3.1.0, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS_2011_S9126244

Ratio to ATLAS

2

1

0.5

2

1

0.5

0

2

4

6

$|\Delta y|$

The figure displays two panels. The top panel shows the gap fraction as a function of the absolute rapidity difference $|\Delta y|$ for ATLAS data and three Monte Carlo models. The bottom panel shows the ratio of the gap fraction to the ATLAS data for the same models. 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 2.5. The y-axis for the bottom panel is the ratio to ATLAS, ranging from 0.5 to 2.5. The ATLAS data is represented by black squares with error bars. The Monte Carlo models are represented by lines with markers: Herwig 7.2.0 (green dashed line, open squares), Pythia 8.176 (blue solid line, solid triangles), and Sherpa 1.2.2p (red dotted line, solid diamonds). The bottom panel also features a yellow and green shaded region representing uncertainty or comparison ranges.

$ \Delta y $	ATLAS (Gap Fraction)	Herwig 7.2.0 (Gap Fraction)	Pythia 8.176 (Gap Fraction)	Sherpa 1.2.2p (Gap Fraction)
0.5	1.0	1.0	1.0	1.0
1.0	0.95	0.95	0.95	0.95
1.5	0.95	0.95	0.95	0.95
2.0	0.9	0.9	0.9	0.9
2.5	0.85	0.85	0.9	0.85
3.0	0.8	0.8	0.75	0.8
3.5	0.75	0.85	0.85	0.75
4.0	0.7	0.7	0.7	0.85
4.5	0.55	0.45	1.0	0.75
5.0	0.4	-	-	0.5