

Gap fraction

Gap fraction vs Δy (LJ) ($240 < p_T < 270$)

- ATLAS
- - □ Herwig 7.2.0 default
- · · ◆ Sherpa 1.3.0 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 Herwig 7.2.0 and Sherpa 1.3.0 Monte Carlo models for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction as a function of the absolute rapidity difference $|\Delta y|$ (ranging from 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data, with shaded regions indicating the uncertainty bands for the Herwig (green) and Sherpa (yellow) models. A horizontal line at a ratio of 1.0 is shown for reference.

$ \Delta y $ bin	ATLAS Gap Fraction	Herwig 7.2.0 Ratio	Sherpa 1.3.0 Ratio
0.25 - 0.5	~0.95	~1.0	~1.0
0.5 - 0.75	~0.8	~0.95	~1.05
0.75 - 1.0	~0.65	~0.9	~0.95
1.0 - 1.25	~0.55	~0.85	~0.85
1.25 - 1.5	~0.45	~0.8	~0.8
1.5 - 1.75	~0.38	~0.75	~0.85
1.75 - 2.0	~0.32	~0.7	~0.7
2.0 - 2.25	~0.28	~0.65	~0.75
2.25 - 2.5	~0.25	~0.6	~0.7
2.5 - 2.75	~0.22	~0.55	~0.7
2.75 - 3.0	~0.2	~0.5	~0.7
3.0 - 3.25	~0.25	~0.55	~0.7
3.25 - 3.5	~0.3	~0.6	~0.7
3.5 - 3.75	~0.35	~0.65	~0.7
3.75 - 4.0	~0.32	~0.6	~0.7
4.0 - 4.25	~0.25	~0.5	~0.7
4.25 - 4.5	~0.2	~0.4	~0.7
4.5 - 4.75	~0.35	~0.7	~0.7
4.75 - 5.0	~0.35	~1.5	~1.5
5.0 - 5.25	~0.35	~1.8	~1.8
5.25 - 5.5	~0.35	~1.5	~1.5
5.5 - 5.75	~0.35	~1.2	~1.2
5.75 - 6.0	~0.0	~0.7	~0.7