

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.201 default
- - ◆ Sherpa 1.4.5 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 sharing a common x-axis representing the rapidity gap $|\Delta y|$ from 0 to 6. The top panel shows the gap fraction, which decreases from approximately 0.95 at $|\Delta y| = 0.5$ to about 0.35 at $|\Delta y| = 5.5$. The bottom panel shows the ratio of the gap fraction to the ATLAS measurement, which is mostly close to 1.0, with some deviations at larger $|\Delta y|$. The shaded regions in the bottom panel indicate the distribution of ratios for different Monte Carlo models.

$ \Delta y $	ATLAS (Gap Fraction)	Herwig 7.2.0 (Gap Fraction)	Pythia 8.201 (Gap Fraction)	Sherpa 1.4.5 (Gap Fraction)	Ratio to ATLAS (ATLAS)	Ratio to ATLAS (Herwig)	Ratio to ATLAS (Pythia)	Ratio to ATLAS (Sherpa)
0.5	0.95	0.95	0.95	0.95	1.0	1.0	1.0	1.0
1.0	0.80	0.80	0.80	0.80	1.0	1.0	1.0	1.0
1.5	0.65	0.65	0.65	0.60	1.0	1.0	1.0	0.9
2.0	0.55	0.55	0.55	0.55	1.0	1.0	1.0	1.0
2.5	0.45	0.45	0.45	0.45	1.0	1.0	1.0	1.0
3.0	0.38	0.38	0.38	0.40	1.0	1.0	1.0	1.1
3.5	0.35	0.35	0.35	0.30	1.0	1.0	1.0	0.8
4.0	0.32	0.32	0.32	0.35	1.0	1.0	1.0	1.0
4.5	0.35	0.20	0.52	0.35	1.0	0.5	1.7	1.2
5.0	0.35	-	-	0.45	1.0	-	-	1.3
5.5	0.00	-	-	-	0.0	-	-	-