

Gap fraction

Gap fraction vs Δy (LJ) ($120 < p_T < 150$)

- ATLAS
- - □ Herwig 7.2.0 default
- - ◆ Sherpa 2.2.1 default

2

1.8

1.6

1.4

1.2

1.0

0.8

0.6

0.4

0.2

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

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 0.2 at $|\Delta y| = 5.5$. The bottom panel shows the ratio of the gap fraction to the ATLAS measurement, which is mostly centered around 1.0, with some deviations at larger $|\Delta y|$. The shaded regions in the bottom panel represent the distribution of the ratio, with yellow and green colors indicating different levels of agreement.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 default Gap Fraction	Sherpa 2.2.1 default Gap Fraction	Ratio to ATLAS (Mean)
0.5	0.95	0.95	0.95	1.0
1.0	0.85	0.85	0.82	1.0
1.5	0.75	0.75	0.72	1.0
2.0	0.62	0.62	0.60	1.0
2.5	0.55	0.62	0.52	1.0
3.0	0.50	0.50	0.50	1.0
3.5	0.45	0.35	0.52	1.0
4.0	0.38	0.38	0.48	1.0
4.5	0.30	0.30	0.43	1.0
5.0	0.28	0.32	0.33	1.0
5.5	0.30	0.68	0.20	1.0
6.0	0.18	0.33	0.33	1.0