

Gap fraction

Gap fraction vs Δy (LJ) ($150 < p_T < 180$)

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.108.p1 default
- - ◆ Sherpa 2.1.1 default

2

1.8

1.6

1.4

1.2

1.0

0.8

0.6

0.4

0.2

0

2

1

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

$|\Delta y|$

The figure displays the gap fraction and its ratio to ATLAS as a function of the rapidity gap size $|\Delta y|$ for 7000 GeV pp collisions. The top panel shows the gap fraction, and the bottom panel shows the ratio to ATLAS. The x-axis represents $|\Delta y|$ from 0 to 6. The y-axis for the top panel ranges from 0 to 2, and for the bottom panel from 0.5 to 2. The legend indicates four data series: ATLAS (black squares), Herwig 7.2.0 default (green dashed line with squares), Pythia 8.108.p1 default (blue solid line with triangles), and Sherpa 2.1.1 default (red dotted line with diamonds). The bottom panel also includes a histogram showing the distribution of $|\Delta y|$ values, with yellow and green shaded regions.

$ \Delta y $	ATLAS (Gap Fraction)	Herwig 7.2.0 (Gap Fraction)	Pythia 8.108.p1 (Gap Fraction)	Sherpa 2.1.1 (Gap Fraction)	Ratio to ATLAS (Herwig)	Ratio to ATLAS (Pythia)	Ratio to ATLAS (Sherpa)
0.2	0.95	0.95	0.95	0.95	1.0	1.0	1.0
0.5	0.82	0.82	0.68	0.82	1.0	0.82	1.0
1.0	0.70	0.75	0.60	0.65	1.0	0.85	0.95
1.5	0.60	0.60	0.50	0.62	1.0	0.85	1.05
2.0	0.50	0.50	0.35	0.42	1.0	0.70	0.85
2.5	0.45	0.50	0.30	0.38	1.0	0.70	0.82
3.0	0.38	0.35	0.35	0.38	1.0	0.90	1.05
3.5	0.35	0.50	0.12	0.35	1.4	0.4	0.9
4.0	0.32	0.28	0.18	0.32	0.85	0.5	1.05
4.5	0.25	0.58	0.25	0.25	2.3	0.8	1.1
5.0	0.27	0.60	0.25	0.25	1.5	0.7	1.1
5.5	0.12	0.67	0.25	0.25	2.2	0.7	1.1