

7000 GeV pp

Jets

Gap fraction

Gap fraction vs  $\Delta y$  (LJ) ( $240 < p_T < 270$ )

- ATLAS
- Herwig 7.2.0 default
- ▲ Pythia 8.210 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

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 7000 GeV pp collisions. The data points are shown for ATLAS (black squares), Herwig 7.2.0 (green squares), Pythia 8.210 (blue triangles), and Sherpa 1.4.5 (red diamonds). The gap fraction generally decreases from approximately 0.95 at  $|\Delta y| \approx 0.5$  to about 0.35 at  $|\Delta y| \approx 4.8$ . The bottom panel shows the ratio of the gap fraction to the ATLAS data as a function of  $|\Delta y|$ . The ratio is generally close to 1.0, with some deviations, particularly for  $|\Delta y| > 3.5$ . The shaded regions in the bottom panel represent the uncertainty or spread of the data points.

$ \Delta y $	ATLAS (Gap Fraction)	Herwig 7.2.0 (Gap Fraction)	Pythia 8.210 (Gap Fraction)	Sherpa 1.4.5 (Gap Fraction)	Ratio to ATLAS
0.5	0.95	0.95	0.95	0.95	1.0
1.0	0.80	0.80	0.80	0.80	1.0
1.5	0.65	0.65	0.65	0.65	0.9
2.0	0.55	0.55	0.55	0.55	1.0
2.5	0.45	0.45	0.45	0.45	0.9
3.0	0.35	0.35	0.35	0.35	1.1
3.5	0.35	0.35	0.35	0.35	0.9
4.0	0.35	0.35	0.35	0.35	0.7
4.5	0.35	0.35	0.35	0.35	1.2
5.0	0.35	0.35	0.35	0.35	1.3