

Gap fraction

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

- ATLAS
- Herwig 7.2.0 default
- ▲ Pythia 8.180 default
- ◆ Sherpa 2.2.8 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 Monte Carlo models for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction (y-axis, 0 to 2) versus the absolute rapidity difference  $|\Delta y|$  (x-axis, 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data (y-axis, 0.5 to 2) versus  $|\Delta y|$  (x-axis, 0 to 6). The ATLAS data is represented by black squares. The Monte Carlo models are represented by different symbols and colors: Herwig 7.2.0 default (green squares), Pythia 8.180 default (blue triangles), and Sherpa 2.2.8 default (red diamonds). The bottom panel also includes shaded regions for Herwig (green) and Pythia (yellow) models. The text 'ATLAS\_2011\_S9126244' is visible in the top panel, and 'Rivet 3.1.0,  $\geq 100k$  events' and 'mcplots.cern.ch [arXiv:1306.3436]' are visible on the right side.

$ \Delta y $	ATLAS (Gap Fraction)	Herwig 7.2.0 (Gap Fraction)	Pythia 8.180 (Gap Fraction)	Sherpa 2.2.8 (Gap Fraction)
0.3	0.95	0.95	0.95	0.95
0.7	0.8	0.8	0.8	0.8
1.3	0.65	0.65	0.65	0.6
1.7	0.55	0.55	0.5	0.5
2.3	0.45	0.45	0.45	0.35
2.7	0.35	0.35	0.35	0.35
3.3	0.3	0.3	0.3	0.25
3.7	0.3	0.25	0.45	0.2
4.3	0.3	0.2	0.2	0.2
4.7	0.35	0.35	0.5	0.5
5.7	0.0	-	-	-