

7000 GeV pp

Jets

Gap fraction

Gap fraction vs  $\Delta y$  (FB) ( $240 < p_T < 270$  ( $Q_0 = \bar{p}_T$ ))

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.180 default
- - ◆ Sherpa 2.2.1 default

2.5

2

1.5

1

0.5

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

0

2

4

6

$|\Delta y|$

The figure displays the gap fraction and its ratio to ATLAS as a function of the absolute rapidity difference  $|\Delta y|$  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 2.5, and for the bottom panel from 0.5 to 2.5. The ATLAS data points are black squares with error bars. The Monte Carlo models are represented by lines with markers: Herwig 7.2.0 default (green dashed line with open squares), Pythia 8.180 default (blue solid line with solid triangles), and Sherpa 2.2.1 default (red dotted line with solid diamonds). The bottom panel also features a shaded region representing the uncertainty of the ATLAS data, with yellow and green colors.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.180 Gap Fraction	Sherpa 2.2.1 Gap Fraction
0.2	1.0	1.0	1.0	1.0
0.8	0.95	0.95	0.95	0.95
1.4	0.95	0.95	0.95	0.95
1.8	0.9	0.9	0.9	0.9
2.2	0.9	0.9	0.9	0.9
2.8	0.85	0.85	0.8	0.85
3.2	0.85	0.85	0.85	0.85
3.8	0.75	0.85	0.7	0.7
4.2	0.7	0.7	0.8	0.45
4.8	0.55	0.45	1.0	0.35
5.2	0.4	0.4	0.4	1.0