

Gap fraction

Gap fraction vs  $\Delta y$  (LJ) ( $120 < p_T < 150$ )

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.301 default
- - ◆ Sherpa 1.4.1 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

1

0.5

0

2

4

6

$|\Delta y|$

The figure displays two panels comparing ATLAS experimental data with three Monte Carlo models (Herwig 7.2.0, Pythia 8.301, and Sherpa 1.4.1) for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction as a function of the absolute rapidity difference  $|\Delta y|$  (ranging from 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data, with a shaded region indicating the uncertainty or spread of the models. The ATLAS data points are shown as black squares with error bars. The Herwig 7.2.0 model is shown as green squares, Pythia 8.301 as blue triangles, and Sherpa 1.4.1 as red diamonds. The shaded region in the bottom panel is composed of yellow and green areas, representing the ratio of the models to the ATLAS data. 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 on the right side.