

Gap fraction

Gap fraction vs  $\Delta y$  (FB) ( $210 < p_T < 240$  ( $Q_0 = \bar{p}_T$ ))

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.186 default
- - ◆ Sherpa 2.2.8 default

2

1.5

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

2

0.5

0 2 4 6

$|\Delta y|$

The figure consists of two vertically stacked panels sharing a common x-axis representing the rapidity difference  $|\Delta y|$  from 0 to 6. The top panel displays the 'Gap fraction' on the y-axis (0 to 2). It includes experimental data from ATLAS (black squares) and three Monte Carlo models: Herwig 7.2.0 (green dashed line with squares), Pythia 8.186 (blue solid line with triangles), and Sherpa 2.2.8 (red dotted line with diamonds). All models show a gap fraction starting near 1.0 at  $|\Delta y| \approx 0.5$  and generally decreasing as  $|\Delta y|$  increases, with significant error bars. The bottom panel displays the 'Ratio to ATLAS' on the y-axis (0.5 to 2). It uses the same data points and model lines as the top panel. A horizontal line is drawn at a ratio of 1.0. A shaded region, colored yellow and green, represents the uncertainty or spread of the data, centered around the ratio of 1.0. The text 'ATLAS\_2011\_S9126244' is located in the middle of the plot area.