

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- · · ◆ Sherpa 1.2.2p default

2

1.5

1

0.5

0

ATLAS\_2011\_S9126244

Rivet 3.1.0,  $\geq 100$  k 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 consists of two vertically stacked panels sharing a common x-axis representing the absolute rapidity difference  $|\Delta y|$  from 0 to 6. The top panel shows the 'Gap fraction' on the left y-axis (0 to 2) and the number of events on the right y-axis (0 to 100k). It displays ATLAS data points (black squares) and two Monte Carlo models: Herwig 7.2.0 (green dashed line with open squares) and Sherpa 1.2.2p (red dotted line with filled diamonds). Both models show a gap fraction starting near 1.0 at  $|\Delta y| \approx 0.5$  and decreasing to approximately 0.4 at  $|\Delta y| \approx 4.8$ . The bottom panel shows the 'Ratio to ATLAS' on the left y-axis (0.5 to 2) and the same event count on the right y-axis. It features a horizontal line at a ratio of 1.0, with the Herwig and Sherpa models plotted as dashed lines with markers. A 2D histogram in the background shows the distribution of ratios, with green and yellow regions indicating the spread of the models around the ATLAS data. The text 'ATLAS\_2011\_S9126244' is centered in the top panel, and 'Rivet 3.1.0,  $\geq 100$  k events' and 'mcplots.cern.ch [arXiv:1306.3436]' are on the right side.