

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,  $\geq 100k$  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 displays two panels sharing a common x-axis representing the rapidity difference  $|\Delta y|$  from 0 to 6. The top panel plots the gap fraction, with the y-axis ranging from 0 to 2. It compares ATLAS experimental data (black squares) with two Monte Carlo models: Herwig 7.2.0 (green dashed line with open squares) and Sherpa 1.2.2p (red dotted line with open diamonds). Both models show a general decrease in gap fraction as  $|\Delta y|$  increases, with Sherpa generally predicting a higher gap fraction than Herwig. The bottom panel plots the ratio of the Monte Carlo models to the ATLAS data, with the y-axis ranging from 0.5 to 2. A horizontal line is drawn at a ratio of 1.0. The background of the bottom panel is a 2D histogram, colored green and yellow, indicating the distribution of the ratio. 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.