

Gap fraction

Gap fraction vs Δy (LJ) ($240 < p_T < 270$)

- ATLAS
- Herwig 7.2.0 default
- ▲ Pythia 8.210 default
- ◆ Sherpa 2.2.8 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 consists of two vertically stacked panels sharing a common x-axis representing the rapidity gap $|\Delta y|$ from 0 to 6. The top panel shows the 'Gap fraction' on the y-axis, ranging from 0 to 2. It displays ATLAS data points (black squares) and three Monte Carlo model predictions: Herwig 7.2.0 default (green dashed line with squares), Pythia 8.210 default (blue solid line with triangles), and Sherpa 2.2.8 default (red dotted line with diamonds). All series show a general decrease in gap fraction as $|\Delta y|$ increases, with a notable dip around $|\Delta y| \approx 4.5$. The bottom panel shows the 'Ratio to ATLAS' on the y-axis, ranging from 0.5 to 2.0. It uses the same data and model series as the top panel. A horizontal line is drawn at a ratio of 1.0. The background of the bottom panel features a grid of colored rectangles (yellow and green) that vary in width and height across the $|\Delta y|$ range, likely representing systematic uncertainties or model variations. The text 'ATLAS_2011_S9126244' is centered in the top panel, and 'Rivet 3.1.0, $\geq 100k$ events' and 'mcplots.cern.ch [arXiv:1306.3436]' are on the right side.