

Gap fraction

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

- ATLAS
- - □ Herwig 7.2.0 default
- - ▲ Pythia 8.212 default
- - ◆ Sherpa 1.4.2 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

1

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 y-axis (0 to 2), with data points and error bars for ATLAS (black squares), Herwig 7.2.0 (green dashed line with squares), Pythia 8.212 (blue solid line with triangles), and Sherpa 1.4.2 (red dotted line with diamonds). The gap fraction generally decreases from approximately 0.95 at $|\Delta y| \approx 0.5$ to around 0.3-0.4 at $|\Delta y| \approx 4.5$. The bottom panel shows the 'Ratio to ATLAS' on the y-axis (0.5 to 2), with the same four data series. A horizontal line is drawn at a ratio of 1.0. The ratios for the MC models are mostly between 0.7 and 1.5, with some larger error bars at higher $|\Delta y|$. Shaded regions in yellow and green are present in the bottom panel, likely representing uncertainty bands or specific model predictions.