

Gap fraction

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

- ATLAS
- Herwig 7.2.0 default
- ▲ Pythia 8.226 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

1

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 shows the 'Gap fraction' on the y-axis (0 to 2), with ATLAS data points (black squares) and three Monte Carlo (MC) model predictions: Herwig 7.2.0 (green dashed line with squares), Pythia 8.226 (blue solid line with triangles), and Sherpa 2.2.8 (red dotted line with diamonds). All models show a decreasing trend in gap fraction as $|\Delta y|$ increases. The bottom panel shows the 'Ratio to ATLAS' on the y-axis (0.5 to 2), with the same MC models overlaid on a shaded background representing the ATLAS data distribution. The shaded regions are yellow for $|\Delta y| < 4$ and green for $|\Delta y| > 4$. A horizontal line is drawn at a ratio of 1.0. The ATLAS data point at $|\Delta y| \approx 5.7$ is shown as a single black square at a gap fraction of 0.