

Gap fraction

Gap fraction vs Δy (LJ) ($180 < p_T < 210$)

- ATLAS
- Herwig 7.0.1 default
- ▲ Pythia 8.170 default
- ◆ Sherpa 1.4.0 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). It displays ATLAS experimental data (black squares) and three Monte Carlo models: Herwig 7.0.1 (green dashed line with squares), Pythia 8.170 (blue solid line with triangles), and Sherpa 1.4.0 (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). It uses the same data points and models as the top panel. A horizontal line is drawn at a ratio of 1.0. The background of the bottom panel features a 2D histogram with green and yellow bins, representing the distribution of the ratio to ATLAS across different $|\Delta y|$ bins.