

Gap fraction

Gap fraction vs Δy (FB) ($210 < p_T < 240$ ($Q_0 = \overline{p_T}$))

- ATLAS
- Herwig++ 2.7.1 default
- Herwig 7.0.0 default

2

1.5

1

0.5

0

Rivet 3.1.10, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS_2011_S9126244

Ratio to ATLAS

2

1

0.5

2

1

0.5

0

2

4

6

$|\Delta y|$

The figure displays two panels. The top panel shows the gap fraction as a function of the absolute rapidity difference $|\Delta y|$ for 7000 GeV proton-proton collisions. The data points are from ATLAS (black squares) and are compared against Herwig++ 2.7.1 (orange circles) and Herwig 7.0.0 (green squares) models. The gap fraction starts at approximately 1.0 for $|\Delta y| = 0.5$ and generally decreases as $|\Delta y|$ increases, reaching about 0.4 at $|\Delta y| = 5.5$. The bottom panel shows the ratio of the Herwig models to the ATLAS data. The Herwig++ model (orange circles) is generally higher than ATLAS, while the Herwig 7.0.0 model (green squares) is generally lower. A shaded region in yellow and green indicates the uncertainty or spread of the models. The x-axis for both panels is $|\Delta y|$ from 0 to 6. The left y-axis is 'Gap fraction' (0 to 2) and the right y-axis is 'Ratio to ATLAS' (0.5 to 2.0).