

Gap fraction

Gap fraction vs  $\Delta y$  (LJ) ( $240 < p_T < 270$ )

- ATLAS
- Herwig++ 2.4.2 default
- Herwig 7.2.0 default
- ▼- Herwig 7.2.0 softTune

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 absolute rapidity difference  $|\Delta y|$  from 0 to 6. The top panel displays the gap fraction, which decreases from approximately 0.95 at  $|\Delta y| = 0.5$  to about 0.35 at  $|\Delta y| = 4.5$ . The bottom panel shows the ratio of the gap fraction to the ATLAS experimental data, with a horizontal line at 1.0. Shaded regions in the bottom panel represent uncertainty bands for the Herwig++ (yellow) and Herwig 7.2.0 (green) models. The ATLAS data point at  $|\Delta y| \approx 5.7$  is shown as a black square at a gap fraction of 0.

$ \Delta y $	ATLAS Gap Fraction	Herwig++ 2.4.2 default	Herwig 7.2.0 default	Herwig 7.2.0 softTune
0.5	0.95	0.95	0.95	0.95
1.0	0.85	0.85	0.85	0.85
1.5	0.70	0.70	0.70	0.70
2.0	0.55	0.55	0.55	0.55
2.5	0.45	0.55	0.45	0.45
3.0	0.38	0.35	0.38	0.38
3.5	0.35	0.45	0.35	0.35
4.0	0.30	0.25	0.30	0.30
4.5	0.35	0.15	0.20	0.30
5.7	0.00	-	-	-