

Gap fraction

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

- ATLAS
- Herwig 7.2.0 default
- ▲ Pythia 8.150 default
- ◆ Sherpa 1.2.2p default

2

1.5

1

0.5

0

Rivet 3.1.0, ≥ 100 k events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS_2011_S9126244

Ratio to ATLAS

2

1

0.5

2

0.5

0

2

4

6

$|\Delta y|$

The figure displays two panels comparing ATLAS experimental data with three Monte Carlo (MC) models for gap fraction and its ratio to ATLAS. The x-axis represents the absolute rapidity difference $|\Delta y|$ from 0 to 6. The top panel shows the gap fraction, and the bottom panel shows the ratio to ATLAS. The ATLAS data points are shown as black squares with error bars. The MC models are: Herwig 7.2.0 default (green dashed line with open squares), Pythia 8.150 default (blue solid line with solid triangles), and Sherpa 1.2.2p default (red dotted line with solid diamonds). The bottom panel also features a shaded region representing the ratio to ATLAS, with yellow and green areas indicating different levels of agreement.

$ \Delta y $	ATLAS Gap Fraction	Herwig 7.2.0 Gap Fraction	Pythia 8.150 Gap Fraction	Sherpa 1.2.2p Gap Fraction	Ratio to ATLAS (ATLAS)	Ratio to ATLAS (Herwig)	Ratio to ATLAS (Pythia)	Ratio to ATLAS (Sherpa)
0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.8	0.95	1.0	0.95	0.95	0.95	1.0	0.95	0.95
1.2	0.95	0.95	0.85	0.95	0.95	1.0	0.85	0.95
1.6	0.95	0.95	0.95	0.95	0.95	1.0	0.95	0.95
2.2	0.9	0.85	0.9	0.95	0.9	0.95	0.9	1.05
2.8	0.85	0.85	0.85	0.95	0.85	1.0	0.85	1.25
3.2	0.8	0.75	0.75	0.85	0.8	0.95	0.75	1.1
3.6	0.8	0.65	0.95	0.7	0.8	0.8	0.95	0.85
4.2	0.7	0.7	0.7	0.85	0.7	0.95	0.7	1.35
4.8	0.45	0.4	0.75	0.5	0.45	0.9	1.75	1.15
5.4	0.35	-	-	-	0.35	-	-	-
5.8	0.0	-	-	-	0.0	-	-	-