

7000 GeV pp

Jets

Gap fraction

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

- ATLAS
- Herwig 7.2.0 default
- ▲ Pythia 8.209 default
- ◆ Sherpa 1.4.0 default

2.5

2

1.5

1

0.5

0

Rivet 3.1.0,  $\geq 100$ 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 models: Herwig 7.2.0, Pythia 8.209, and Sherpa 1.4.0. The top panel shows the gap fraction, which generally decreases as  $|\Delta y|$  increases. The bottom panel shows the ratio of the gap fraction to the ATLAS data, with a horizontal line at 1.0. The shaded regions in the bottom panel indicate the uncertainty bands for the models.

$ \Delta y $	ATLAS (Gap Fraction)	Herwig 7.2.0 (Gap Fraction)	Pythia 8.209 (Gap Fraction)	Sherpa 1.4.0 (Gap Fraction)
0.2	1.0	1.0	1.0	1.0
0.8	0.95	0.95	0.95	1.0
1.4	0.95	0.95	0.95	1.0
1.8	0.9	0.9	0.85	0.95
2.2	0.9	0.85	0.85	0.9
2.8	0.85	0.85	0.85	0.85
3.4	0.8	0.75	0.75	0.85
3.8	0.75	0.65	0.75	0.75
4.2	0.7	0.65	0.7	0.7
4.8	0.45	0.4	1.0	0.45
5.4	0.3	-	1.0	-
5.8	0.0	-	-	-