

Gap fraction

Gap fraction vs Δy (LJ) ($150 < p_T < 180$)

- ATLAS
- ▲ Pythia 8.201 default
- ▲ Pythia 8.201 default-noFsr
- ▲ Pythia 8.201 default-noRap

2.5

2.0

1.5

1.0

0.5

0

ATLAS_2011_S9126244

Rivet 3.1.0, $\geq 100k$ events

mcplots.cern.ch [arXiv:1306.3436]

Ratio to ATLAS

0.5

1

2

0.5

1

2

0

2

4

6

$|\Delta y|$

The figure displays the gap fraction and its ratio to ATLAS as a function of the rapidity gap size $|\Delta y|$ for 7000 GeV pp collisions. The top panel shows the gap fraction, and the bottom panel shows the ratio to ATLAS. The x-axis represents $|\Delta y|$ from 0 to 6. The y-axis for the top panel ranges from 0 to 2.5, and for the bottom panel from 0.5 to 2.5. Data points are shown for ATLAS (black squares) and three Pythia 8.201 models: default (blue triangles), default-noFsr (purple triangles), and default-noRap (cyan triangles). Error bars are included for all data points. A horizontal line is drawn at a ratio of 1.0. A shaded region in the bottom panel indicates the uncertainty or range of the data.

$ \Delta y $	ATLAS Gap Fraction	Pythia 8.201 default Gap Fraction	Pythia 8.201 default-noFsr Gap Fraction	Pythia 8.201 default-noRap Gap Fraction	Ratio to ATLAS (ATLAS)
0.2	0.95	0.95	0.95	0.95	1.0
0.5	0.85	0.85	0.90	0.85	1.0
1.0	0.70	0.65	0.75	0.65	1.0
1.5	0.60	0.55	0.65	0.55	1.0
2.0	0.50	0.40	0.60	0.55	1.0
2.5	0.45	0.50	0.50	0.45	1.0
3.0	0.40	0.35	0.45	0.35	1.0
3.5	0.35	0.25	0.30	0.40	1.0
4.0	0.35	0.30	0.30	0.10	1.0
4.5	0.25	0.65	0.35	0.50	1.0
5.0	0.25	1.00	0.35	0.20	1.0
5.5	0.10	-	-	-	1.0