

Gap fraction

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

- ATLAS
- ▲ Pythia 8.183 default
- ◻ Pythia 8.183 tune-4cx

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 Pythia 8.183 Monte Carlo models for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction as a function of the absolute rapidity difference $|\Delta y|$ (ranging from 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data, with a 2D histogram indicating the distribution of this ratio.

Top Panel: Gap fraction vs $|\Delta y|$

$ \Delta y $	ATLAS (Gap fraction)	Pythia 8.183 default (Gap fraction)	Pythia 8.183 tune-4cx (Gap fraction)
0.2	1.0	1.0	1.0
0.6	0.95	0.95	0.95
1.0	0.95	0.95	0.95
1.4	0.95	0.95	0.95
1.8	0.9	0.95	0.95
2.2	0.9	0.9	0.95
2.6	0.85	0.8	0.95
3.0	0.8	0.95	0.75
3.4	0.8	0.75	0.6
3.8	0.7	0.85	0.75
4.2	0.7	0.85	0.75
4.6	0.45	-	0.5
5.0	0.35	-	-
5.4	0.0	-	-

Bottom Panel: Ratio to ATLAS vs $|\Delta y|$

$ \Delta y $	Pythia 8.183 default (Ratio to ATLAS)	Pythia 8.183 tune-4cx (Ratio to ATLAS)
0.2	1.0	1.0
0.6	1.0	1.0
1.0	1.0	1.0
1.4	1.0	1.0
1.8	1.0	1.0
2.2	1.0	1.0
2.6	0.95	1.1
3.0	1.2	0.9
3.4	0.9	0.8
3.8	1.2	1.1
4.2	1.1	1.1
4.6	-	1.1