

Gap fraction

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

- ATLAS
- - ■ Pythia 6.425 default
- - * Pythia 6.425 pro-q2o

2.5

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

1

0.5

0

2

4

6

$|\Delta y|$

The figure displays two panels comparing ATLAS experimental data with Pythia 6.425 models for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction as a function of the rapidity separation $|\Delta y|$ (ranging from 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data, along with a histogram representing the distribution of this ratio.

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

$ \Delta y $	ATLAS	Pythia 6.425 default	Pythia 6.425 pro-q2o
0.4	1.0	1.0	1.0
0.8	0.95	0.95	0.95
1.2	0.95	0.95	0.95
1.6	0.9	0.9	0.9
2.2	0.9	1.0	0.9
2.8	0.85	0.85	0.85
3.2	0.8	0.8	0.8
3.6	0.8	0.75	0.85
4.2	0.7	0.6	0.9
4.8	0.45	-	1.0
5.2	0.3	-	-
5.8	0.0	-	-

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

$ \Delta y $	ATLAS	Pythia 6.425 default	Pythia 6.425 pro-q2o
0.4	1.0	1.0	1.0
0.8	1.0	1.0	1.0
1.2	1.0	1.0	1.0
1.6	1.0	1.0	1.0
2.2	1.0	1.1	1.0
2.8	1.0	1.0	1.0
3.2	1.0	1.0	0.95
3.6	1.0	0.95	1.1
4.2	1.0	0.85	1.3
4.8	1.0	-	2.1

The histogram in the bottom panel shows the distribution of the ratio to ATLAS, with a peak around 1.0 and a tail extending up to approximately 2.2. The histogram is colored in shades of green and yellow.