

Gap fraction

Gap fraction vs Δy (LJ) ($70 < p_T < 90$)

- ATLAS
- △ Pythia 6.428 370
- - * Pythia 6.428 378
- - * Pythia 6.428 379

2

1.8

1.6

1.4

1.2

1

0.8

0.6

0.4

0.2

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

0.5

0 2 4 6

$|\Delta y|$

The figure displays two panels comparing ATLAS experimental data with three Pythia 6.428 Monte Carlo models for gap fractions in 7000 GeV pp collisions. The top panel shows the gap fraction (y-axis, 0 to 2) versus the absolute rapidity difference $|\Delta y|$ (x-axis, 0 to 6). The bottom panel shows the ratio of the gap fraction to the ATLAS data (y-axis, 0.5 to 2) versus $|\Delta y|$. The ATLAS data is represented by black squares with error bars. The three Pythia models are shown as lines with markers: Pythia 6.428 370 (red solid line with open triangles), Pythia 6.428 378 (blue dashed line with asterisks), and Pythia 6.428 379 (green dashed line with asterisks). Shaded regions in the bottom panel represent uncertainty bands for the Pythia models.

$ \Delta y $	ATLAS Gap Fraction	Pythia 6.428 370 Ratio	Pythia 6.428 378 Ratio	Pythia 6.428 379 Ratio
0.5	0.95	1.0	1.0	1.0
1.0	0.85	0.95	0.95	0.95
1.5	0.75	0.9	0.9	0.9
2.0	0.65	0.85	0.85	0.85
2.5	0.55	0.8	0.8	0.8
3.0	0.5	0.85	0.85	0.85
3.5	0.45	0.8	0.8	0.8
4.0	0.4	0.85	0.85	0.85
4.5	0.45	0.8	0.8	0.8
5.0	0.35	1.2	0.9	0.8
5.5	0.35	1.0	0.9	1.2