

Gap fraction

Gap fraction vs Δy (LJ) ($240 < p_T < 270$)

- ATLAS
- Pythia 6.428 390
- Pythia 6.428 391
- ◇ Pythia 6.428 392
- ★ Pythia 6.428 396
- ☆ Pythia 6.428 397
- ▼ Pythia 6.428 398

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 consists of two vertically stacked panels sharing a common x-axis representing the rapidity difference $|\Delta y|$ from 0 to 6. The top panel displays the 'Gap fraction' on the y-axis (0 to 2), comparing ATLAS experimental data (black squares) with six Pythia 6.428 models (390-398) using various markers and colors. The bottom panel shows the 'Ratio to ATLAS' on the y-axis (0.5 to 2), where the same data points are plotted relative to the ATLAS measurement. A horizontal line is drawn at a ratio of 1.0. A shaded region in the bottom panel, colored in yellow and green, highlights the area where the ratio deviates significantly from 1.0, particularly for $|\Delta y| > 3.5$. The ATLAS data point at $|\Delta y| \approx 5.7$ is shown as a single black square at a gap fraction of 0.