

13000 GeV pp

 $t\bar{t}$

Resolved l+jets

■ ATLAS

—△ Pythia 6.424 ambt1

 $\frac{d^2\sigma}{dN^{\text{jets}} d|\Delta\phi(t,\bar{t})|} [1/\text{rad}]$ 10^2

10

1

(ATLAS_2019_I1750330)

Rivet 4.1.0, 100k events

mcplots.cern.ch [arXiv:1306.3436]

Ratio to ATLAS

2

1

0.5

2

1

0.5

0

1

2

3

 $|\Delta\phi(t,\bar{t})| [\text{rad}], N^{\text{jets}} = 5$

The figure consists of two vertically stacked panels sharing a common x-axis representing the azimuthal angle difference $|\Delta\phi(t,\bar{t})|$ in radians, ranging from 0 to 3.5, and the number of jets $N^{\text{jets}} = 5$.

The top panel displays the differential cross-section $\frac{d^2\sigma}{dN^{\text{jets}} d|\Delta\phi(t,\bar{t})|}$ in units of $1/\text{rad}$ on a logarithmic y-axis from 1 to 100. It compares ATLAS experimental data (black squares) with a Pythia 6.424 ambt1 Monte Carlo prediction (orange line with triangles). The data points and the prediction show a clear increasing trend as the angle difference increases.

The bottom panel shows the ratio of the Monte Carlo prediction to the ATLAS data on a linear y-axis from 0.5 to 2.0. The ratio is plotted as an orange line with triangles, and a horizontal line at 1.0 indicates perfect agreement. Shaded regions in light green and yellow represent the uncertainty bands of the Monte Carlo prediction. The ratio is generally close to 1.0, indicating good agreement between the simulation and the data.

$ \Delta\phi(t,\bar{t}) [\text{rad}]$	N^{jets}	ATLAS Cross-section [$1/\text{rad}$]	Pythia Cross-section [$1/\text{rad}$]	Ratio to ATLAS
0.5	5	~1.8	~1.6	~0.88
1.4	5	~2.8	~2.4	~0.85
2.0	5	~6.0	~5.2	~0.87
2.5	5	~15.0	~13.0	~0.87
2.9	5	~35.0	~28.0	~0.80