

13000 GeV pp

Z (Drell-Yan)

 $p_T$  spectrum (ATLAS UE in Z production)

- ATLAS
- ▲ Pythia 8.308 default
- Pythia 8.308 tune-A14-CTEQL1
- - - Pythia 8.308 tune-A14-MSTW2008LO
- ⋯ Pythia 8.308 tune-A14-NNPDF2.3LO
- - △ Pythia 8.308 tune-CUETP8S1

Rivet 3.1.10,  $\geq 2.6$  M events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS\_2019\_I1736531

Ratio to ATLAS

2

1

0.5

 $N_{ch}/d\eta d\phi$ 