

13000 GeV pp

Z (Drell-Yan)

 $\langle N_{\text{ch}} \rangle$ vs p_{T}^{Z} (ATLAS UE in Z production) $\langle N_{\text{ch}}/d\eta d\phi \rangle$

- ATLAS
- - □ Herwig 7.2.1 default
- - ○ MadGraph5 2.7.2.atlas3 lo
- - ▲ Pythia 8.308 default
- - ◆ Sherpa 2.2.7 default

3

2.5

2

1.5

1

0.5

0

ATLAS_2019_I1736531

Rivet 3.1.10, $\geq 500\text{k}$ events

mcplots.cern.ch [arXiv:1306.3436]

Ratio to ATLAS

2

1

0.5

0

200

400

 $Z p_{\text{T}}$ [GeV]

2

1

0.5