

13000 GeV pp

Z (Drell-Yan)

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

- ATLAS
- Herwig++ 2.7.1 default
- △- Herwig++ Powheg 2.7.1 default
- ▽- Herwig++ Powheg 2.7.1 LHC-UE-EE-4
- Herwig 7.2.1 default

6

5

4

3

2

1

0

ATLAS\_2019\_I1736531

Rivet 3.1.10,  $\geq 3.4\text{M}$  events

mcplots.cern.ch [arXiv:1306.3436]

Ratio to ATLAS

2

1

0.5

2

1

0.5

0

200

400

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