

13000 GeV pp

Z (Drell-Yan)

<pT> (ATLAS UE in Z production)

 $1/N_{\text{ch}} dN_{\text{ch}}/dp_T [\text{GeV}]$

■ ATLAS

---△ Herwig++ Powheg 2.7.1 default

---○ MadGraph5 2.7.2.atlas3 lo

---◇ Sherpa 2.2.9 default

Rivet 3.1.10, ≥ 2.4M events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS 2019_11736531

Ratio to ATLAS

 $p_T [\text{GeV}]$ 