

Average  $\Sigma(p_T)$  (ATLAS UE in Z production)

- ATLAS
- ▲ Pythia 8.308 default
- ▼ Pythia 8.308 tune-AU2
- ◇ Pythia 8.308 tune-AU2lox
- Pythia 8.308 tune-AU2lox
- ★ Pythia 8.308 tune-AU2m

Rivet 3.1.10,  $\geq 2.6M$  events

mcplots.cern.ch [arXiv:1306.3436]

ATLAS\_2019\_I1736531

Ratio to ATLAS

0.5

1

2

5

10

15

20

25

30

35

0.5

1

2

0

200

400

 $Z p_T$  [GeV] $\langle \text{sum } p_{T, \text{dn}} d\phi \rangle$  [GeV]