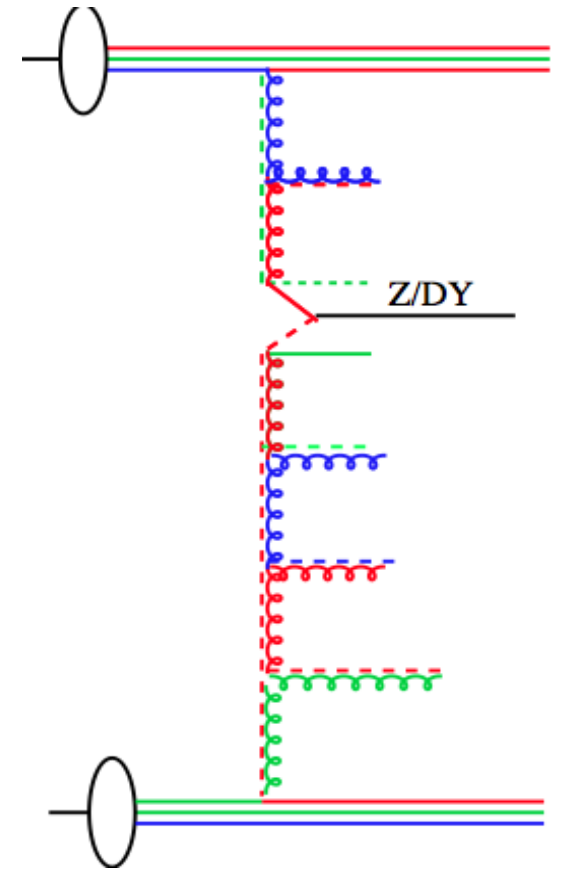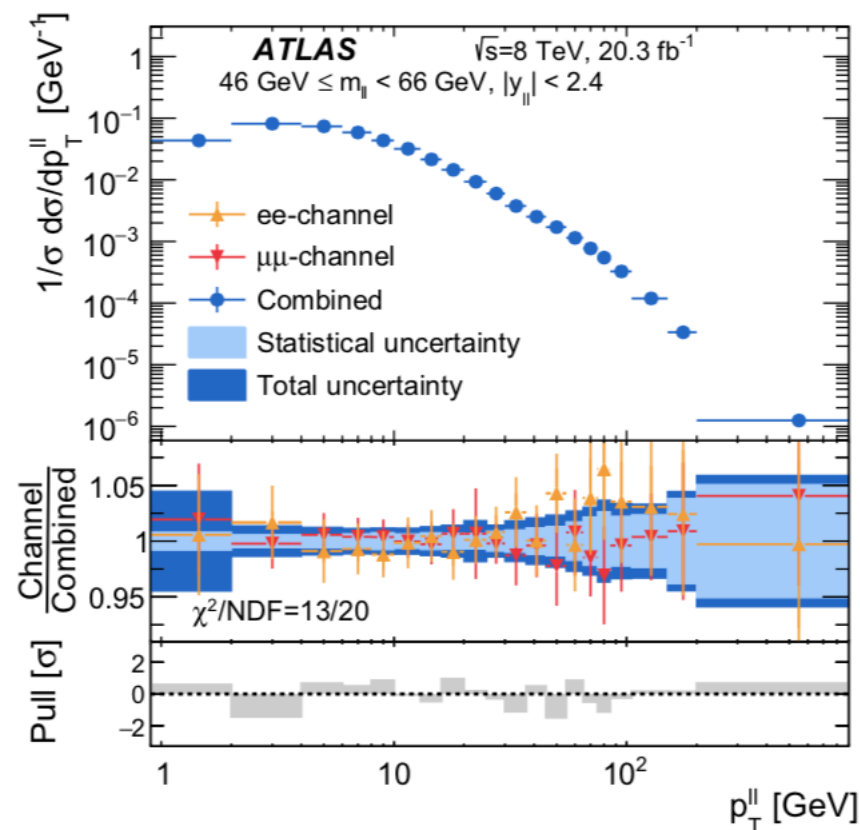# PB TMD meeting

Where can intrinsic k_T be constrained ?

- need to go to low DY mass:
  - at low mass, little room for QCD evolution (parton shower)
    - p_T of DY is dominated by intrinsic k_T

- at LHC no low mass DY measurements available:
  - ATLAS 8 TeV: p_T spectrum for mass $46 \leq m_{DY} \leq 66$ GeV

# Where can intrinsic k_T be constrained ?

- latest measurement: PHENIX (PhysRevD.99.072003) at $\sqrt{s} = 200$ GeV for $4.6 \leq m_{DY} \leq 8.2$ GeV

- other measurements (older)
  - R209 (1982) PhysRevLett.48.302 (data read from plot in paper)
  - E288 (1981) PhysRevD.23.604
  - E605 (1992) PhysRevD.43.2815
  - NUSEA (2003) hep-ex/0301031 (unpublished)
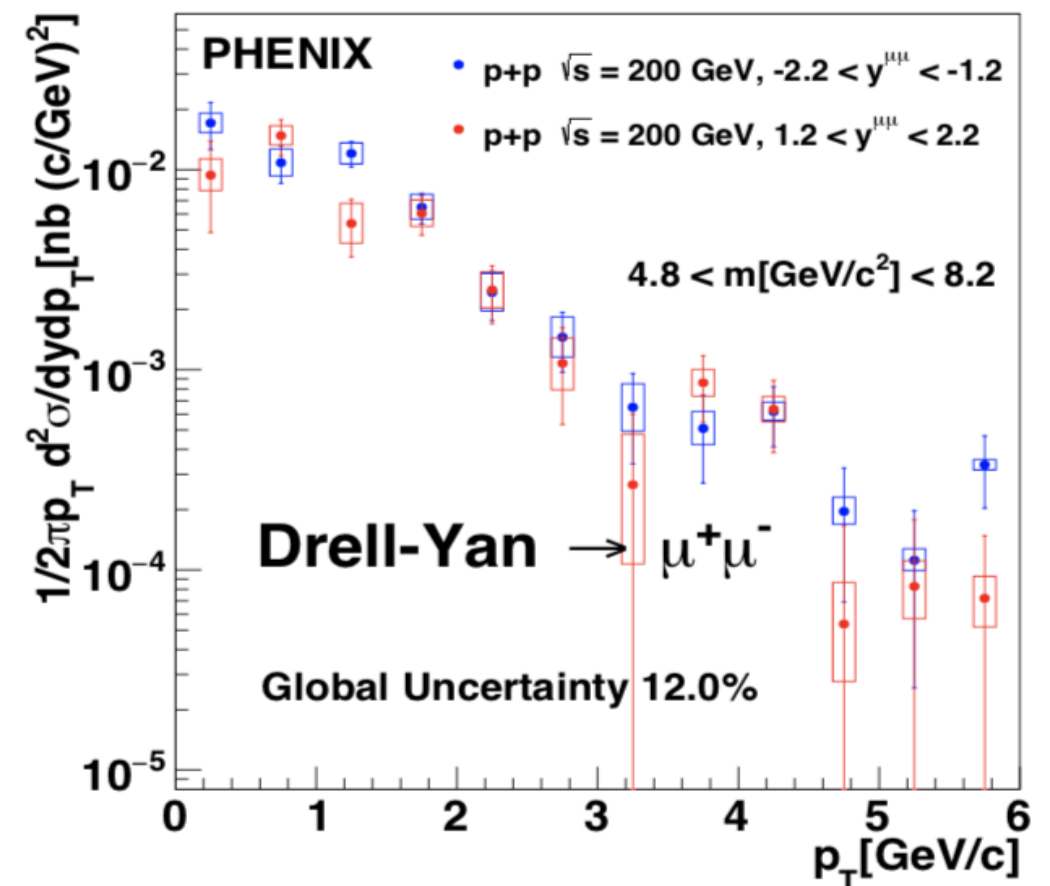
For all measurements, now Rivet plugins prepared and validated

First results at 200 and 62 GeV

- P8-PS: CUETP8M1, standard parton shower

- P8-noPS: noPS, primordialKThard=2

- P8-primkt-noPS: noPS, primordialKThard=1
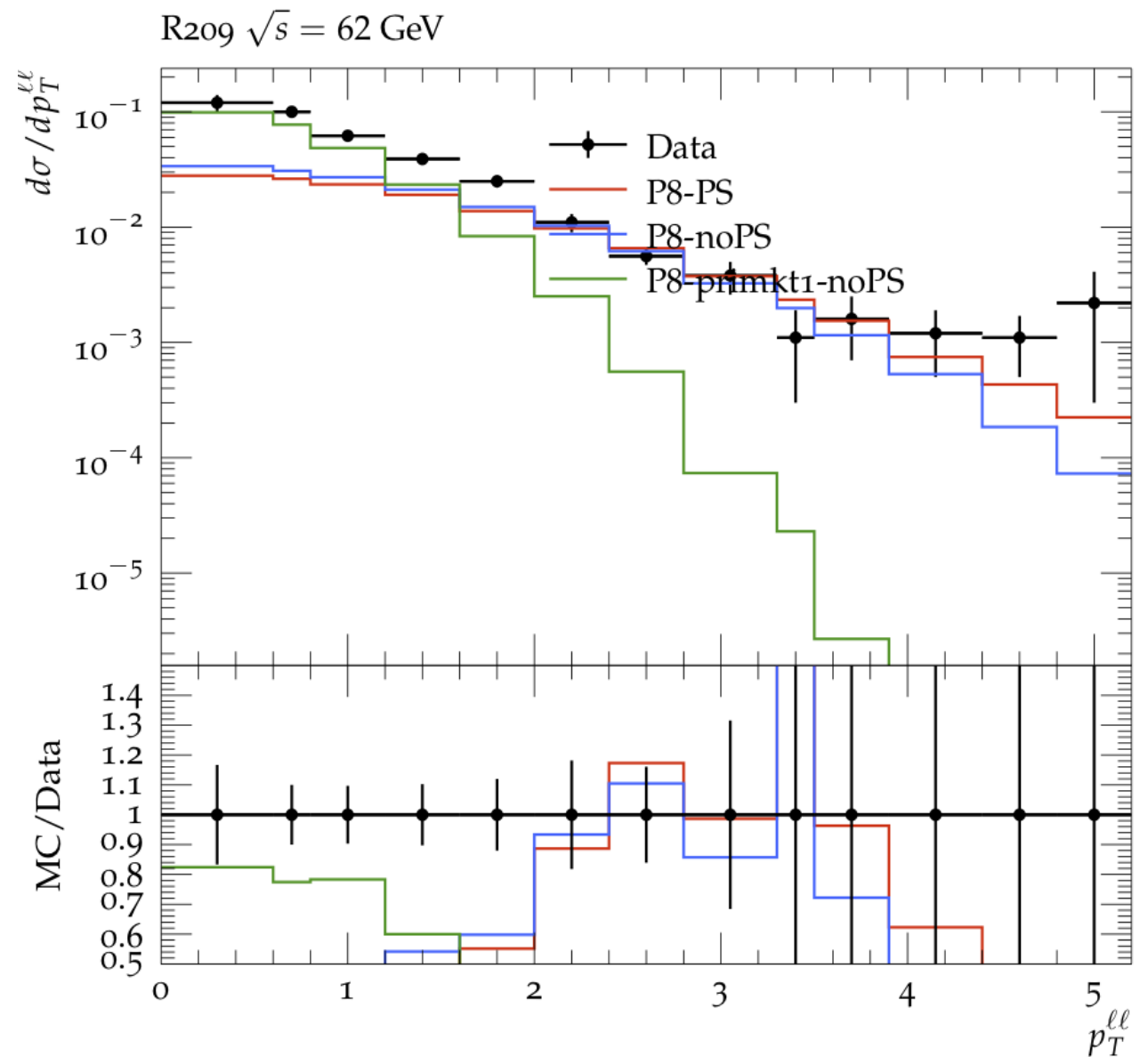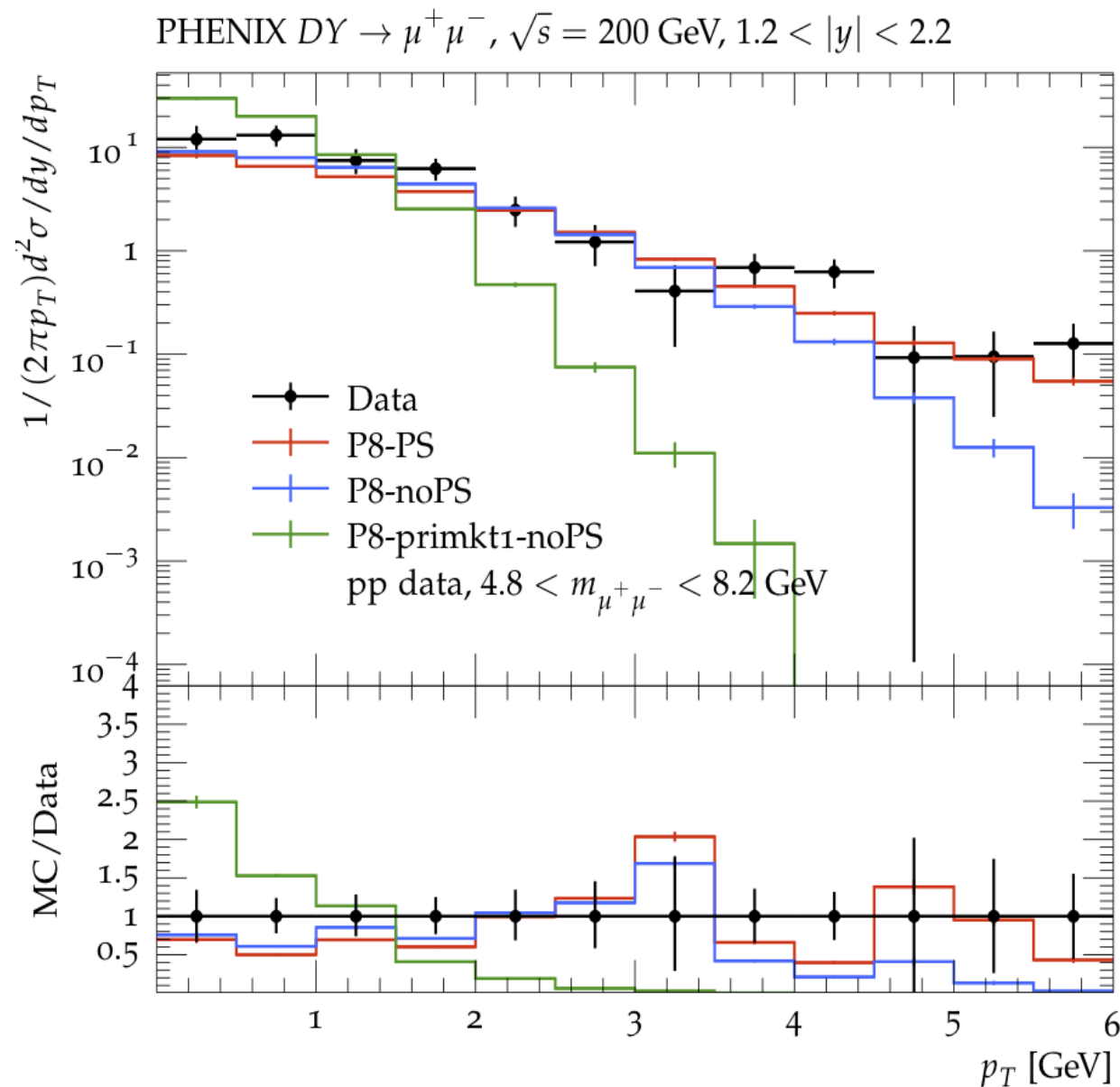
- primordial kt plays dominant role in P8: change from 2 to 1 gives large effect
- Parton Shower has little effect
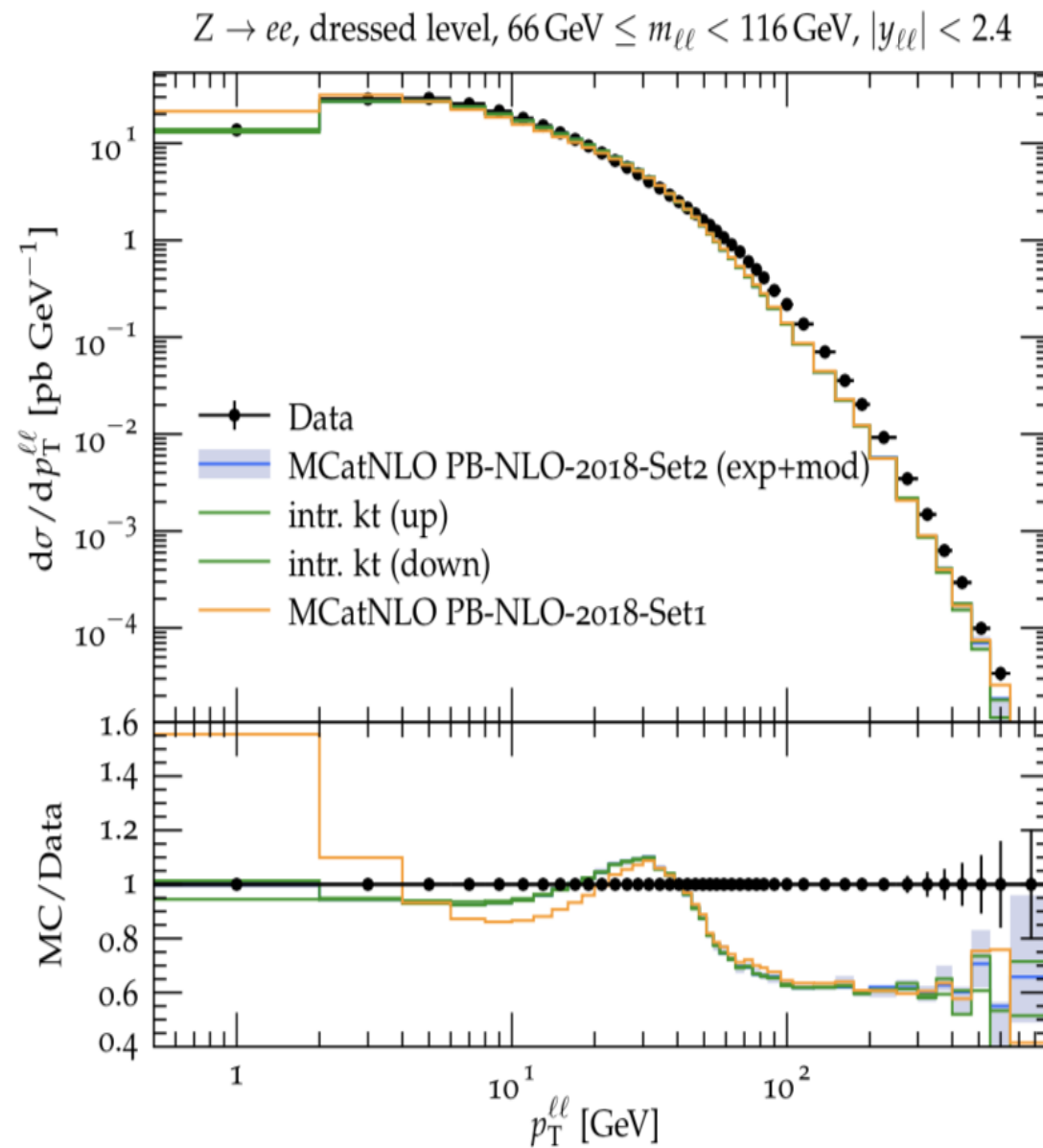
First results at 38.8 and 28.3 GeV

- P8-PS: CUETP8M1, standard parton shower

- P8-noPS: noPS, primordialKThard=2
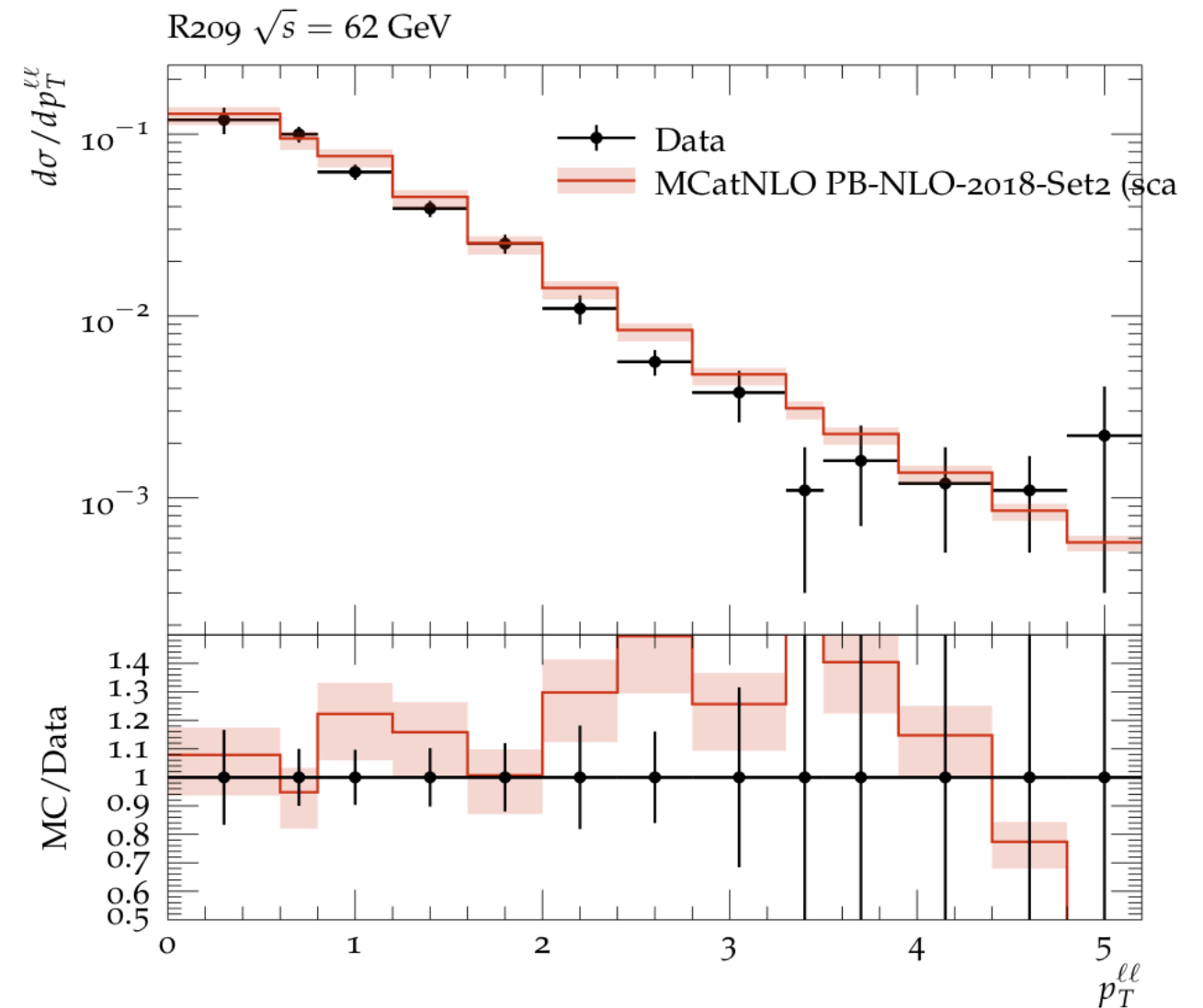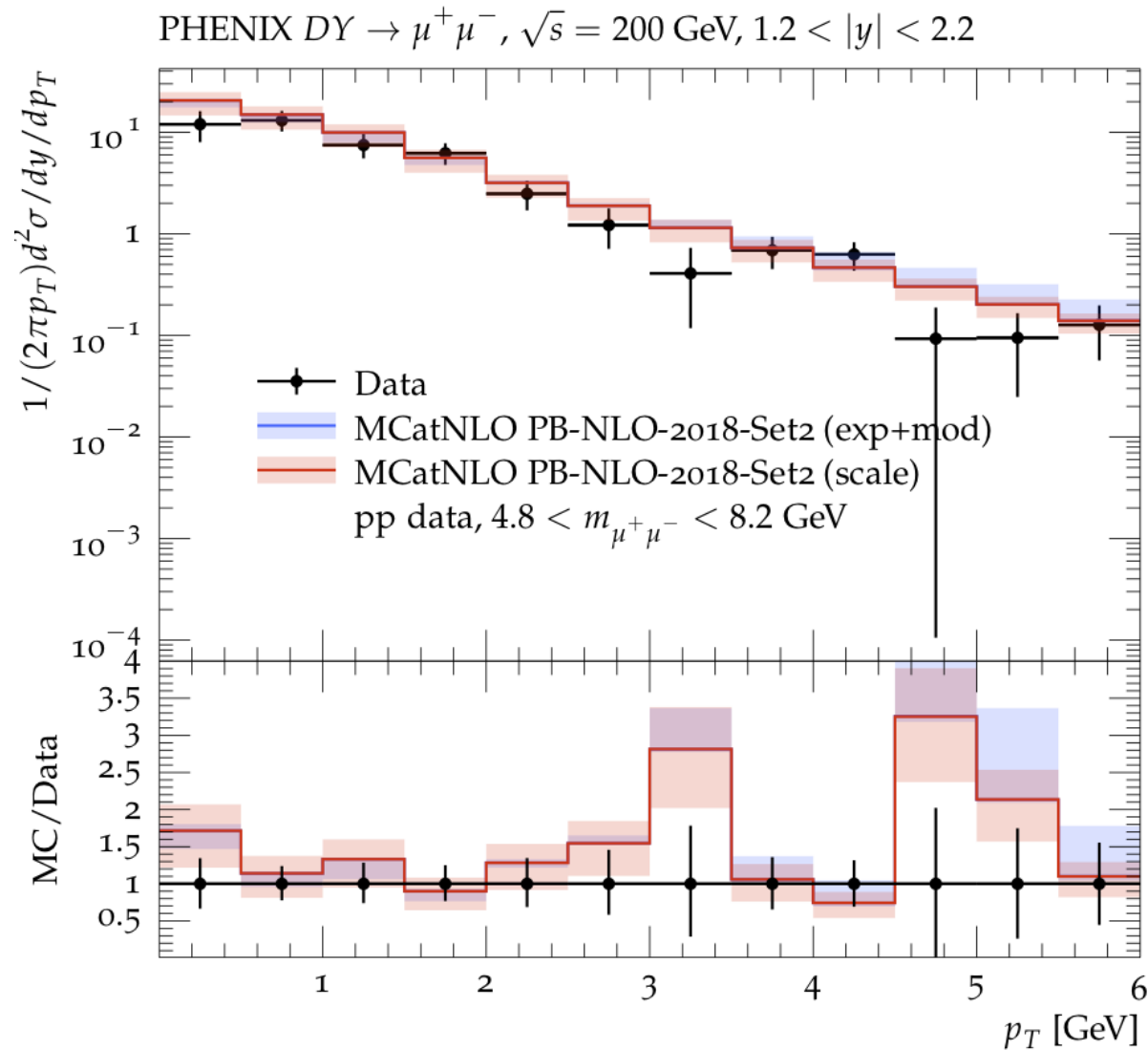
- P8-primkt-noPS: noPS, primordialKThard=1
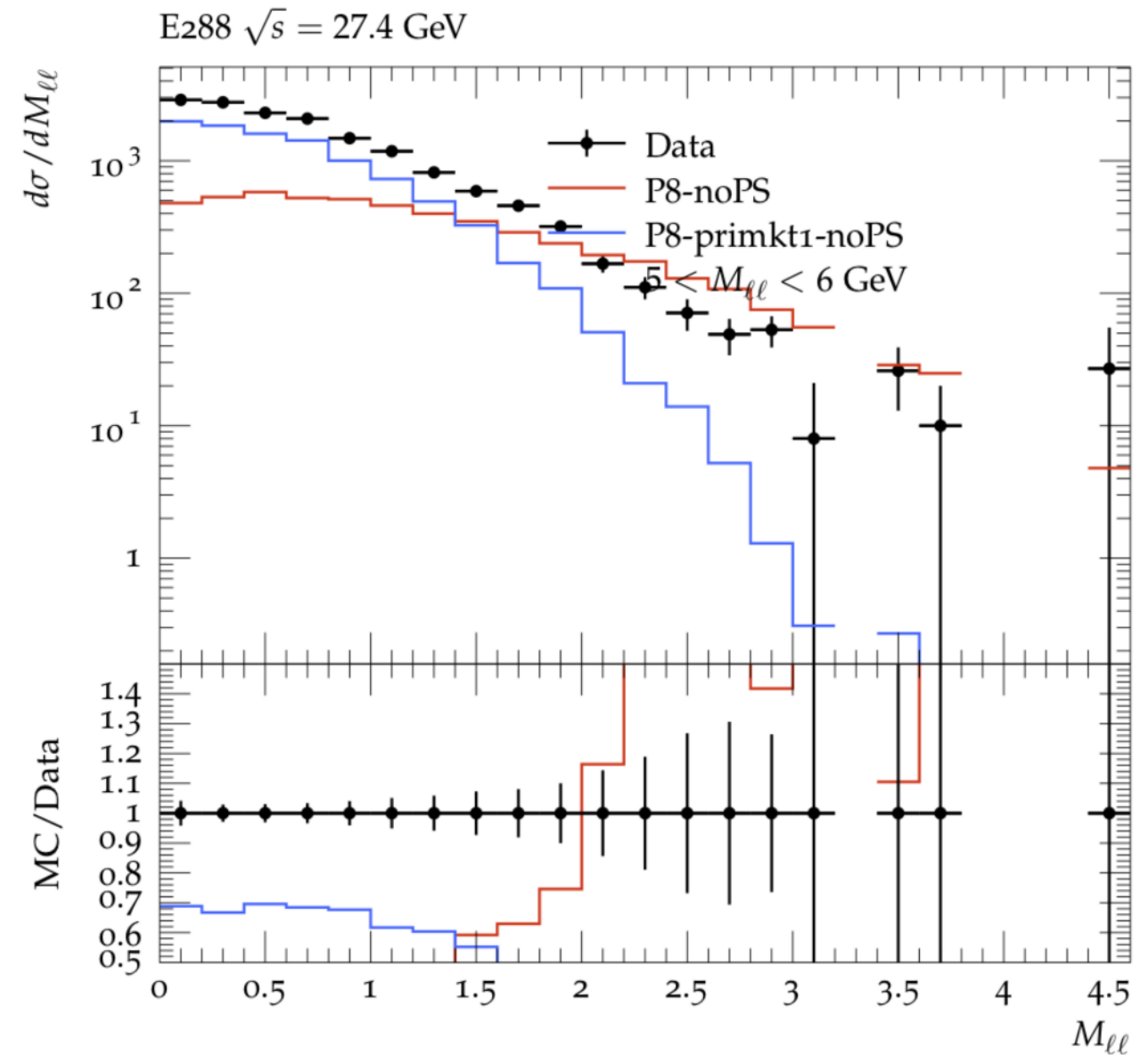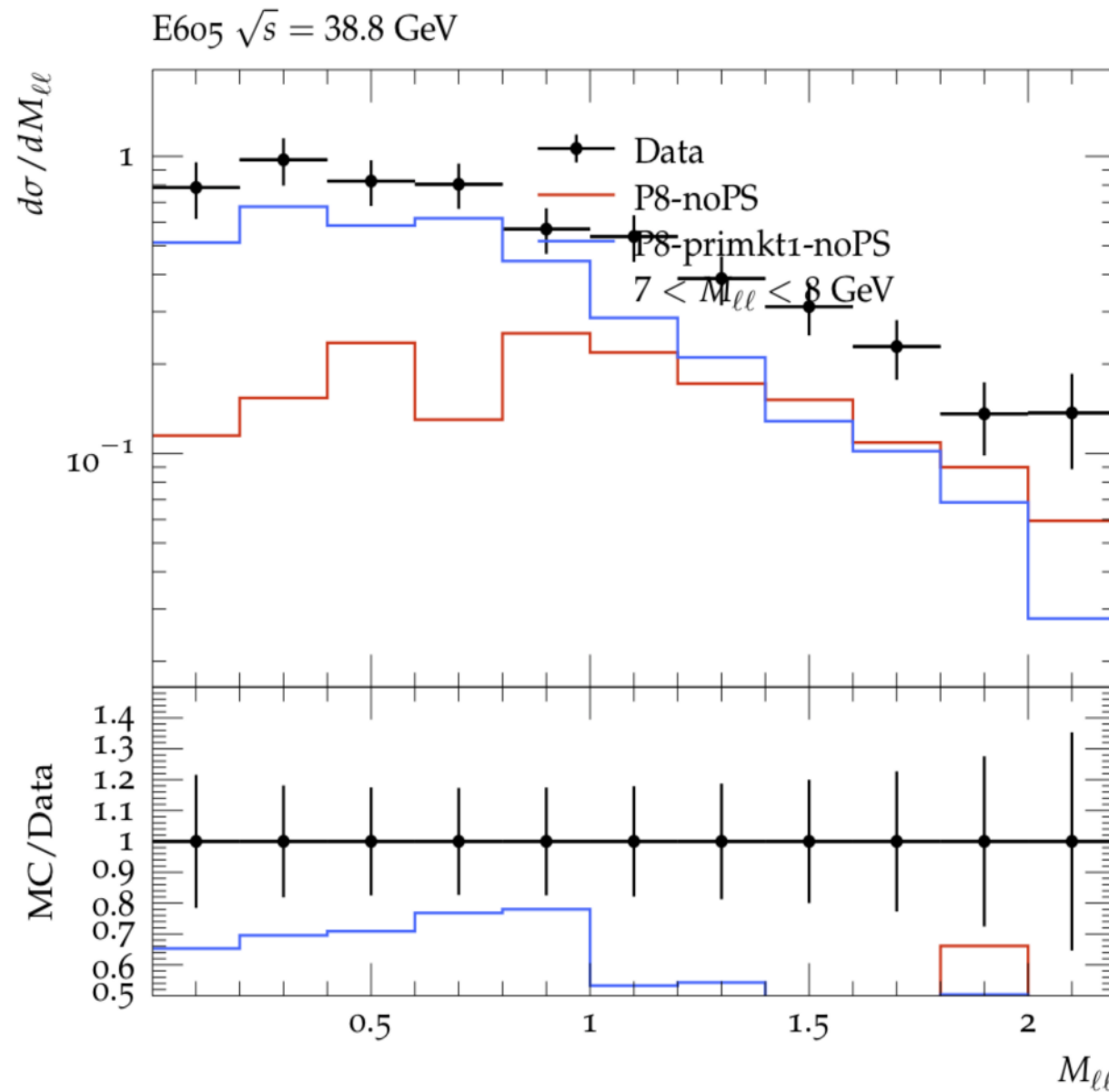
- primordial kt plays dominant role in P8: change from 2 to 1 gives large effect

- Parton Shower has little effect

Effects from PB- TMDs

- using Parton Branching TMDs for DY pt spectrum (A. Bermudez et al PhysRevD.100.074027).
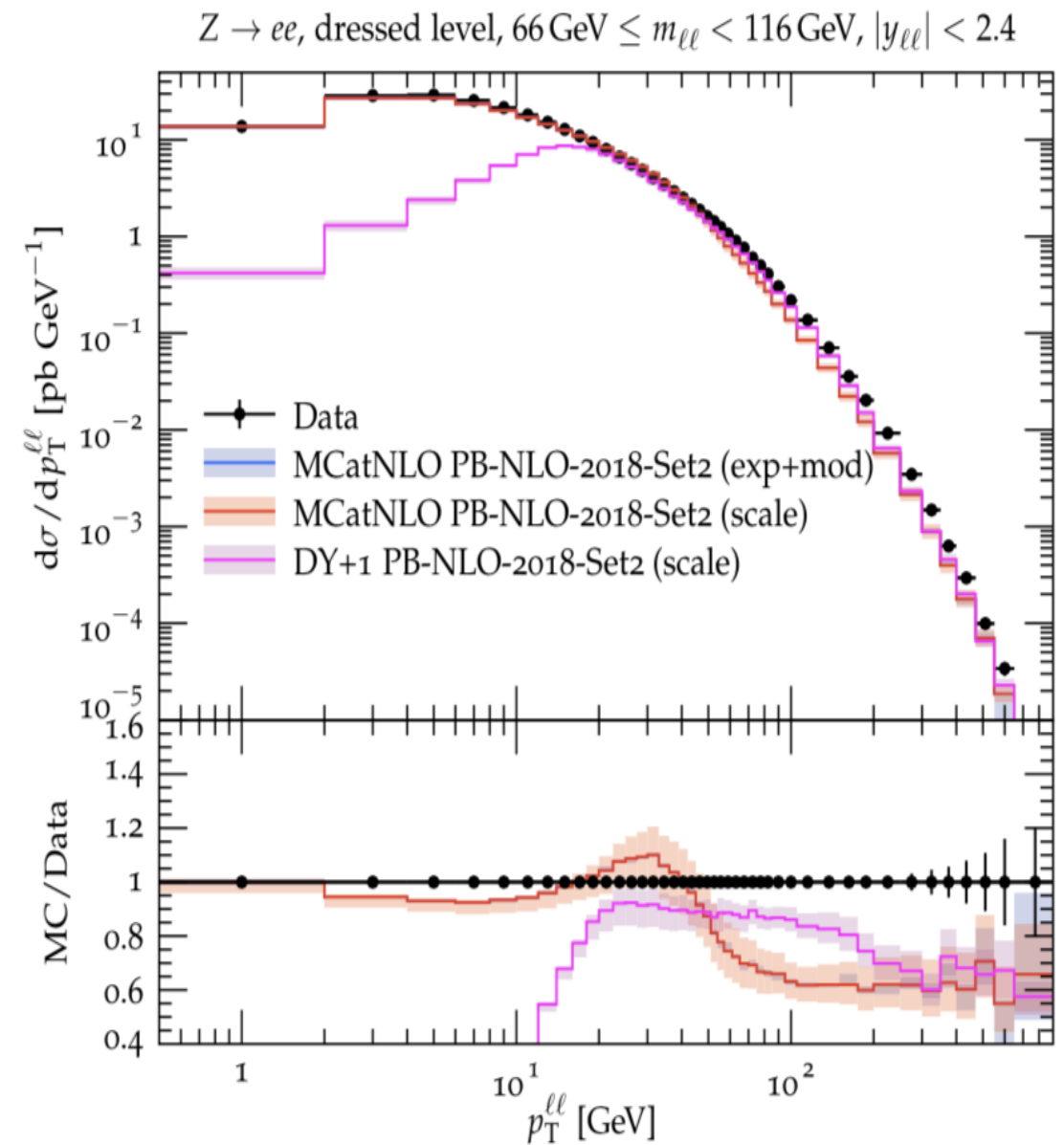
and what happens at low mass ?

- Intrinsics kt width = 0.7 GeV (no hard tail)
- low mass data can be used to constrain intrinsic kt

Agenda