Cascade developer meeting

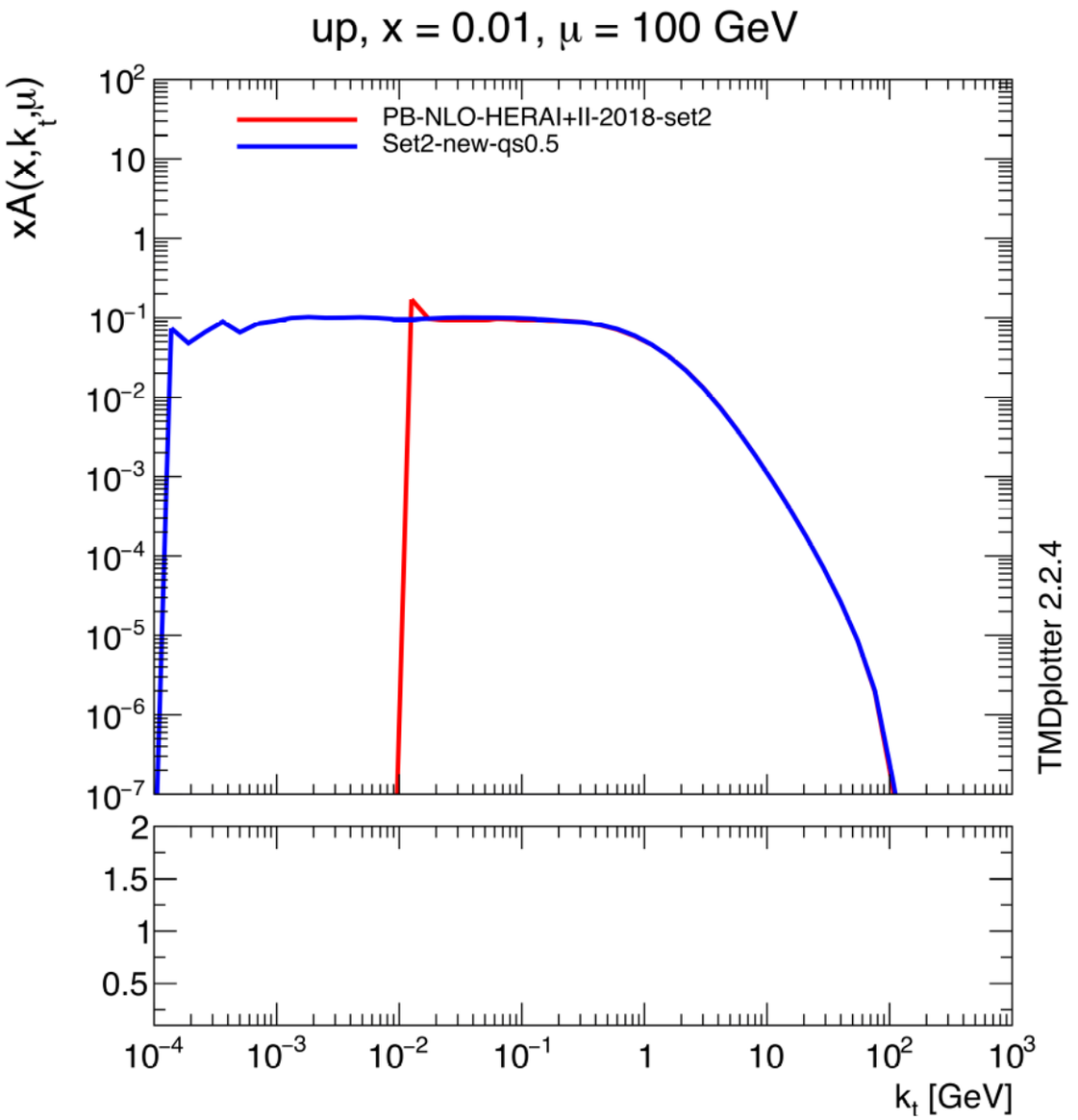
hope you all had a good start into 2023 !

CASCADE news

- New version ready: 3.3.1
  - timing and Maxfactor
    - tested: significant increase in speed (and simplicity)
  - new version released in git and hepforge

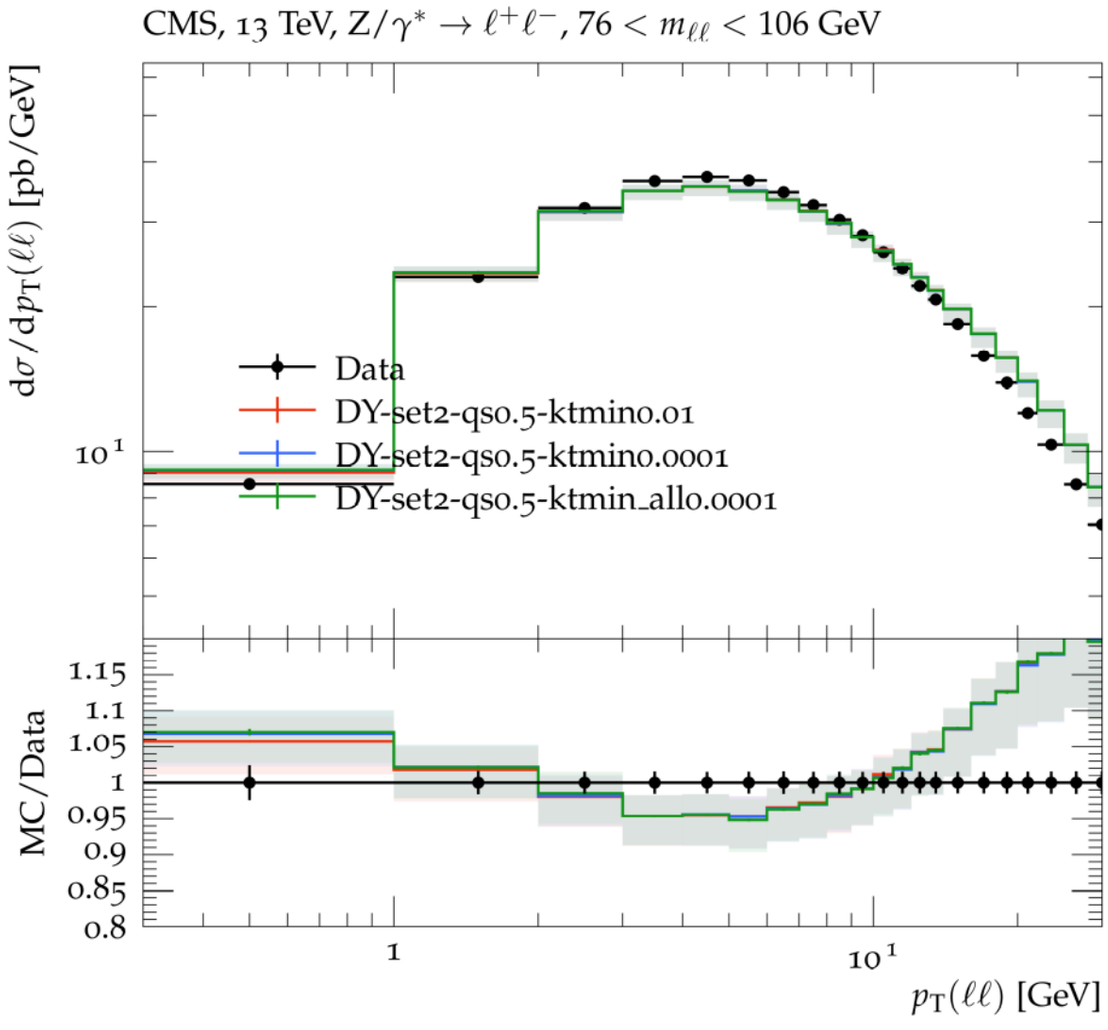
The low kt region

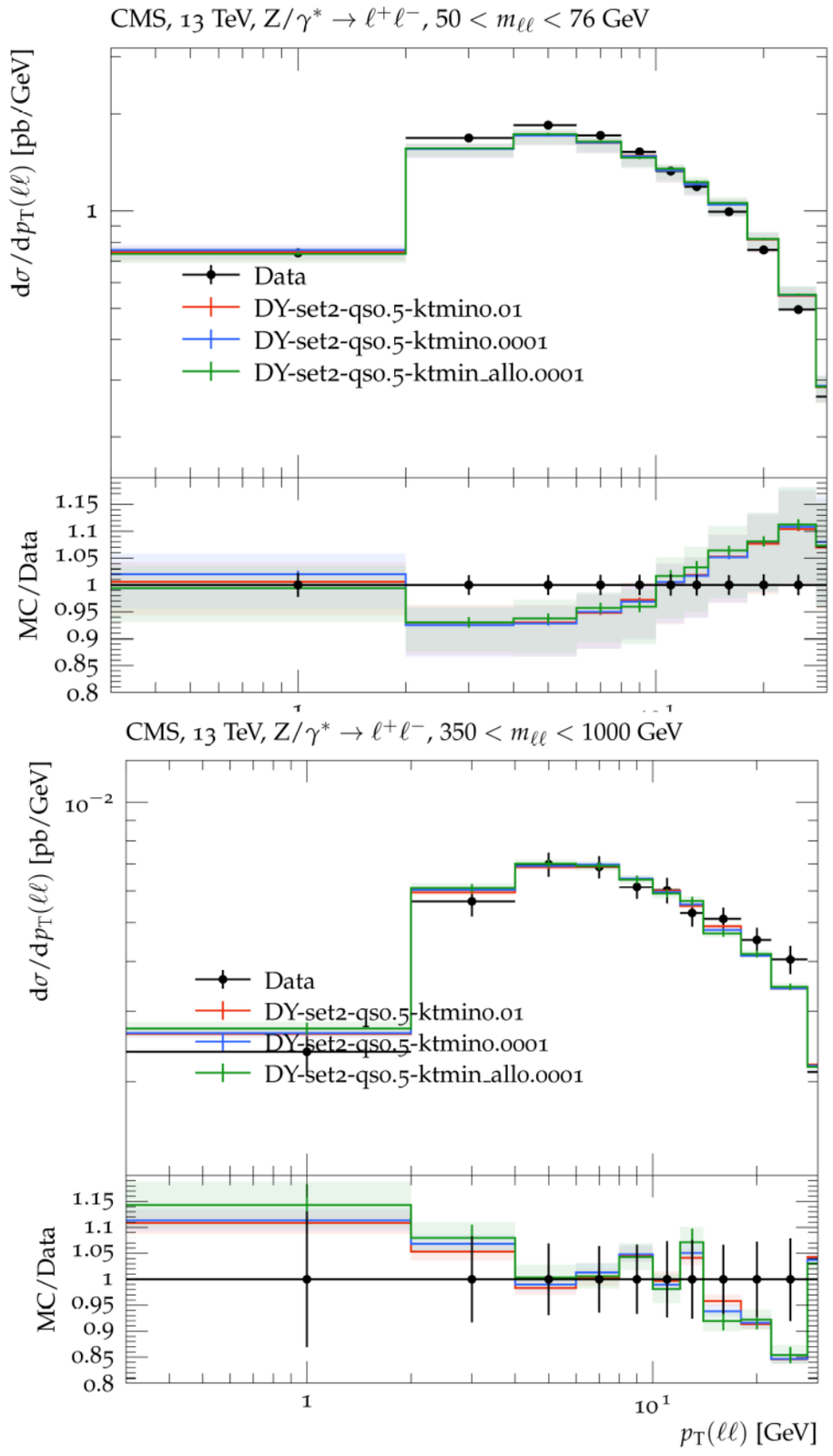
- Since low kt region is important, need to extend TMDgrids to cover lower kt region
  - ktmin = 0.0001 (before 0.01)
  - TMD distribution is flat at low kt



The low kt region

- Use this TMD for DY predictions:
  - CAS3 ktmin = 0.02
  - CAS3 ktmin = 0.0002





New papers

- new papers in pipline
  - The small kt region in the parton branching approach and relation to CSS
    - non-pert Sudakov
    - CSS comparison in resummation region
      - discussion today: agreed on strategy to focus on principal points, rather numerics
      - for comparison would be good to have QCD evolution with pt as scale in alphas: does this work in Apfel, Hoppet
  - The small kt region in DY production at NLO with the parton branching method
    - phneo applications, determnation of intrinsic kt
    - determine qs as fct of m_DY at 13 TeV
    - determine qs as fct of m_DY at 8 TeV
    - what about LHCb at 13 TeV as function of y ?
    - if all goes smooth also at low m_DY and low energy
      - all fits should be treating stat and syst uncertainties differentl, as proposed by LHCEW working group
- Both papers are open:
  - Please reply to me, if you want to be co-author, after reading and commenting

Schedule for papers

- PB & CSS paper draft includes everything
  - text needs some adjustments to keep focus
  - Paper draft ready hopefully next week, then send it around for comments to whole group

- Small kt region in DY production
  - fits at 13 TeV are ongoing: Itana already has results with treatment of correlated systematics
  - fits at 8 TeV are ongoing: Sara has already good results
  - at lowe energies, we don't have breakdown of systematics, so cannot use same chi2 calc.
    - at very low energies and low masses, sensitive to other effects, I.e.lage x etc
    - uncertainties are unclear
    - should that be included ?

AOB

- Further news ?