

# Cascade developer meeting

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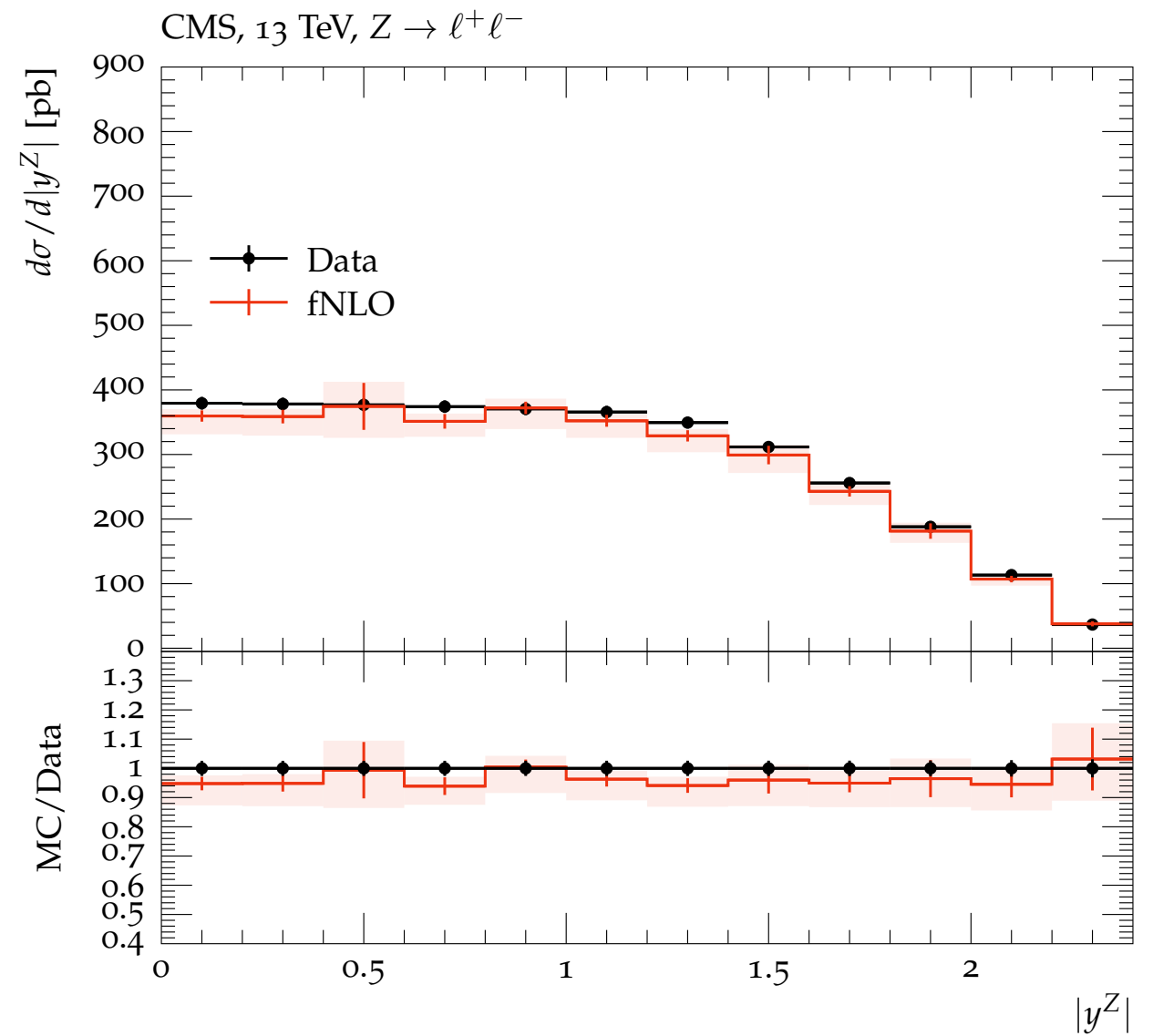
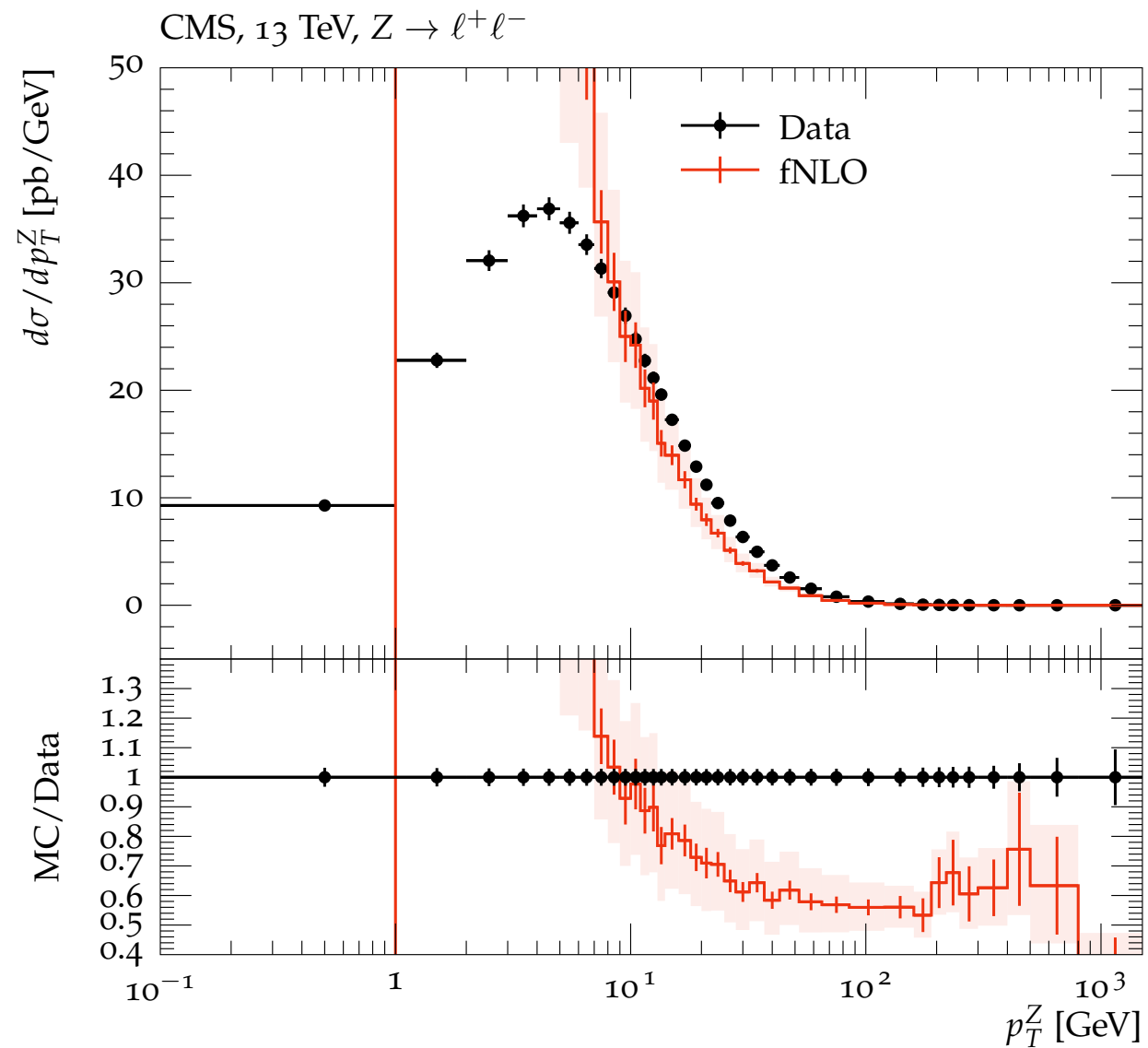
- Hope that you are all ok !

# fixed NLO with madgraph\_aMCatNLO/CASCADE

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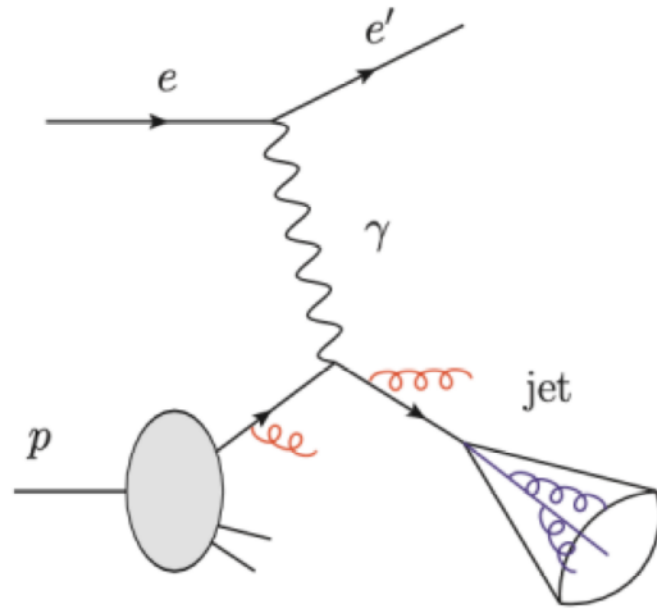
- generate fixed NLO predictions with madgraph\_aMC
  - produced LHE files
    - need some manual modifications: adding beam energy in init
- CASCADE treats properly weights and event numbers
  - give same event number to event & counterevent
    - important for treatment of stat uncertainty: weights are added, but treated as one event
  - running lhe through CASCADE, without adding/modifying
    - produce hepmc file with all weights
- run through Rivet as usual

# fNLO for DY production

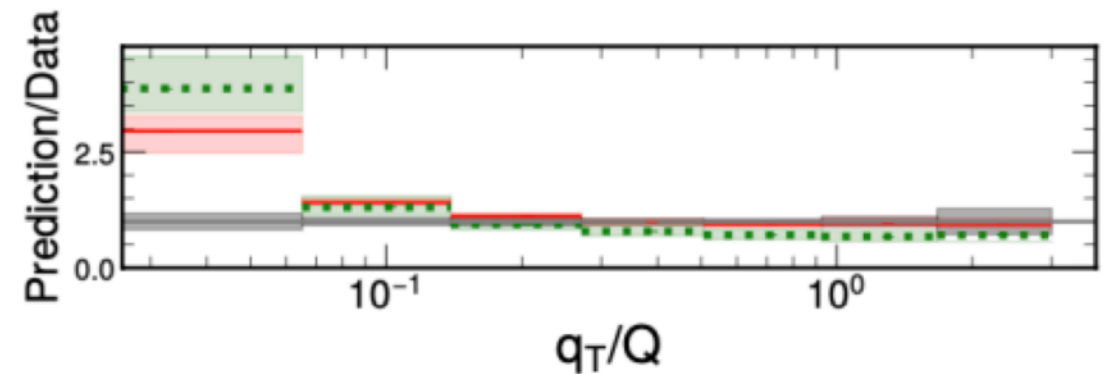
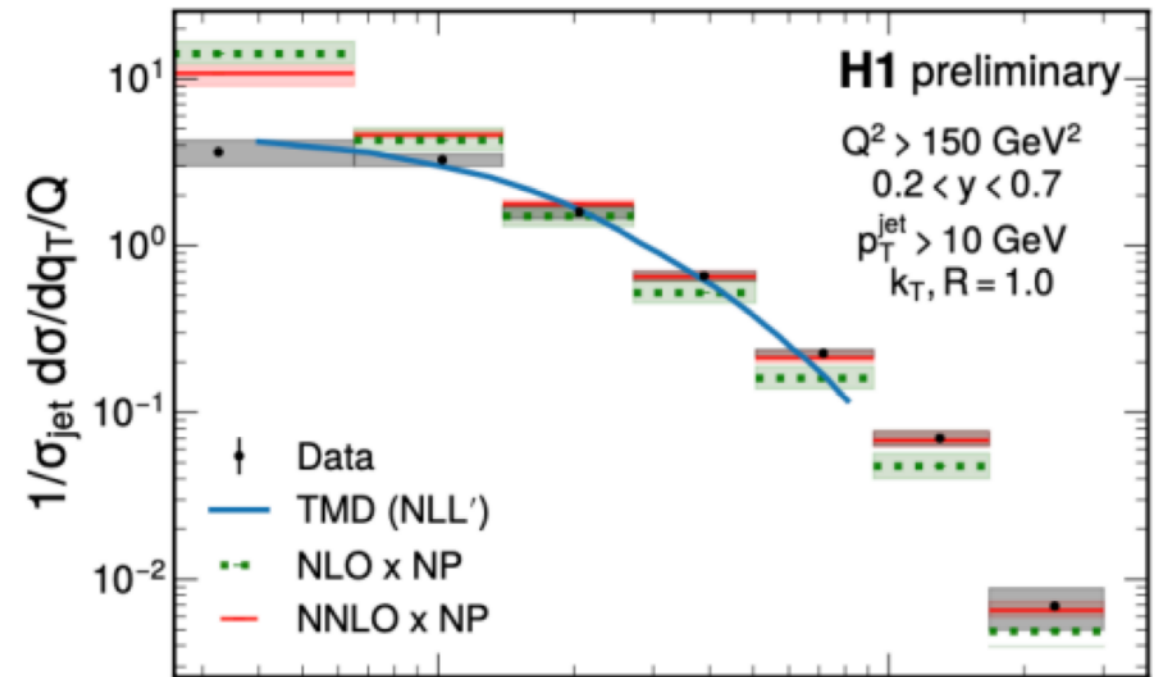


# PB TMDs for DIS

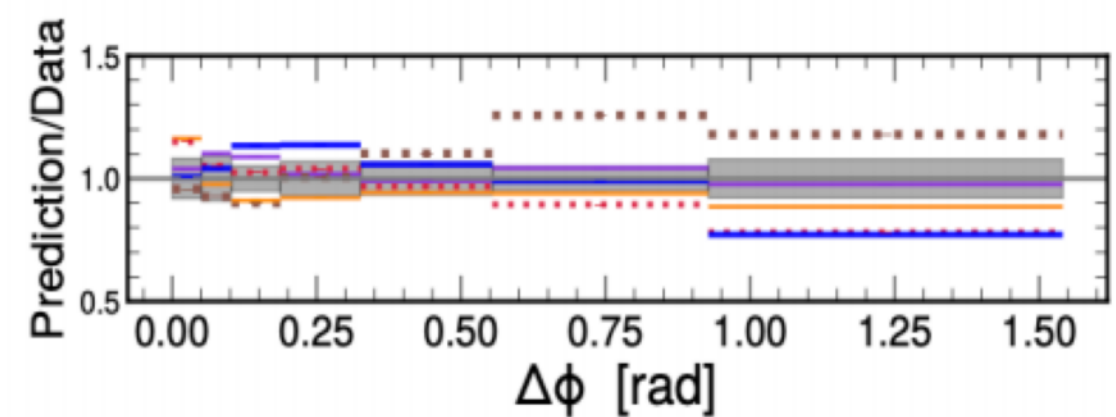
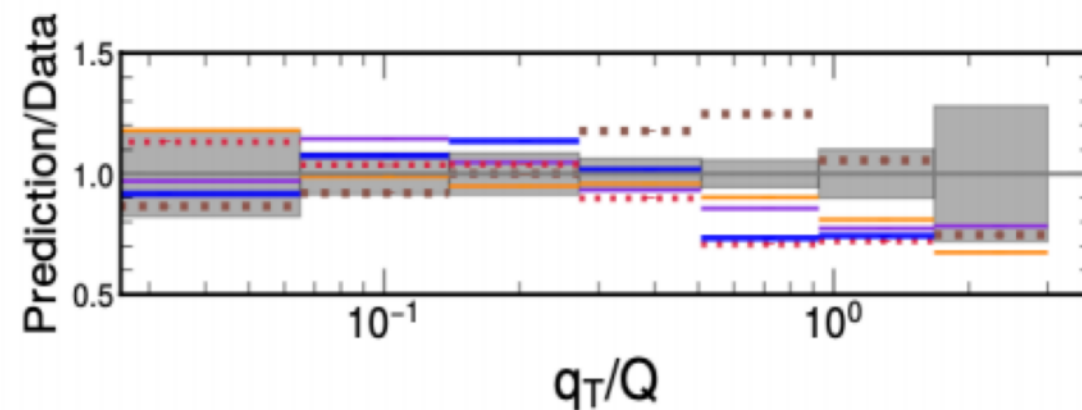
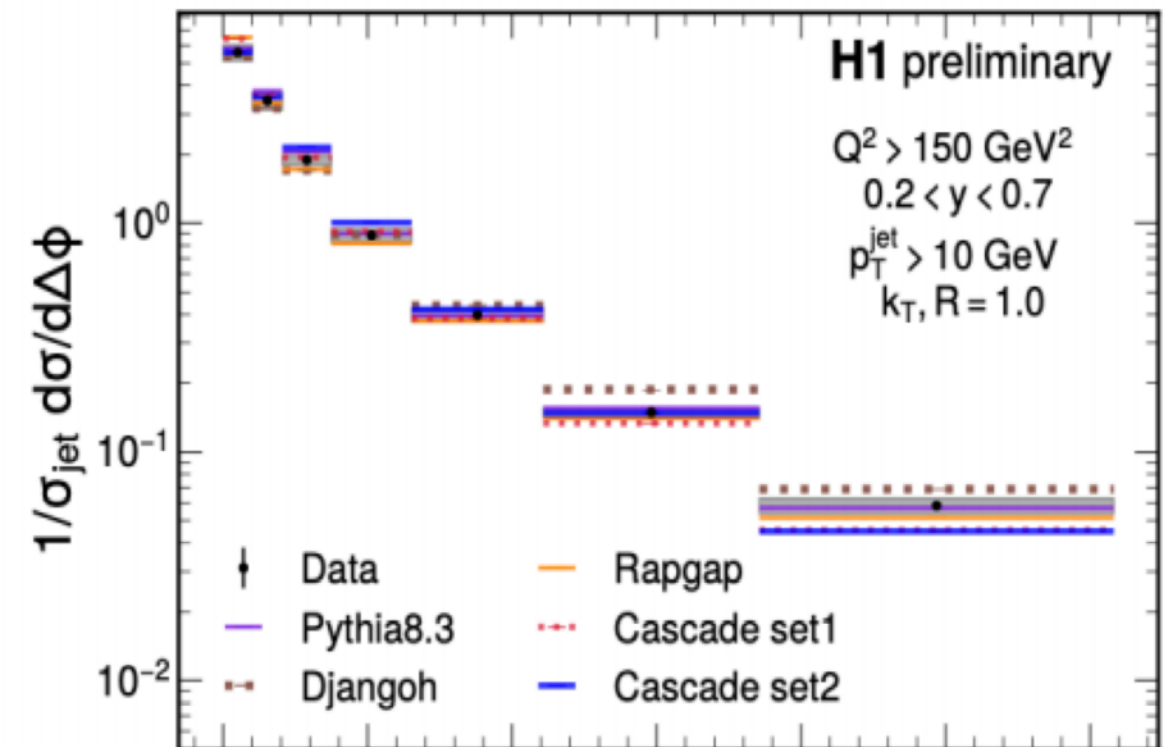
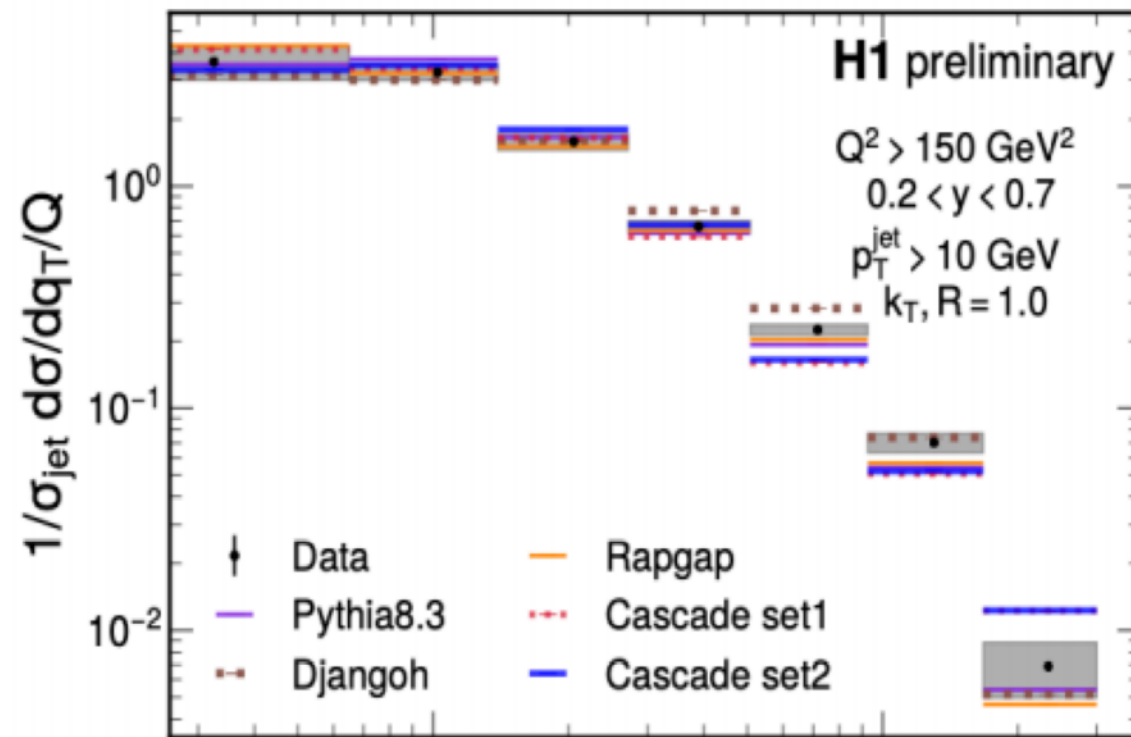
- H1 measurement to investigate TMD effects → to be presented at DIS
- H1-prelim-21-031



$$q_T = |(\vec{p}_T^e + \vec{p}_T^{jet})|$$



# PB TMDs for DIS with KaTie and CASCADE



- at High  $Q^2$ , QPM process reasonable
- PB TMDs work fine
  - set 1 too high, while set 2 is in agreement
- Success: first comparison with DIS → to be presented at DIS next week

# CASCADE manual

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- Still issue with double counting.... work ongoing
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