

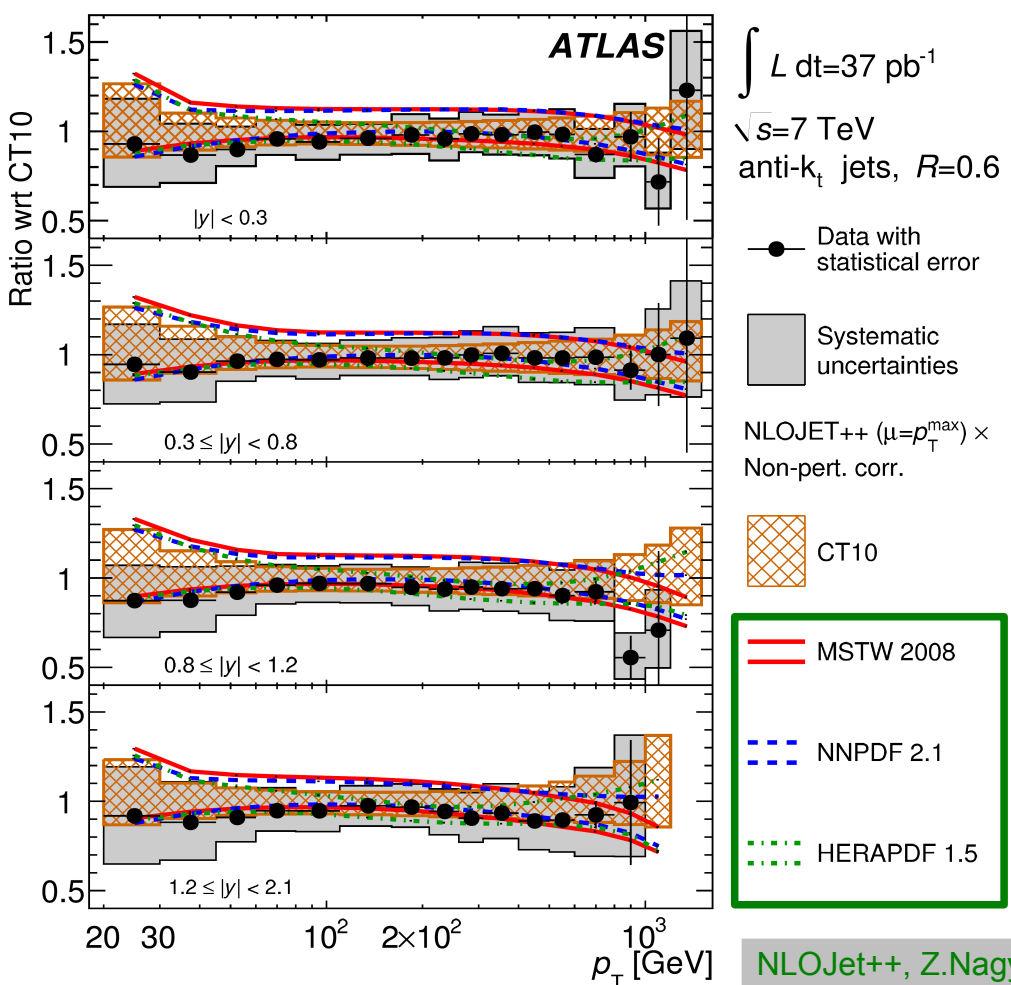


PDFs and matched Showers

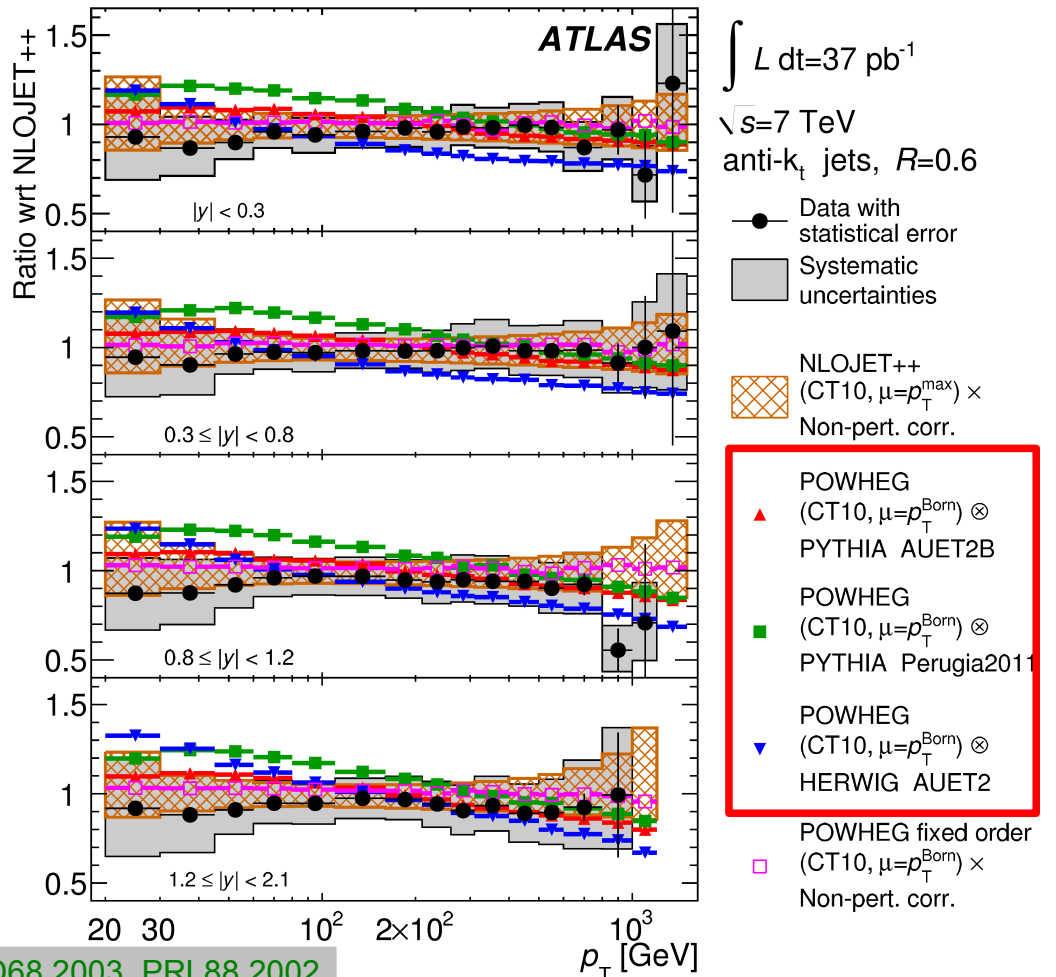


Agreement with QCD using diverse PDFs
Use to improve PDFs (high x gluon)

Agreement between NLO POWHEG vs. NLOJet++
POWHEG + matched parton showers ...
to be worked on



NLOJet++, Z.Nagy, PRD68 2003, PRL88 2002
POWHEG, S. Alioli et al., JHEP 1104 (2011)

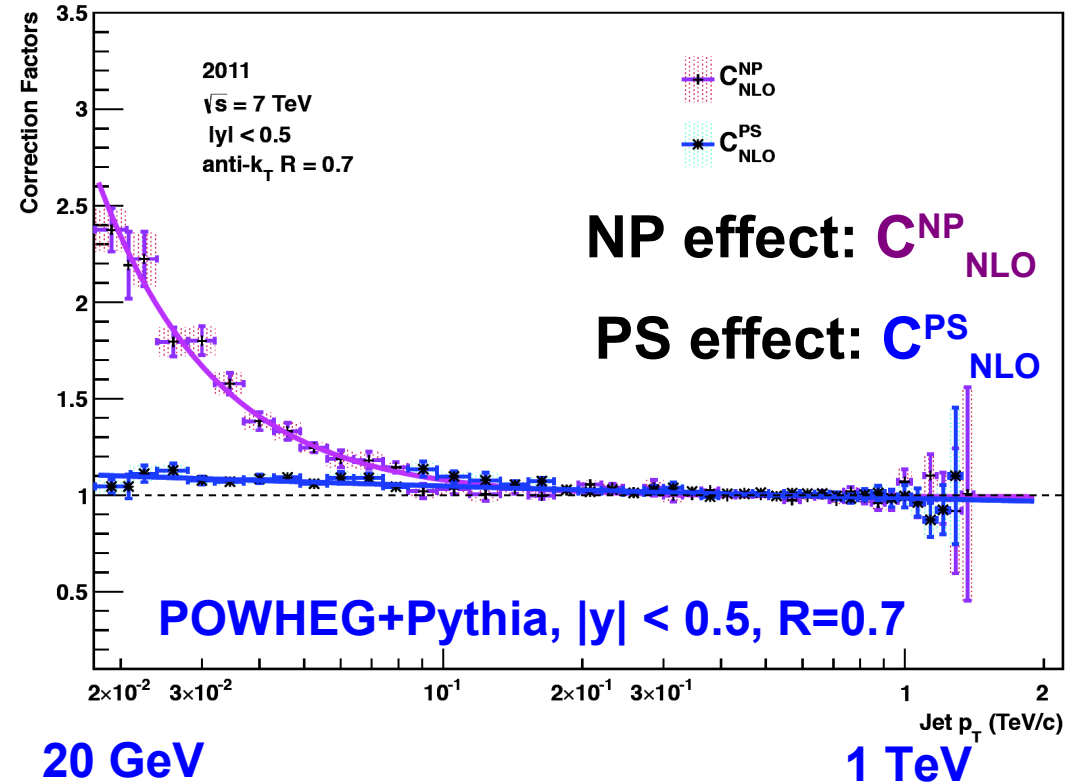
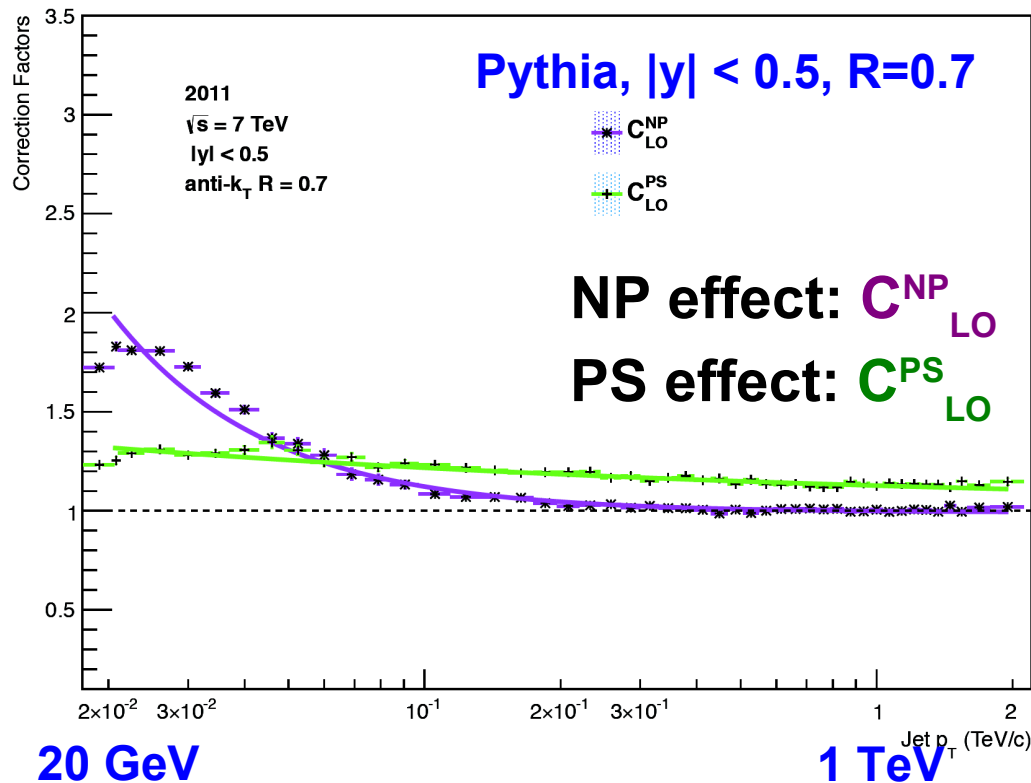


Non-perturbative Corrections



Recipe used at Tevatron & LHC:

- take LO parton shower (PS) MC
- derive corr. for non-pert. (NP) effects, i.e. multiple parton interactions and hadronization
- assume PS effect small on NLO
- assume NP effects similar for LO,NLO



Observations:

- assumptions fine at central rapidity
- Not shown here:
 - NP corrections larger for R=0.7 than 0.5
 - for $|y| > 2$ PS effects visible

Figures courtesy of S.Dooling, H.Jung, P.Gunnellini, P.Katsas, A.Knutsson; See also arXiv:1212:6164