



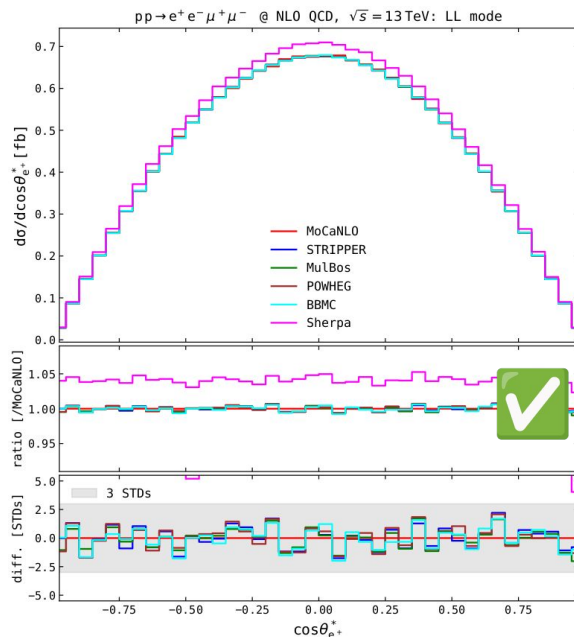
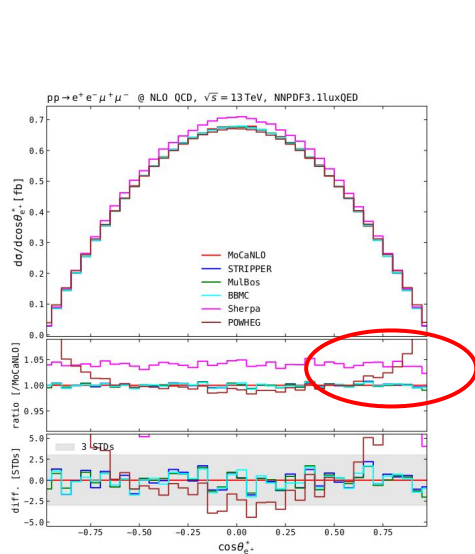
Polarisation study

November meeting

13.11.2024

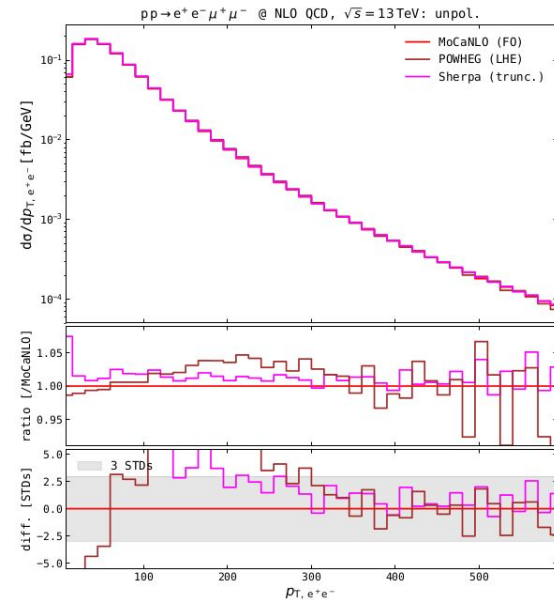
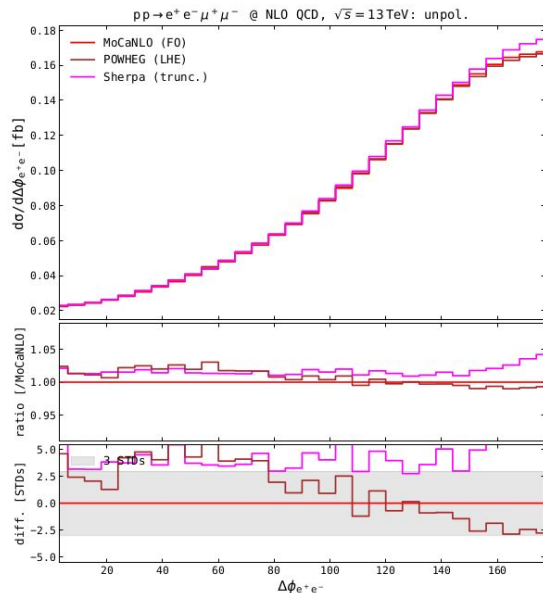
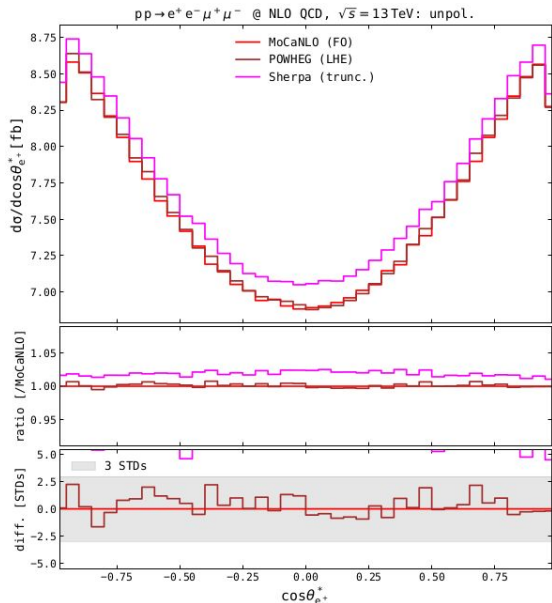
Giovanni Pelliccioli

NLO QCD (LL mode)



- fixed bug in PWG affecting decay-angle distrib. if Z boson is longitudinal
- discrepancy w.r.t. other codes solved

NLO QCD (unpol., with partial resummation effects)



- **resummation effects** @NLO (trunc. shower Sherpa) also found in PWG (LHE LL Sudakov)
- explains most of discrep. between Sherpa and FO results
- **not affecting** decay-angle distrib.'s
- **affecting** some other angles and transverse momenta: similar things expected at NLOPS

PS matching/merging

- **LOPS results** coming in
- checks on **MG5 LO merging** between CMS and MG5 authors
- **Sherpa** also capable of **merging** (NLO?)
- **NLOPS** runs in **PWG ongoing** (ready soon)
- **Sherpa** runs at (approx) **NLOPS** expected

First enable **QCD shower only** if possible, with **default tuning** of each code

Deadline for matched/merged results: **20 December 2024**

ATLAS & CMS input and planning

- **CMS** results with MG5 LO merging by Roberto, further input by Susmita and Matthew
- **ATLAS** guaranteed to provide results produced for published ZZ analysis

Next meeting: week 16-20 December 2024

Deadline for results by ATLAS and CMS: 31 January 2025

Proposed plan: complete draft by mid February, submit to arXiv by end of February