

# PDF AND EFT FITS INTERPLAY

- Interplay between PDFs and determination of Wilson coefficients in EFT fits mostly ignored
  - PDF fits — PDFs extracted from experimental data without considering any potential high-scale contamination due to new physics
  - EFT fits — Wilson coefficients determined by assuming a priori that PDFs used in theory predictions are SM-like
- In principle low-scale physics (PDFs) is separable from high-scale physics (EFT), but the complexity of the LHC environment might well intertwine them
- **Investigating this aspect would be an interesting goal of a LHC-EFT WG.**
- From PDF point of view: how to make sure that we do not absorb new physics effects in the fit of proton structure when new high energy data are included?
- From EFT point of view: how would the bounds change if PDFs were fitted by consistently including the same operators that are included in EFT fits?
- A study has been performed on DIS data, which paves the way to the simultaneous determination of PDFs and SMEFT coefficients.
- Work in progress to assess how significant is interplay between PDFs and EFT fits in high-mass Drell Yan distributions
- Ultimate goal: new generation of truly global fits, in which all ingredients that enter theoretical predictions are treated consistently.