

# Goals and targets of the EFT WG

Coordinate **benchmark studies** for SMEFT analyses: theory calculations, datasets, treatment of exp and th errors, comparison of fit results from different groups. ....

*comparison of fit results only meaningful when consistent assumptions are used e.g. for operator definitions, SM inputs, ... Currently results of EFT fits seldom compared among them!*

Provide **recommendations** for the presentation of LHC results towards optimising their usefulness and impact in EFT fits

*can we quantify which observables / distributions are more constraining for EFT fits? can we develop / apply methods to quantify impact of data without actually carrying out a full fit? Make sure all info on correlations is available? How to best exploit detector-level info?*

Define theory and methodological **standards** for global SMEFT fits

*what should be part of the uncertainties? Treatment of theory errors? How we estimate impact of methodological choices? Standard format to deliver results eg likelihood in EFT space?*

Maximise usefulness of EFT results for the **general HEP community**

*suggest/implement well-motivated model scenarios, provide tools for the matching with UV-complete theories, compare with bounds from direct BSM searches, ....*

**benchmarking is hard and painful, but really essential if we believe that SMEFT global analyses should be integral part of the LHC precision physics program**

*(from own experience in PDF4LHC working group)*

# Operation mode of the EFT WG

Define working groups focusing in different aspects of EFT analyses (together exp+th)

*theory calculations, tools, fitting, interpretation, ...*

Regular meetings with specific assignments and exercises e.g. benchmark comparisons)

*talks should be focused on specific tasks, rather than people just selling their own work*

Communication channels that minimise email traffic (eg Slack, Teams, Mattermost)

*much better to discuss and iterate on fine details in a way that everyone can follow it*

***need to define a prioritised list of goals for this new WG: what is its ultimate aim? What do experimentalists expect from theorist and vice versa? What are the timescales involved? EFT efforts will be a crucial part of the LHC program for the next two decades, so we have time to carry out a proper job!***