

Bayesian vs Frequentist approach in SMEFT global analyses

Tuesday, November 8, 2022 9:20 AM (15 minutes)

We present an updated global SMEFT analysis in the Higgs and Electroweak sectors with the SFitter framework.

The main result we present is the comparison of the results obtained with a frequentist and with a bayesian approach. The implementation of Bayesian inference in the SFitter framework is one of the main novelties of this work, and it is motivated by its greater scalability to large-dimensional fits and faster numerical convergence, compared to the frequentist likelihood treatment.

Further, we include new measurements for the Full Run II data published in recent years by the LHC experiments. We will stress the importance of a careful uncertainty treatment in this context, particularly of flat theory uncertainties. We will also discuss the impact of high invariant mass measurements on kinematically enhanced operators.

Finally, we enlarge the set of constrained operators to include corrections to the muon Yukawa coupling and to the top chromomagnetic dipole moment.

Type of talk

Theory

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