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To Profile or To Marginalize –A SMEFT Case Study

Thursday 29 September 2022 17:00 (15 minutes)

Global SMEFT analyses have become a key interpretation framework for LHC physics, quantifying how well a large set of kinematic measurements agrees with the Standard Model. This agreement is encoded in measured Wilson coefficients and their uncertain- ties. A technical challenge of global analyses are correlations. We compare, for the first time, results from a profile likelihood and a Bayesian marginalization for a given data set with a comprehensive uncertainty treatment. Using the validated Bayesian framework we analyse a series of new kinematic measurements. For the updated dataset we find and explain differences between the marginalization and profile likelihood treatments.

Summary

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