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Constraining the CP character of the Higgs–top-quark interaction

Thursday 29 September 2022 14:15 (15 minutes)

The CP structure of the Higgs boson in its coupling to the particles of the Standard Model is amongst the most important Higgs boson properties which have not yet been constrained with high precision. In this talk, I will explain how existing inclusive and differential Higgs boson measurements from the ATLAS and CMS experiments can be used to constrain the CP nature of the top-Yukawa interaction. Moreover, I will show how machine-learning-based inference can be used to tighten these constraints in the future by exploiting the full kinematic information. At the end of the talk, I will shortly discuss the constraints arising from the measurement of the electron EDM and discuss how much CP violation in the top-Yukawa coupling can contribute to the baryon asymmetry of the Universe.

Summary

Primary author: BAHL, Henning (None)

Presenter: BAHL, Henning (None)

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