Contribution ID: **16** Type: **Parallel session talk**

Standard Model Effective-Field Theory in final states with multiple Higgs and gauge bosons

Tuesday 22 August 2023 09:10 (20 minutes)

We analyse the sensitivity to beyond-the-Standard-Model effects of hadron collider processes involving the interaction of two electroweak and two Higgs bosons, VVHH, with V being either a W or a Z boson.

We examine current experimental results by the CMS collaboration in the context of a dimension-8 extension of the Standard Model in an effective-field-theory formalism. We show that constraints from vector-boson-fusion Higgs pair production on operators that modify the Standard Model VVHH interactions are already comparable with or more stringent than those quoted in the analysis of vector-bosonscattering final states. We study the modifications of such constraints when introducing unitarity bounds, and investigate the potential of new experimental final states, such as ZHH associated production. Finally, we show perspectives for the high-luminosity phase of the LHC.

Collaboration / Activity

SMEFT phenomenology

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