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Simulation Based Inference for the Higgs-gauge sector

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One primary goal of the LHC is the search for physics beyond the Standard Model, leading to the development of many different methods to look for new physics effects. In this context, we employ Machine Learning methods, in particular we explore the applications of Simulation-Based Inference (SBI), to learn otherwise intractable likelihoods and fully exploit the information available, compared to traditional histogram-based methods. We focus on a variety of di-boson production channels at the LHC, utilizing the complementarity between channels to put more stringent constraints on the Wilson coefficients of Standard Model Effective Field Theory.

Significance

References

Experiment context, if any

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