Contribution ID : **14**   Type : **not specified**

From theory to automation: Decoupling renormalization for BSM Higgs decays

Thursday, 15 January 2026 09:15 (60)

High-precision calculations of Higgs boson observables can be used to constrain models of Beyond the Standard Model (BSM) physics. Motivated by the non-observation of light BSM particles at the LHC, in this talk I will discuss a renormalization scheme for precise predictions of Higgs boson decays in the presence of moderately heavy BSM physics at the 1-loop level. I will cover the basics of regularization and renormalization. Special focus will be on the decoupling renormalization scheme, where I will present the renormalization conditions for a generic model. I will also show application of the decoupling scheme in the two Higgs doublet model (THDM) to explore its caveats and effects. Finally, I will sketch how this calculation becomes automatized as a part of FlexibleSUSY spectrum-generator generator.

Presenter(s) :   LANG, Jonas (National Center for Nuclear Research Poland)