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Automatizing the path from Lagrangian to Higgs physics constraints

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FlexibleSUSY is a framework for an automated computation of physical quantities in non-supersymmetric and supersymmetric models starting from the most basic building blocks, namely the particle content and the Lagrangian. Among a plethora of observables that it supports it is also capable of computing decay widths of Higgs sector particles with precision comparable to experimental measurements. In this talk I will discuss the recently created interface between FlexibleSUSY and HiggsTools/Lilith that allows to assess the global agreement of a BSM model Higgs sector with experimental data. This provides a fully automatized chain leading directly from a user defined BSM model to the quantified (in terms of p-value) viability of that model.

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