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New physics in multi-Higgs final states in 14 and 100 TeV colliders:

Sunday 25 June 2017 11:40 (5 minutes)

I am going to introduce how to parametrize the Standard Model and generic new-physics contributions by an effective Lagrangian that includes higher-dimensional operators. The selected subset of operators is motivated by composite-Higgs and Higgs-inflation models. The new physics effect can be potentially discovered in multi-Higgs final states in both 14 and future 100 TeV colliders.
In the Standard Model, we perform both a parton-level and a detector-level analysis for triple-Higgs final states. The sizable contributions from new effective operators can largely increase the cross section and/or modify the kinematics of the Higgs bosons in the final state. Taking into account the projected constraints from single and double Higgs-boson production, we propose benchmark points in the new physics models for the measurement of the triple-Higgs boson final state for future collider projects.

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Session Classification: Short oral presentations