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New Physics In Higgs Decays to Leptons

Wednesday 5 June 2019 11:15 (30 minutes)

As yet, every measurement of the Higgs boson is consistent with the predictions of the Standard Model. I will describe new measurements that can made at the LHC and future colliders in kinematic distributions. I will focus on the so called "Golden Channel"decay of the Higgs boson with four leptons in the final state. I will show how these measurements can probe both generic deviations from the Standard Model, as well as specific models such as supersymmetry. Finally, I will describe the "Platinum Channel"decay of the Higgs to as many as eight leptons, and show how dedicated searches for this spectacular signal can be orders of magnitude more sensitive than current limits.

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