

Phenomenology of Induced Electroweak Symmetry Breaking

Monday, 24 August 2015 17:50 (20 minutes)

In this talk, I will discuss scenarios of induced electroweak symmetry breaking (EWSB), where the Higgs vacuum expectation value is induced by another EWSB source. These additional sources can be due to another Higgs vev or technicolor sector and can mitigate constraints on beyond the Standard Model theories (e.g. raising the Higgs mass in supersymmetric models). I will discuss the collider constraints and phenomenology of these models, showing that there are both viable parameter space and striking signatures of cascades with multiple electroweak gauge bosons and 3rd generation fermions. Finally, our projections indicate that searches at run 2 of the LHC can cover the remaining parameter space, reflecting how much the LHC can still discover about the mechanism of EWSB.

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