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## A Composite 2-Higgs Doublet Model

*Friday, July 12, 2019 2:30 PM (15 minutes)*

We consider a Composite Higgs Model with two isospin doublet Higgs fields arising as pseudo Nambu-Goldstone bosons from a  $SO(6) \rightarrow SO(4) \times SO(2)$  breaking. The main focus is to explicitly compute the properties of these Higgses in terms of the fundamental parameters of the composite sector such as masses, Yukawa and gauge couplings of the new spin-1 and spin-1/2 resonances. Concretely, we calculate the Higgs potential at one-loop level through the Coleman-Weinberg mechanism from the explicit breaking of the  $SO(6)$  global symmetry by the partial compositeness of fermions and gauge bosons. We derive then the phenomenological properties of the Higgs states and highlight the main signatures of this Composite 2-Higgs Doublet Model at the Large Hadron Collider, including modifications to the SM-like Higgs couplings as well as production and decay channels of heavier Higgs bosons.

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