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The 125 GeV Higgs in the context of four generations with 2 Higgs doublets

We interpret the recent discovery of a 125 GeV Higgs-like state in the context of a two Higgs doublets model with a heavy 4th sequential generation of fermions, in which one Higgs doublet couples only to the 4th generation fermions, while the second doublet couples to the lighter fermions of the 1st-3rd families. This model is designed to accommodate the apparent heaviness of the 4th generation fermions and to effectively address the low-energy phenomenology of a dynamical electroweak symmetry breaking scenario. Upon analyzing the newest data in all the Higgs search channels at the LHC, we find that the lightest Higgs, h , is a good candidate for the recently discovered 125 GeV spin-zero particle within the parameter space of this model. We also discuss other aspects of the phenomenology of the Higgs states in this model

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