

Supersymmetry versus Compositeness: 2HDMs tell the story

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Supersymmetry and Compositeness are two prevalent paradigms providing both a solution to the hierarchy problem and a motivation for a light Higgs boson state. As the latter has now been found, its dynamics can hold the key to disentangle the two theories. An open door towards the solution is found in the context of 2-Higgs Doublet Models (2HDMs), which are necessary to Supersymmetry and natural within Compositeness in order to enable Electro-Weak Symmetry Breaking. We show how 2HDM spectra of masses and couplings accessible at the Large Hadron Collider may allow one to separate the two scenarios.

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