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Theoretical indications on a new scalar boson near 0.5 TeV

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Assuming that the Higgs potential arises from a strong BSM sector and that this sector lies in the same universality class as non-perturbative QCD, we show that several model approaches to strongly coupled field dynamics (AdS/QCD, Nambu-Jona-Lasinio model, spectral sum rules) indicate on a possible existence of a Higgs-like scalar particle h' with the mass near 0.5 TeV. We suggest also that the recently observed resonance $H(650)$ can be naturally interpreted as an enhancement due to the hh' -threshold, where h is the standard Higgs boson.

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