

University of California, Davis  
Physics Department  
Joint Theory Seminar



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**"Naturalness and Higgs decays in the MSSM with a singlet"**

The simplest extension of the supersymmetric standard model - the addition of one singlet superfield - can have a profound impact on the Higgs and its decays. We perform a general operator analysis of this scenario, focusing on the phenomenologically distinct scenarios that can arise. We find that these models can be very natural, with light stops and a Higgs as light as 82 GeV. These scenarios motivate further analyses of LEP data as well as studies of the detection capabilities of future colliders to the new decay channels presented.

**Monday, May 22, 2006**

**11:40am 432 PHY/GEO**