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Abstract for an Invited Paper for the APR13 Meeting of the American Physical Society

Theoretical Implications of the Higgs Data PATRICK DRAPER, University of California, Santa Cruz

As of July 4 2012 all models of new physics should be compatible with the existence of a 125 GeV Higgs boson. I will discuss some implications of the Higgs mass measurement for supersymmetric models. Secondly, any new physics must be consistent with the rate measurements in different Higgs production and decay channels, which are mostly compatible with the Standard Model but not yet measured with great precision. I will review the theoretical possibilities for enhancing the Higgs decay rate into photons over the Standard Model prediction, should the current hints in the data receive confirmation in the future.