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Higgs Boson Discovery: What's Next?

Department of Physics Colloquium



WISCONSIN

The ATLAS and CMS experiments at the Large Hadron Collider at CERN have recently discovered a new particle, that has properties consistent with those of a Higgs boson associated with the mechanism that generates the mass of all the fundamental particles in nature. Such a discovery poses questions that may point towards new physics beyond the Standard Model of particle physics, and may shed light to some of the most fundamental questions of science: The unification of all the forces; the explanation of the matter-antimatter asymmetry of the universe; and the nature and origin of dark matter. I will discuss the interpretation of the latest experimental results relevant for Higgs physics both within the Standard Model and in its extension through an enhanced symmetry of nature, called “Supersymmetry”.