



Physics & Astronomy Colloquium

Spring 2010

The Hunt for the Higgs Boson

In the past several decades the standard model of particle physics has been tested in numerous experiments, and so far it describes and explains a wide range of phenomena with great precision. Yet the model fails to explain some very fundamental features about particles and interactions, including the existence of three generations of matter fermions with widely disparate masses. The standard model predicts the existence of a scalar boson, the Higgs boson, which gives mass to the W and Z bosons while leaving the photon massless. So far, there is no evidence for this particle in all the searches to date at LEP and the Tevatron, and search is now underway at the LHC. But does nature have a single standard model Higgs boson or is the Higgs sector more complicated? When can we expect to get our first observation of the Higgs boson in the various scenarios envisioned? In this talk we will review the past, present and future of this search.

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Thursday, April 29, 2010
4:00-5:20 PM - MND 1015

Open and free to all students, faculty, and public