

The Higgs Hunter's Guide at the Dawn of the LHC Era

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The exploration of the TeV scale by the Large Hadron Collider (LHC) at CERN is now finally underway. So it is time to get serious about the search for the final missing ingredient of the Standard Model of particle physics---the elusive Higgs boson. In this colloquium, I will explain why the Higgs boson was proposed, and its role in explaining the origin of mass of the fundamental particles. I will summarize the current experimental constraints obtained by direct and indirect experimental observations. Finally, I will describe the expectations for the anticipated Higgs boson discovery at the LHC. I shall end with some speculations of physics beyond the Higgs boson.