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The Higgs Boson: What Do We Know, and How Do We Know It?

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For several decades, the Standard Model of particle physics appeared to be both accurate (confirmed repeatedly by experiment) and incomplete (in that Higgs Boson, one of its necessary components, had not been detected). This situation changed dramatically this past summer, when the ATLAS and CMS experiments at the Large Hadron Collider discovered a new particle that had many of the characteristics expected of the Higgs Boson. I will discuss the importance of the Higgs Boson in the Standard Model, the experimental techniques used to search for it, our current level of understanding, and the steps to be taken to improve that understanding.