

TSF15-2015-000206

Abstract for an Invited Paper
for the TSF15 Meeting of
the American Physical Society

Penetrating the Particle Frontier In The Era of Precision Higgs Physics

JAY DITTMANN, Baylor University

The discovery of the Higgs Boson in 2012 was a great triumph for elementary particle physics, marking the end of a decades-long search for the elusive particle. That pivotal event prompted physicists to examine the properties of this new boson in great detail. Now, three years later, the ATLAS and CMS collaborations have combined their analyses of Large Hadron Collider data to create a sharp new image of the Higgs particle. New results provide precise measurements of the mass of the Higgs boson and the strength of its interactions with other elementary particles. This presentation summarizes our current knowledge of the Higgs boson, its connection to our broader understanding of the universe, and the implications for future searches for new phenomena.