

XXX-th International Workshop on High Energy Physics “Particle and
Astroparticle Physics, Gravitation and Cosmology: Predictions, Observations
and New Projects”



Contribution ID: 4

Type: **Presentation**

Twenty Years of Searching for the Higgs Boson: Exclusion at LEP, Discovery at LHC

Monday 23 June 2014 09:10 (35 minutes)

The Standard Model (SM), the theory of particle physics was established 40 years ago and it seems to describe all experimental data very well. All of its elementary particles were identified long ago apart from the Higgs boson. For decades many experiments were built and operated searching for the SM Higgs boson and finally, the two main experiments of the Large Hadron Collider at CERN, CMS and ATLAS in July 2012 reported the observation of a new particle with properties close to those predicted for the Higgs boson, thereby proving the validity of the Brout-Englert-Higgs mechanism of spontaneous symmetry breaking in the Standard Model. In this talk we outline the search story: the exclusion of the SM Higgs boson at LEP, the Large Electron Positron collider, and its first observation at the LHC.

Presenter: HORVATH, Dezso (Wigner RCP, Budapest (HU))

Session Classification: SM physics and beyond