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Have We Discovered the Higgs?



Dr. Jianrong Deng (NAOC)

Jianrong Deng (邓建榕) is a visiting researcher at NAOC, working on the Tianshan Radio Experiment for Neutrino Detection (TREND). She earned her Ph.D in Particle Physics at Duke University in 2008. During 2004 - 2008, Dr. Deng has been stationed at Fermilab, outside Chicago, USA for research on the CDF experiment (Collider Detector at Fermilab). In 2008, she moved to CERN, outside Geneva, Switzerland for research on the ATLAS detector for the Large Hadron Collider. Listening to Nature's messengers (Neutrons, photons and neutrinos), Dr. Deng seeks for signatures of new physics beyond the Standard Models, such as new particles, new interactions and new dimensions. Potential discoveries are expected to answer some fundamental questions of Nature, such as the nature of dark matter, new natural symmetries, and possible extra dimensions of space-time.

Abstract

Physicists from experiments at the Tevatron collider at Fermilab and the LHC (Large Hadron Collider) at CERN recently release their results on the Higgs search. A new boson particle is discovered at the ATLAS (A Toroidal LHC Apparatus) and CMS (Compact Muon Spectrometer) experiments. In this presentation, a review of the Higgs search at collider experiments will be presented. In addition, some searches for new physics beyond the Standard Model will be discussed.

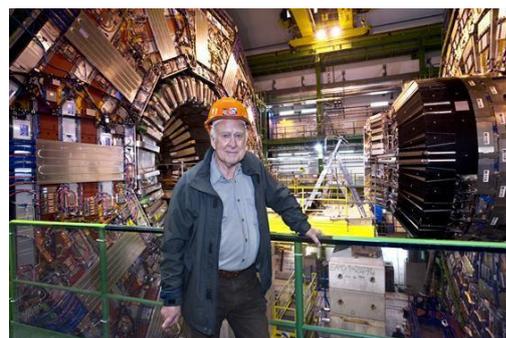


Figure 1: Physicist Peter Higgs stands in front of the CMS detector in 2008.

This is generally conceded by all to be the only definitive observation of a Higgs in CMS. Photo: CERN. Courtesy: Fermilab Today

All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).