MYSTERIES OF THE HIGGS BOSON

Abstract

Thirty-five years after it was postulated as a key component of the theory of weak interactions, the Higgs boson was discovered at the CERN Large Hadron Collider in 2012. Since that time, many decay modes of the Higgs boson have been observed, indicating couplings of the Higgs boson in good accord with the simplest theoretical expectations. However, we should not be complacent. There are still many questions surrounding this particle. Theoretical models that address these questions contain very different pictures of the Higgs boson but, in the end, make predictions quite compatible with current data. In this lecture, I will explain how precision measurements of its properties, and other new measurements at high-energy colliders, could guide us to a deeper understanding of the origin of the Higgs boson.

The lecture will take place on Sunday, 8 May 2016, at 14:00, in Melamed Hall (no. 6), Shenkar Physics Building, Tel Aviv University, Ramat Aviv

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