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The Discovery of the Higgs boson

Monday, 4 July 2022 14:00 (45 minutes)

At the Large Hadron Collider (LHC) at CERN, Geneva we can probe our Universe moments after the Big Bang to tackle the questions about its origin, evolution and composition. These include: What is the origin of mass? What constitutes dark matter? How many dimensions of space and time do we live in? Why is the universe composed of matter and not antimatter? The answers have the potential of altering our perception of how Nature operates at the fundamental level. The discovery in July 2012 of the Higgs boson at the Large Hadron Collider (LHC), one of the most important of this new century, completes the particle content of the standard model (SM) of particle physics, a theory that describes our visible universe in exquisite detail.

This talk will describe the long journey to the discovery of the Higgs boson, briefly recalling the physics aims, outlining some of the technological and engineering challenges faced during construction, and the making of the discovery itself. The talk also will discuss the prospects for the high-luminosity operation of the LHC, especially those related to the examination of the properties of the Higgs boson with larger data samples.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

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