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【7】A Higgs-Eye View of the Cosmos

Tuesday, 22 August 2017 20:00 (1h 15m)

The discovery of the Higgs boson has opened the door to a new era in particle physics. This particle is a conundrum. Unlike any previously discovered, it raises more questions than it answers. What fundamental laws operate at the smallest distance scales? Where did the matter we are made of come from and, while we' re on that topic, what is the dark matter? All evidence suggests the Higgs is, at the least, a co-conspirator in these mysteries.

In the continued attempt to search for answers, theoretical physicists are increasingly looking towards cosmology, where fundamental questions may be linked to the physics of the most ginormous proportions. In this talk I will discuss current approaches to these puzzles and explain how the physics of the cosmos is shaping our understanding of the results from the worlds most powerful microscope: The Large Hadron Collider (LHC). This is a two way street, and I will explain how measurements from particle colliders have consequences for our understanding of the very earliest Universe, and its ultimate fate.

Primary author: MCCULLOUGH, Matthew Philip (CERN)

Presenter: MCCULLOUGH, Matthew Philip (CERN)

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