

An introduction to the physics of fundamental interactions and the CMS experiment at CERN

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Understanding our Universe and its evolution and knowing what are the fundamental blocks of matter has always been a curiosity of humanity. A wide range of experiments are currently being carried on to answer these questions that bridge elementary particle physics and cosmology, the smallest and the largest scales in nature. And, while discovering new things, more questions arise! And consequently, new projects are conceived. In this talk, we will review our current understanding of the physics of fundamental interactions and the open questions, as well as the current and planned experimental efforts to try and provide answers to them. We will focus in particular on the Compact Muon Solenoid (CMS) at the CERN Large Hadron Collider (LHC).