

GSI - FAIR Colloquium

Main Lecture Hall (SB1 1.120), 64291 Darmstadt, Planckstraße 1

*Tuesday, November 29, 2016,
16:15 Uhr (Tea from 15:45)*

Pre-Colloquium for Students at 15:30

*From the Discovery of the Higgs Boson to the Search for Dark Matter
New results from the LHC*

Karl Jakobs - Universität Freiburg

With the discovery of the Higgs boson by the two large experiments ATLAS and CMS at the Large Hadron Collider (LHC) at the European laboratory for particle physics CERN in Geneva, an important milestone in the investigation of the fundamental interactions was reached. Despite this discovery important questions remain open: does the discovered particle have the properties as predicted by the Brout-Englert-Higgs mechanism in the Standard Model or does it show deviations pointing to new physics? Are there new symmetries and -linked to them- new particles that could explain the Dark Matter in the Universe?

In June 2015 a new data-taking period has started and proton-proton collisions are investigated with an energy of 13 TeV –nearly twice the collision energy used in the previous years. A new energy window opens up where the above-mentioned questions can be addressed. In the talk, the current status of the measurements at the LHC is presented. In particular, the properties of the discovered Higgs boson and the search for candidate Dark Matter particles are discussed.

Einladende: Silvia Masciocchi

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