



Physics Colloquium



Thursday, October 19th at 3:30 pm in SC 234(*)

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Hunting for New Physics with LHCb

The LHCb experiment at the CERN Large Hadron Collider (LHC) is an experiment designed to investigate the tiny differences between matter and antimatter by studying the decays of hadrons containing heavy quarks.

The LHCb detector is a forward high-resolution magnetic spectrometer with a high-precision vertex detector and advanced particle identification capabilities. In the proton-proton collisions at LHC most of the heavy quarks pairs are produced in the forward region and the events of interest are selected by means of sophisticated hardware and software triggers.

LHCb has acquired data in 2010-12 during LHC Run1 and it is now continuing the data taking phase during Run2, which is expected to finish by the end of 2018. In 2019 LHCb will enter the upgrade phase and is expected to restart data taking in 2021 with a greatly improved detector.

In this seminar, I will first describe the LHCb detector and present some of the most interesting physics results obtained so far. I will then outline the work that is currently going on for the upgrade of the experiment, an upgrade that will allow us to extend the physics reach of the experiment during the LHC Run3 and Run4 phases.

Refreshments at 3:00 pm in SC 103

(*) Note the unusual day - Thursday