LHC Seminar

SPEAKER: Hengne Li

TITLE: **Strong physics at LHCb: probing nuclear matter effects in small systems**

DATE: 10 Dec 2019, 11:00

PLACE: 222/R-001

ABSTRACT

The Standard Model of particle physics has demonstrated its predictive power in the electroweak and Higgs sectors, through the long-anticipated discovery of the Higgs boson and the per-mille-level agreement between direct and indirect determinations of the W-boson mass. However, due to the nonperturbative nature of QCD at low energy scales, the predictive power of the SM in the strong sector is more limited. Two examples of outstanding questions are the nature of the numerous recently discovered XYZ bound states and the mysterious nuclear matter effects of confined nucleons in nucleus and plasma-like quark matter in hot and dense conditions. The LHCb detector has unique capabilities at the LHC, being the only dedicated forward detector. While designed for high-precision measurements in the heavy flavour sector, its capabilities can also be applied to strong interaction physics. In this seminar, we will present some recent LHCb results in this area, probing cold nuclear matter effects and helping understand the nature of the X(3872) resonance.

Organised by: M. Mangano, M. Pepe-Altarelli, G. Unal.....
Refreshments will be served at 10h30