



LHC Seminar

SPEAKER: Alberto Sanchez Hernandez
TITLE: **Recent CMS measurements on B_c and B_s spectroscopy**
DATE: 12 Feb 2019, 11:00
PLACE: 503-1-001 - Council Chamber

ABSTRACT

The spectrum of the B_c family, composed of mesons made of a beauty quark and a charm antiquark (or vice-versa), provides a rich source of information on the non-perturbative QCD processes that bind heavy quarks into hadrons. While their masses and sizes place them between the charmonium and bottomonium systems, so that many properties can be theoretically inferred by interpolation of existing knowledge, the unequal quark masses and velocities open the door to more complex dynamics, where some (non-relativistic) approximations might break down. This seminar will present B_c spectroscopy results recently obtained by the CMS collaboration, using a data sample of 13 TeV proton-proton collisions. The observations are based on the analysis of the B_c $\pi\pi$ invariant mass spectrum, measured with a resolution around 6 MeV, where the B_c is reconstructed in the $J/\psi\pi$ decay. The seminar will also present recent measurements regarding masses and decays of the B_{s1} (5830) and B_{s2} (5840) mesons, which combine beauty and strange quarks, based on data collected at 8 TeV.