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Aula Magna del Dipartimento di
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ore 15:00

LHCb at LHC: recent results and search for new physics

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Abstract: LHCb is one of the 4 major experiments at the Large Hadron Collider, dedicated to the search for new physics in CP violation and rare decays of hadrons containing b and c quarks. It is a forward spectrometer achieving excellent resolution in the reconstruction of particle tracks and primary and secondary vertices and excellent particle identification capabilities in the momentum range between 10 and 100 GeV/c. The experiment is delivering a large number of world-class results in the domains of QCD, heavy flavour physics, heavy quark spectroscopy, precision measurements of Cabibbo-Kobayashi-Maskawa matrix parameters but also on electroweak physics, heavy ions and cosmic ray physics, with its unique fixed target physics programme. In the last two years LHCb presented several intriguing results especially concerning tests of lepton flavour universality, showing interesting deviations from the theoretical predictions. These recent results from LHCb as well as plans for the upgrades of the experiment will be discussed.