

New high resolution measurements of open and hidden charm production in proton-nucleus collisions at $\sqrt{s} = 110$ GeV with the LHCb detector.

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Open and hidden charm production in nucleus-nucleus collisions is considered as a key signature of Quark Gluon Plasma (QGP) formation. In the search of specific QGP effects, proton-nucleus collisions are used as the reference as they account for the corresponding Cold Nuclear Matter (CNM) effects. The LHCb experiment, thanks to its System for Measuring Overlap with Gas (SMOG) can be operated in a fixed target mode with the LHC beams, at an intermediate center-of-mass energy between nominal SPS and RHIC energies. This allows for the required variety of beam-target combinations in a particularly interesting kinematical domain. In 2015, for the first time, reactions of incident LHC proton beams on noble gas targets have been recorded by the LHCb experiment at a center-of-mass energy of 110 GeV and within the center-of-mass rapidity range $-2.3 < y^* < 0.2$. In this talk, we will present the first high resolution measurements on open and hidden charm production obtained under these conditions.

Preferred Track

Open Heavy Flavors

Collaboration

LHCb

Primary author: MAURICE, Emilie Amandine (University of Liverpool (GB))

Presenter: MAURICE, Emilie Amandine (University of Liverpool (GB))

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