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D^0 meson production in proton-lead and lead-lead collisions at $\sqrt{s_{NN}}$=5 TeV with LHCb

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see abstract

Summary

The LHCb experiment has the unique property to study heavy ion interactions in the forward and backward hemisphere in a kinematic region not accessible to the general purpose detectors, thanks to its forward acceptance 2<η<5, and the possibility to study proton-lead collisions for both orientations of the beams. Furthermore, using the possibility to inject gas into the interaction region, it is in the unique position to do fixed target physics. In 2015, LHCb also participated successfully for the first time in the Pb-Pb data-taking. First studies showed that up to semi-central lead-lead collisions can be analysed. Results include measurement of the nuclear modification factor and forward-backward production of prompt D^0 in p-Pb collisions. Status of the measurement of the D^0 cross section and nuclear modification factor in Pb-Pb collisions will be shown. Prospects for D^0 production measurement in fixed target collisions will also be presented.

Presentation type

Oral

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