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Results on heavy ion collisions at LHCb

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Summary

The forward acceptance of the LHCb detector allows it to probe proton-ion collision in a unique kinematic range, complementary to the other LHC experiments. A selection of LHCb results on heavy quarkonia production, together with the production of D0 mesons is presented in proton-lead
collision data at sqrt(sNN) = 5 TeV. The nuclear modification factor and the forward-backward production ratio have been determined for J/Psi, Psi(2S), Y(1S) and D0 mesons. A sizable suppression is observed in proton-lead collisions at forward rapidities, only a slight suppression is seen in lead-proton collisions at backward rapidities. In the second
part the results on two-particle angular correlations in proton-lead collisions are discussed. The correlations are measured as a function of relative pseudorapidity and azimuthal angle, denoting long-range correlations on the near side, which extends previous observations into the forward region up to pseudorapidity = 4.9. In the last part
preliminary results are summarized for operation of the LHCb experiment in the fixed-target mode, collecting data from collisions of the proton or lead beams with nuclei of a noble gas injected into the interaction region.

Primary author: KUCHARCZYK, Marcin (Cracow)

Presenter: KUCHARCZYK, Marcin (Cracow)

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