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Beitrag ID: 204 Typ: Talk

Open heavy flavor production in pPb and PbPb collisions at LHCb

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Heavy quarks are produced in the early stage of heavy ion collisions due to their large mass, and experience the entire evolution of the QCD medium. The baryon-to-meson ratio, in particular, the Λ_c^+/D^0 ratio, provides valuable information on charm hadronization mechanisms, testing the role of coalescence in the Quark-Gluon Plasma created in PbPb collisions. In pPb collisions, heavy quarks are essential to study cold nuclear matter effects, which include the modification of nuclear parton distribution functions, energy loss in the nucleus, and other effects, providing a crucial baseline for interpreting PbPb measurements. In this talk, the first LHCb open charm measurement in PbPb collisions, the Λ_c^+/D^0 ratio, will be presented. Moreover, this presentation will show precision measurements of open charm production from a rich set of charmed hadrons in pPb collisions at 5.02 and 8.16 TeV, including the first measurement of Ξ_c^+ baryons in heavy ion collisions. The nuclear modification factor R_{p} Pb, forward-backward ratio R_{FB} and particle production ratios of charm baryons and mesons will be discussed and compared to models.

Experiment/Theory

LHCb

Affiliation

On behalf of LHCb

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Track Klassifizierung: Heavy flavor and quarkonia