Contribution ID: **1066** Type: **Parallel session talk**

Heavy hadron production with a coalescence plus fragmentation hadronization approach: AA system size scan down to pp collisions

Saturday, 20 July 2024 14:45 (17 minutes)

Heavy baryon production in various collision systems, from RHIC to LHC energies, is a challenge for theoretical understanding of heavy quarks (HQs) hadronization. An hadronization via coalescence-fragmentation predicts large Λc/D0 from AA collisions at RHIC and LHC to pp collisions at top LHC energies. The model shows significant enhancements in Ξc/D0 and Ωc/D0 in pp collisions in agreement with ALICE data. We extend this approach to multi-charmed baryons: Ξcc and Ωccc. Investigating the impact of system size from PbPb, KrKr, ArAr, and OO as planned by ALICE3 will permit to study the role of non-equilibrium in charm quark distribution. We show that in PbPb collisions it resembles SHM predictions under full thermalization, but baryons like Ωccc, are sensitive to HQ thermalization. Predictions for B mesons, Λb, and Ξb in PbPb and pp collisions at top LHC energies are presented. The study of heavy hadron production could sheds light on hadronization and equilibration of HQ in the QGP.

Alternate track

I read the instructions above

Yes

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