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Type: **Theory talk**

Early Strangeness freeze-out from RHIC BES to LHC

Tuesday, May 18, 2021 11:50 AM (20 minutes)

In this talk, we investigate the kinetic freeze-out properties in relativistic heavy ion collisions at different collision energies. We present a study of standard Boltzmann-Gibbs Blast-Wave (BGBW) fits and Tsallis Blast-Wave (TBW) fits performed on the transverse momentum spectra of identified hadrons produced in Au + Au collisions at collision energies of $\sqrt{s_{NN}} = 7.7 - 200$ -GeV at Relativistic Heavy Ion Collider (RHIC), and in Pb + Pb collisions at collision energies of $\sqrt{s_{NN}} = 2.76$ and 5.02-TeV at the Large Hadron Collider (LHC). The behavior of strange and multi-strange particles is also investigated. We found that in TBW fits, the strange hadrons, with higher temperature, similar radial flow and smaller non-equilibrium degree, approach equilibrium more quickly from peripheral to central collisions than light hadrons. We also observed that in TBW fits for non-strange particles the kinetic freeze-out temperature of the central collisions decreases from RHIC to LHC energies in TBW model, while strangeness does not show this behavior.

Collaboration

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