



Contribution ID: 416

Type: **Poster**

Strangeness production in U+U collisions at STAR

Tuesday, 29 September 2015 16:30 (2 hours)

Enhanced strange quark production in high-energy heavy-ion collisions relative to p+p collisions was proposed as a possible signature of the deconfined phase of quarks and gluons [1]. It was suggested that the dominant process for the production of strange quarks in the quark gluon plasma is gluonic fusion. Chemical equilibration of strange quarks formed in such medium happens faster than would be the situation in hadronic scenario [2].

With 20% larger energy density expected [3] and a larger lifetime of fireball than Au+Au collisions, we can have a better insight of testing these facts in U+U collisions.

We will present transverse momentum (p_T) spectra of K_s , $\Lambda(\Lambda^-)$ and $\Xi(\Xi^-)$ in U+U collisions at $\sqrt{s_{NN}} = 193$ GeV in STAR experiment at RHIC. These strange particles are reconstructed from their weak decay topology via dominant hadronic decay modes using the Time Projection Chamber (TPC) detector of STAR. Measured masses of these particles are consistent with PDG values. A clear centrality dependence of p_T spectra is observed for these particles. We'll also show comparison of these results with Au+Au 200 GeV results.

References

- [1] J. Rafelski and B. Muller, Phys. Rev. Lett. 48,1066 (1982)
- [2] P. Koch, B. Muller and J. Rafelski, Phys. Rep. 142, 167 (1986)
- [3] D. Kikoa, G. Odyniec, and R. Vogt, Phys. Rev. C 84,054907,(2011)

On behalf of collaboration:

STAR

Primary author: TRIPATHY, Srikanta Kumar (Institute of Physics, Bhubaneswar)

Presenter: TRIPATHY, Srikanta Kumar (Institute of Physics, Bhubaneswar)

Session Classification: Poster Session

Track Classification: Open Heavy Flavors and Strangeness