Strangeness in Quark Matter 2016



Contribution ID: 90

Type: Contributed Talk

Flavour Oscillations in Dense Baryonic Matter

Tuesday 28 June 2016 14:20 (20 minutes)

The presence of strangeness non-conservation process $K^0 \leftrightarrow \bar{K}^0$ during the hadronic stage of relativistic nucleus-nucleus collisions will be discussed, as a possible mechanism for the excessive sub-threshold production of double-strange hyperons observed recently by HADES collaboration. We explain, why such process could remain unnoticed in the spectra of neutral K_s^0 mesons, and suggest to observe $\Delta s = 2$ process in A+A and p+A interactions by careful experimental study of K^{0*} and \bar{K}^{0*} yields at $\sqrt{s} < 15$ GeV/n collision energies. The excess of (K^0 and K^{0*}) over (\bar{K}^0 and \bar{K}^{0*}) mesons in the initial stage of hadronic gas expansion and non-zero baryonic density (generating sufficiently strong in-medium Kaon-nucleon potentials) are the necessary requirements for $\Delta s = 2$ oscillation processes to occur within very short time scale of hadronic gas expansion. A possibility of similar heavy flavour non-conservation phenomena will be discussed for the case of sub-threshold D^0 production in A+A collisions.

On behalf of collaboration:

None

Primary author: FILIP, Peter (Slovak Academy of Sciences (SK))Presenter: FILIP, Peter (Slovak Academy of Sciences (SK))Session Classification: Strangeness Production