Quark Matter 2015 - XXV International Conference on Ultrarelativistic Nucleus-Nucleus Collisions



Contribution ID: 528

Type: Poster

Charged kaon- and ϕ -reconstruction in Au+Au-collisions at 1.23 AGeV

Tuesday 29 September 2015 16:30 (2 hours)

In Au+Au-collisions at 1.23 AGeV incident energy, strangeness is produced below the free nucleon-nucleon threshold. In baryon dominated matter K^+ and K^- mesons exhibit different properties,

since only K⁻ can be resonantly absorbed by nucleons.

Although strangeness exchange reactions have been proposed to be the dominant channel for K⁻ production in this energy regime, the production yield could also be explained in Ar+KCl-reactions at 1.76 AGeV based on a statistical hadronization model fit to the measured particle yields. To guarantee strangeness conservation, strangeness is calculated canonically within R_c in these models, and therefore the ratio of ϕ/K^- is predicted to rise with decreasing beam energies and as a consequence the feed-down of ϕ -mesons to kaons becomes important.

In total 7.3 Billion 40% most central Au(1.23 GeV per nucleon)+Au collisions have been analyzed for this investigation. The data has been recorded with HADES and a substantially improved reconstruction method has been employed to reconstruct the hadrons with high purity in a wide phase space region. In this contribution, we present results on charged kaons and ϕ -mesons.

Supported by BMBF (05P12RFGHJ), HIC for FAIR, HGS-HIRe, H-QM and GSI.

On behalf of collaboration:

HADES

Primary author: Ms SCHULDES, Heidi (Goethe-University Frankfurt)

Presenter: Ms SCHULDES, Heidi (Goethe-University Frankfurt)

Session Classification: Poster Session

Track Classification: Open Heavy Flavors and Strangeness