Contribution ID: **597** Type: **Poster**

Strangeness production in Au+Au collision at $\sqrt{(s)}$ = 2.4 A GeV

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

Particle production in collisions of heavy ions at energies in the few AGeV energy regime is still a matter of theoretical controversy. Is the assumption of statistical emission from a thermalized system sufficient, or is there evidence for sequential freeze-out? Is there a consistent picture of chemical and thermal freeze-out? Or can particle production at these energies be only understood in a fully dynamical description like e.g. microscopic transport?

HADES has recently measured 7 billion central (40%) Au+Au collisions at a beam energy of 1.23 AGeV. For the first time at such low energies it has been possible to reconstruct the dominant particles carrying strangeness like K^+, K^-, K^0 and Λ as well as the hidden-strange ϕ. After development of an improved reconstruction method the particles can now be reconstructed with high purity and with a large phase space coverage. The respective phase space distributions are analyzed with regard to the above phrased questions. In particular the conjecture of a possibly uniform freeze-out configuration is assessed as well as its location on the QCD phase diagram. Preliminary studies of flow and e-by-e observables will also be presented.

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Session Classification: Poster Session

Track Classification: Baryon Rich QCD Matter