

Title: Study of transverse flow of kaons in Au + Au collisions at 1.23A GeV

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Abstract: The production and propagation of strange hadrons at the threshold energy are important probes of the in-medium hadron's properties and stiffness of the equation of state of nuclear matter. In this thesis, the transverse kaon flow at Au + Au collisions with kinetic beam energy 1.23A GeV measured with the HADES spectrometer is discussed. The motivation for such an analysis and the theoretical introduction are described first, followed by the characterization of the the individual parts of HADES spectrometer. The procedure to identify detected particles from the measured signals is introduced. Finally, the flow analysis and its results are presented. The differential directed and elliptic flow of kaons in measured gold on gold collisions is compared with published data and with kinetic transport model predictions.

Keywords: relativistic heavy-ion collisions, transverse flow, kaon flow