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Kaon flow in Au+Au collisions at 1.23AGeV measured with HADES

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We present result on an anisotropic transverse flow of kaons (K^+, K^0_S and K^-) in Au+Au collisions at $\sqrt{s_{\rm NN}} = 2.42\,\rm GeV$ measured with HADES. It was proposed already in mid-nineties that kaon flow around its production threshold might be a good probe for kaon-nucleon potential, and consequently for nuclear equation-of-state [1]. The presented analysis was performed on more than 2 billions events of the 40\% most central collisions which opened the possibility to differential kaon flow analysis even at this low energy regime. The measurements are compared to microscopic transport model predictions, namely UrQMD, SMASH, PHSD, and GiBUU.

[1] G. Q. Li, C. M. Ko, and Bao-An Li: Kaon Flow as a Probe of the Kaon Potential in Nuclear Medium, Phys. Rev. Lett. 74, 235 (1995).

Primary author: Dr CHLAD, Lukáš (Nuclear Physics Institute of the CAS and Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague)

Presenters: PROZOROV, Alexandr; Dr CHLAD, Lukáš (Nuclear Physics Institute of the CAS and Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague); PROZOROV, Alexandr (NPI CAS CZ)

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