

In-medium modifications of properties of near-threshold kaons in wide range of phase space with FOPI

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Modifications of basic properties of kaons, like mass and decay constants, in hot and dense nuclear medium, often parameterized by the in-medium potentials, are an intensely studied topic in the last two decades. However, until recently the experimental samples obtained from the heavy-ion collisions at 1-2A GeV, and used to draw conclusions on the scale of these potentials were limited to narrow windows of the momentum space [1-4].

An installation of the new RPC-based ToF detector within the FOPI setup at GSI allowed for a considerable enhancement of the kaon acceptance range. Recent measurement of the directed and elliptic flow of charged kaons [5], has been followed by the investigation of the K^-/K^+ ratio across phase space, and was supplemented by the measurement of the Phi mesons, a relevant source of about 20% of negatively charged kaons. This new information may help to sharpen the deduced values of the potentials of interaction of kaons with the medium.

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