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Nuclear modification factors of strange mesons measured by PHENIX

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Quark-gluon plasma (QGP) was discovered in heavy ion collisions at Relativistic Heavy Ion Collider. Later the formation of the QGP was confirmed by the Large Hadron Collider at much higher energies. Although QGP existence might be beyond doubt, its properties nowadays are the subject of detailed systematic study. Strange quarks are absent in the colliding heavy ions and can only be formed in the QGP. Hence, measurements of strange quarks is a good way to explore QGP properties. Particles which contain strange quarks can be a great tool to study parton recombination at intermediate transverse momentum (pT) and energy loss at high pT.
In this talk, we will present the most recent PHENIX results on nuclear modification factors of K+-, phi, K*0 mesons as function of pT and number of participants in p+p, p+Al, p+Au, d+Au, He+Au, Cu+Cu, Cu+Au, Au+Au, and U+U collision systems. These results are aimed to enrich the understanding of strange(hidden strange) particle production and its difference from the production of particles which do not contain strange quarks.

Preferred track

Collectivity & Multiple Scattering

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