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Recent PHENIX results on high- p_T light hadron production

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Production of Quark Gluon Plasma (QGP) has been established in central heavy ion collisions (Au+Au, Cu+Cu) at RHIC energies. Observation of strong suppression of hadron yields at high transverse momentum served as one of the most important evidences in favor of production of a new state of matter in such collisions. Recent RHIC run with asymmetric collision system (Cu+Au) provides the means to systematically study suppression pattern of hadrons in different nuclear overlap geometry needed to improve theoretical description of parton energy loss in QGP.

Non-zero elliptic flow and a hint of suppression of high p_T hadrons suggests that mini-QGP can be formed in collisions of light and heavy nuclei characterized by high charged particle multiplicities. To address the question of collective behavior in small systems RHIC provided series of geometry controlled experiments with highly asymmetric systems (p+Al, p+Au, He³+Au).

The recent results from PHENIX experiment at RHIC on charged hadron, pi-zero, eta and phi meson production in asymmetric systems will be presented and discussed.

Topic:

Topic: Heavy Ion Collisions and Critical Phenomena

Summary

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