

Disappearance of Partonic Collectivity in 3 GeV Au+Au Collisions at RHIC

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Searching for the onset of Quark-Gluon Plasma (QGP) has been one of the most important motivations of relativistic heavy-ion physics. Collectivity measurements could be served as powerful tool, since they are sensitive to dynamics of early stage of system evolution. In the lower energy collisions, measurements of light hadron collectivity would tell about the underlying collision dynamics and help to study the properties of QCD medium. On the other hand, measurements of light nuclei collectivity provide valuable information on the nucleon coalescence sum rule and lead to better understanding of light nuclei production mechanism in such collisions. In this talk, I will present new measurements of directed flow and elliptic flow for light hadron and light nuclei in Au+Au collisions at 3 GeV by the STAR experiment at RHIC. The rapidity, transverse momentum and energy dependence of and for these particles will be discussed. These results are compared with hadronic transport model calculations, indicating that baryonic interactions dominate in 3 GeV Au+Au collisions.

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