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# Meson Production in Heavy Ion Collisions at RHIC

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摘要 We present meson production in Cu+Cu and Au+Au collisions measured by the STAR experiment at RHIC.The hadronic decay mode → K+K-is used in the analysis.The yields for meson in Cu+Cu and Au+Au collisions at a given beam energy are scaled by the number of participant.The Npart normalized meson yields in heavy ion collisions over those from p+p collisions are larger than 1 and increase with collision energy.These results suggest that the source of enhancement of strange hadrons is related to the formation of a dense medium in high energy heavy ion collisions and can not be only due to canonical suppression of their production in smaller systems.We also present STAR results on the meson elliptic flow v2 from sNN=200 GeV Cu+Cu at RHIC.The elliptic flow in Cu+Cu system that has the similar relative magnitude and qualitative features as that in Au+Au system.The observations imply the hot and dense matter with partonic collectivity has been formed in heavy ion collisions at RHIC. However, eccentrality normalized v2, v2/(nqεpart) is lower for Cu+Cu than for Au+Au collisions at 200 GeV.So this might indicate thermalization has not been reached in 200 GeV Cu+Cu collisions.

关键词 meson production elliptic flow

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