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Measurements of π , K, p spectra in fixed target collisions with STAR

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One of the main physics goals of the Beam Energy Scan (BES) at RHIC is to study the phase diagram of the QCD matter, which separates a phase of quark-gluon plasma (QGP) from a phase of hadronic gas. The first phase of BES studied Au+Au collisions from center-of-mass energy ($\sqrt{s_{NN}}$) of 7.7 to 62.4 GeV. The BES Phase-II extended these measurements in several important ways, one of which was the addition of a fixed target program that pushed the energy reach down to a $\sqrt{s_{NN}}$ of 3.0 GeV (or μ_B up to 720 MeV). Fixed target collisions at STAR allow for a more extensive scanning of the QCD phase diagram to an important region where the QCD critical point may lie, and to a region dominated by dense baryonic matter. Light-flavor hadron production can constrain theoretical models of QCD dynamics, thus providing a method of identifying the transition from a hadronic gas to the QGP. In this poster, preliminary results on the yields of light-flavor hadrons [π , K, p] from fixed target Au+Au collisions at STAR will be presented.

Category

Experiment

Collaboration (if applicable)

STAR

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