STAR experiment results from BES program

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Abstract

The STAR experiment at Brookhaven National Laboratory was built to study the behavior of strongly interacting matter at high collision energy. One of the primary goals for STAR's experimental program at the Relativistic Heavy-Ion Collider (RHIC) is the investigation of Quantum chromodynamics (QCD) phase properties. These include the search for the location of QCD critical point and the predicted first order phase transition between Quark Gluon Plasma (QGP) and hadron gas. To make a detailed scan on the phase diagram, RHIC has performed two phases of the Beam Energy Scan program colliding Au nuclei at various nucleon-nucleon center of mass energies over the range 62.4 GeV - 7.7 GeV in BES-I and 19.6 - 3 GeV in BES-II. This report will summarize results obtained from BES-I and BES-II energies.