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The Beam Energy Scan at RHIC

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RHIC results at top collisional energy ($\sqrt{s_{NN}} = 200$ GeV) suggest a strongly coupled partonic matter, namely the Quark Gluon Plasma (QGP), has been formed in central Au+Au collisions. With the RHIC Beam Energy Scan a wide range in the QCD phase diagram temperature vs. baryon chemical potential is covered. A phase transition between the QGP and the hadron gas phase is expected in this region of the QCD phase diagram. A critical endpoint of this phase transition line is likely to exist. STAR has recorded in the years 2010 and 2011 data from Au+Au collisions at $\sqrt{s_{NN}} = 7.7, 11.5, 19.6, 27, 39$ and 62.4 GeV with the goal to find signatures for the QCD phase transition and the critical point.

STAR has a large and uniform acceptance for all beam energies and the capability for particle identification at all momenta. Recent results from hadronic spectra, di-lepton spectra, directed and elliptic flow, and event-by-event fluctuation analyses will be presented. Furthermore we compare the data to several models and discuss their implications

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