

Recent Results from the STAR Beam Energy Scan Program at RHIC

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The heavy-ion collisions provide a unique opportunity to study the properties of QCD matter in laboratory experiments. Over the past years, evidence for the distinct phases of the QCD matter has been established experimentally. At very high temperature and low baryonic chemical potential (μ_B), there is a deconfined phase of quarks and gluons, the Quark Gluon Plasma (QGP). At high μ_B , the matter seems to be dominated by hadronic interactions. However, the existence of a critical point and first-order phase transition at high μ_B region, predicted by QCD, remains to be confirmed experimentally. The RHIC Beam Energy Scan (BES) phase-II program aims to explore details of the QCD phase structure at high-density regions with high statistics and enhanced detector capabilities at the STAR experiment.. In this talk, we will present recent results from the STAR BES program towards understanding the QCD phase diagram.