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Search for the QCD Critical Point at RHIC

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At large baryon chemical potentials, QCD-based models predict the phase transition from the Quark Gluon Plasma phase to the Hadron Gas phase to be a first-order phase transition that ends in a second-order critical point. The Beam Energy Scan (BES) program at the Relativistic Heavy Ion Collider (RHIC) focusses on the searches for a possible critical point in the quark-hadron phase diagram. The experimental searches rely on studies of fluctuations of conserved quantum numbers, namely the baryon, strangeness or charge fluctuations. In this talk, the results and implications from such experimental measurements at RHIC will be reviewed. Future plans for the BES-II program will also be discussed.