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# KMI Theory Seminar

Monday, November 12, 2012

3:00 pm, KMI Science Symposia  
(ES635)

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## “The Beam Energy Scan at RHIC-STAR”

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### Abstract:

Heavy ion collision is a powerful tool to study the fundamental structures of the QCD phase diagram. Experiments at first ten years at Relativistic Heavy Ion Collider (RHIC) is to mainly study the properties of the Quark Gluon Plasma (QGP) at top energy ( $\sqrt{s_{NN}} = 200$  GeV), where the baryon chemical potential is small. The first phase of Beam Energy Scan (BES) program successfully carried out at RHIC in year 2010 and 2011. The main goals of the BES program at STAR experiment are to search for the phase boundary from the parton to hadron degrees of freedom, and to search for the critical end point. Experimentally, it is possible to access finite baryon chemical potential in the QCD phase diagram by varying the colliding beam energies in heavy ion collisions.

In this talk, I will show the recent results from the BES program at STAR. I will review several key signatures of the QGP at top RHIC energy, then discuss what we observed during the first phase of the BES program at RHIC.