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# An Improved Event Plane Detector for the STAR Experiment

*Wednesday 9 August 2017 14:30 (30 minutes)*

During the first phase of the beam energy scan (BES-I), the STAR collaboration investigated observables as a function beam energy in order to map the QCD phase diagram.
Some of these observable showed hints of non-monotonic behavior, but limited statistics, analysis dependent collision centrality estimation, and poor event plane resolution did not allow firm conclusions for discovery.
Therefore, BES-II has been approved to take data in 2019 and 2020.
A Low Energy RHIC electron Cooling upgrade underway will provide increased luminosity at BES energies.
Several ongoing detector upgrades at STAR will improve acceptance and improve particle identification.

An Event Plane Detector (EPD), is one such upgrade to the existing detector.
The EPD replaces the existing Beam-Beam Counter detector with larger granularity, acceptance and leaves a large $\eta$ gap between the centrality detector
and the main tracking detector (TPC).
Thus the EPD provide collision centrality independent of TPC, better event plane resolution and allows STAR to trigger on high luminosity collisions at lower energies, so that significant enhancements of the measurements can be achieved.
In this talk we will present detector design, results from prototype testing in 2016, ongoing commissioning status in 2017, and plans for assembling the full detector for running in 2018.

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