

Abstract Submitted  
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**Centrality determination with a forward detector in the RHIC Beam Energy Scan**<sup>1</sup> SKIPPER KAGAMASTER, Lehigh Univ — Higher order moments of net-proton distributions have been identified as potential markers of the critical point between QGP and hadronic phases of QCD matter. Analyses of these moments can potentially suffer from autocorrelation effects should centrality determination and particle selection both be performed at mid-rapidity. This talk will focus on a determination of the centrality in the forward region (with UrQMD simulated collisions), which would avoid autocorrelation with particles selected at midrapidity, using the event plane detector (EPD) in the STAR experiment as the potential candidate for a forward centrality detector. We will also discuss the challenge of accounting for spectator hadrons in the forward region for the collision energy range covered by the RHIC beam energy scan and how to leverage the inclusion of these hadrons in the EPD centrality determination.

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