Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

Rapidity Dependent Pion Spectra from Fixed-Target $\sqrt{s_{NN}}$ = 4.5 Au+Al and Al+Au Collisions at STAR JESSICA HOWARD, University of California, Davis, STAR COLLABORATION — An internal gold target was installed in the STAR detector in the winter of 2014. Special test runs were taken in 2015 with injection energy beams of both gold and aluminium ions. Utilizing these fixed-target data, STAR can extend the reach of the beam energy scan to lower center-of-mass energies and higher baryon chemical potentials than previously achieved. This allows for a more thorough search for the possible onset of deconfinement and the phase transition between hadronic and partonic matter. One signature associated with the onset of deconfinement relates the width of the pion rapidity distributions to those predicted by a hydrodynamic model [1]. In this poster we will present rapidity dependent fixed-target pion spectra from Au+Al and Al+Au datasets at center-of-mass energies of 4.5 GeV. Studying both kinematics will allow coverage of the full rapidity distribution, which is expected to be shifted in the gold going direction [2].

[1] M. Bleicher hep-ph/0509314, H. Petersen nucl-th/0611001, A. Rustamov arXiv:1201:4520
[2] G.S.F. Stephans et al. [E802], Nucl. Phys. A566 (1994)269c.

Jessica Howard
University of California, Davis

Date submitted: 30 Jun 2015 Electronic form version 1.4