

Abstract Submitted  
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**Charged Hadron Production from Au+Au Collisions at  $\sqrt{s_{NN}} = 27$  GeV at STAR**<sup>1</sup> MATTHEW HARASTY, University of California, Davis, STAR COLLABORATION — The Relativistic Heavy Ion Collider (RHIC) beam energy scan I (BES-I) covered a range of energies from  $\sqrt{s_{NN}} = 62.4$  to 7.7 GeV and ran from 2010 to 2014. Only mid-rapidity spectra for  $\pi$ ,  $K$ , and  $p$  have been published from those energies. The BES-I results have justified a new beam energy scan (BES-II) with higher statistics and a series of detector upgrades. The first collider energy from BES-II, 27 GeV, was run in 2018. This analysis will address the spectra and yields of  $\pi$ ,  $K$ , and  $p$  as a function of rapidity and centrality from the 27 GeV Au+Au collisions from 2018 at RHIC. The relative yields of the various particle species allow for a measurement of the chemical freeze-out temperature and baryon chemical potential. The  $K^+$  to  $K^-$  ratio gives insight into associated production as an alternative to thermal production. The  $p$  to  $\bar{p}$  ratio determines the baryon chemical potential, pinning down the collision's location on the QCD phase diagram. The parameters extracted from the  $4\pi$  yields in the current analysis are compared to experimental results extracted from previous mid-rapidity particle yields.

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