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Charged π , K , p Production and Thermodynamics from $\sqrt{s_{NN}} = 27$ GeV Au+Au Collisions at STAR MATTHEW HARASTY, University of California, Davis, STAR COLLABORATION¹ — The first beam energy scan I (BES-I) at the Relativistic Heavy Ion Collider (RHIC) scanned a range of energies from $\sqrt{s_{NN}} = 7.7$ to 62.4 GeV, which ended in 2014. The success of the BES-I results justified a new energy scan (BES-II) with higher statistics and detector upgrades. The first collider energy from BES-II, 27 GeV, was run in 2018. This analysis will address the spectra and yields of π , K , and p as a function of rapidity and centrality. Only mid-rapidity spectra for π , K , and p have been published from the BES-I energies. The transverse mass spectra of these particles are crucial to pin down the collision's location on the QCD phase diagram. A look into the relative particle yields as a function of rapidity shows how the chemical freeze-out temperature and chemical potentials vary with rapidity. These measurements that extend beyond mid-rapidity are compared to experimental results extracted from previous mid-rapidity particle yields.

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