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**Identified Charged Hadron Spectra at RHIC and Phase of QCD from PHENIX** TATSUYA CHUJO, University of Tsukuba, PHENIX COLLABORATION — It is widely accepted that the new state of QCD matter, Quark Gluon Plasma (QGP), has been produced in central Au+Au collisions at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory. Among many experimental data, a baryon production provides an unique tool to investigate the phase of QCD, and to characterize the properties of QGP. It is interesting that how the experimental observables, such as a high  $p_T$  hadron yield suppression and baryon enhancement, change as a function of system sizes and beam energies, and how they are affected by the existence of the QCD critical end point, which may be accessible by the lower beam energy scan proposed in the future RHIC program. In this talk, we will review the existing data of single particle spectra measured at RHIC in p+p (62.4, 200 GeV), Cu+Cu (22.5, 62.4, 200 GeV), Au+Au (62.4, 200 GeV). The most recent data of identified charged hadron spectra in p+p collisions at  $\sqrt{s} = 62.4$  and 200 GeV from PHENIX will be shown. Using these data, we investigate the evolutions of (1)  $x_T$  scaling for baryons and mesons, (2) baryon enhancement determined by the nuclear modification factor ( $R_{AA}$ ) and p/ $\pi$  ratio, and (3) freeze-out properties. We will also discuss a potential connection between the phase of QCD and the evolutions of these experimental observables.

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