

Abstract Submitted  
for the HAW14 Meeting of  
The American Physical Society

**Thermal interpretation of the proton number fluctuations in the beam-energy scan at RHIC/STAR** TAKAHIRO SASAKI, KENJI FUKUSHIMA, University of Tokyo — We exposit an interpretation of the kurtosis and the skewness of the proton number fluctuation based on a thermal model. We demonstrate that the kurtosis decreases to show a significant deviation from the unity due to quantum statistics when the baryon density grows up. Such a simple estimate of the fluctuations in a thermal gas picture fits in with the experimental data of the beam-energy scan at RHIC/STAR. We also discuss effects from the nuclear matter region where the density dependent in-medium mass would further decrease the fluctuations.

Takahiro Sasaki  
University of Tokyo

Date submitted: 28 Jun 2014

Electronic form version 1.4