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Properties of the baryon number distribution in QGP KEITARO NAGATA, KEK, KOUJI KASHIWA, YITP, SHINSUKE MOCHIZUKI-NISHIGAKI, Shimane University, ATSUSHI NAKAMURA, Hiroshima University — We study properties of the baryon number distribution in QGP phase. We first point out that a Gaussian type of the canonical partition function with regard to the baryon number means the Roberge-Weiss phase transition. The canonical partition function of QCD at high temperatures is studied both analytically and numerically. We find that the canonical partition function obtained in lattice QCD simulation agrees with that obtained for Stefan-Boltzmann limit for T higher than Tc, and is the Gaussian function of the baryon number.

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