Chemical potential responses in two flavor lattice QCD at finite temperature

S.Choe [a] Ph. de Forcrand [b] S.Hioki [c] Y.Liu [a] H.Matsufuru [d] O.Miyamura [a] A.Nakamura [e] I.O.Stamatescu [f] T.Takaishi [g] T.Umeda [a]

[a] *Dept.Phys., Hiroshima University, Higashi-Hiroshima 739-8526, Japan*

[b] *ITP-Zurich, CH-8092 Zurich, Switzerland*

[c] *Tezukayama University*

[d] *RCNP, Osaka University, Ibaraki 567-0047, Japan*

[e] *REESE,Hiroshima University, Higashi-Hiroshima 739-8526, Japan*

[f] *ITP, Heidelberg University and FEST, D-69120 Heidelberg, Germany*

[g] *Hiroshima University of Economics, Hiroshima 731-01, Japan*

Presented by: O.Miyamura

Abstract

We study charge and baryon number fluctuations in two flavor lattice QCD at finite temperature. The fluctuations at finite volume are measured on $16 \times 8^2 \times 4$ lattice with staggered quark. Responses of screening masses to baryonic chemical potential are also investigated. Results below and above critical temperature are presented and discussed.

Preprint submitted to Elsevier Preprint *20 December 2000*