

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Temperature Effects on Metal-Insulator Transitions in the Ionic Hubbard Model¹ AARAM KIM, GUN SANG JEON, Department of Physics and Astronomy, Seoul National University, Seoul 151-747, Korea — The ionic Hubbard model is known to exhibit interesting transitions between metallic and insulating phases at zero temperature. We investigate finite-temperature phase transitions in the model. For an extensive finite-temperature study, we apply a dynamical mean-field theory with continuous-time quantum Monte Carlo method employed as an impurity solver. We examine how the transitions at zero temperature evolve as the temperature increases. We also discuss the effects of temperature on the nature of transitions and other properties of the system.

¹This research was supported by Basic Science Research Program through the National Research Foundation of Korea(NRF) funded by the Ministry of Education, Science and Technology(2010-0010937).

Aaram Kim
Department of Physics and Astronomy,
Seoul National University, Seoul 151-747, Korea

Date submitted: 24 Nov 2010

Electronic form version 1.4