

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Statistical Properties of Fluctuating Local Phases and Fluctuating Local Relaxation Rates in Glass-forming Liquids** GCINA MAVIMBELA, HORACIO E. CASTILLO, Department of Physics and Astronomy, Ohio University, AZITA PARSAEIAN, Materials Research Center, Northwestern University — Using our recently developed method [1], we determine fluctuating local phases, and their time derivatives, the “local relaxation rates”, in simulation data of glass forming systems. We determine probability distribution functions (PDFs) and power spectra of the time derivatives at different temperatures. Some of the temperatures are such that the systems are aging for the duration of the simulations and for some of the temperatures, the systems reach equilibrium during the duration of the simulations. We study how the power spectra change with temperature. For the aging systems, we study how the PDFs vary with time.

[1] G. A. Mavimbela, H. E. Castillo and A. Parsaeian, arxiv:1210.1249.

Gcina Mavimbela  
Ohio University

Date submitted: 27 Nov 2012

Electronic form version 1.4