Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Simultaneous measurements of bulk moduli and particle dynamics in a sheared colloidal glass MICHAEL V. MASSA, CHRISTOPH EISENMANN, CHANJOONG KIM, DAVID A. WEITZ, DEAS, Harvard University, Cambridge, MA 02138, USA — We present a novel study of glassy colloidal systems, using a stress-controlled rheometer in conjunction with a confocal microscope. This experimental setup combines the measurement of bulk moduli, using conventional rheology, with the ability to track the motion of individual particles, through confocal microscopy techniques. We explore the response of the system to applied shear, by simultaneously monitoring the macroscopic relaxation and microscopic particle dynamics, under conditions from the quiescent glass to a shear-melted liquid.

Michael V. Massa
DEAS, Harvard University, Cambridge, MA 02138, USA

Date submitted: 20 Nov 2006 Electronic form version 1.4