Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Direct observation of dynamical heterogeneity near the colloidal gel transition MARIA KILFOIL, YONGXIANG GAO, McGill University — We use confocal microscopy to probe the microscopic dynamics near the colloidal gel transition where the dynamics shows spatial heterogeneity. We are able to separate fast and slow particles independently from self part of van Hove density-density correlation function. The distinct part of van Hove correlation function shows clearly a signature of dynamical heterogeneity and the behavior is dominated by the fast particles. We further observe intermittent dynamics for these particles: the motion is not continuous. This provides the first microscopic picture of intermittent dynamics in colloidal gels.

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Date submitted: 03 Jan 2007 Electronic form version 1.4