Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Dynamic microscopy method for the characterization of nano-sized particles BEOM-JIN YOON, JUNG O.K. PARK, MOHAN SRINIVASARAO, MICHAEL H. SMITH, L. ANDREW LYON, Georgia Institute of Technology — We demonstrate optical microscopic method to characterize nano-sized particles. Light scattering has been used to analyze particles when the size is smaller than the resolution of microscope. Herein, we describe our study on dynamics of polystyrene particles and poly(N-isopropylacryamide) (pNIPAM) based microgel particles using real space observation with optical microscopy. Fourier analysis and image processing were done to the time and spatial series of real space images taken by optical microscope with general white light illuminations. While other real space analysis, such as atomic force microscope and electron microscope, gave the information of collapsed particles only, we acquired equivalent information to the hydrodynamic properties provided by light scattering experiments through direct observation of nano-sized particles.

Beom-Jin Yoon
Georgia Institute of Technology

Date submitted: 07 Dec 2009 Electronic form version 1.4