Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Experimental characterization of the interface of a colloidal suspension. JESSICA HERNANDEZ-GUZMAN, ERIC R. WEEKS — We investigate experimentally the interface between liquids and solids by using a suspension of colloids as our model. Their size and slow motion makes colloidal suspensions experimentally accessible using 3D high speed confocal microscopy. We track the position of the particles over time, and characterize the spatial structure using bond order parameters as has been done by previous workers. We additionally measure the mobility of each particle. We study the thickness of the interface both in terms of the static structure (which changes from liquid-like disorder to crystal-like order across the interface) and the mobility of the particles with respect to distance from the interface. We find a transition region with a thickness of a few particle diameters.

Jessica Hernandez-Guzman

Date submitted: 30 Nov 2005 Electronic form version 1.4