Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Charge-Controlled Colloids on Liquid-Liquid Interfaces[1] DANIEL A. KUNZ, Harvard University, SEAS Department of Physics, BERND RECK, BASF SE, VINOTHAN N. MANOHARAN, Harvard University, SEAS Department of Physics — The tendency of colloidal particles to stabilize interfaces has been exploited for many years to generate Pickering emulsions with a variety of industrial applications. However, the exact stabilization mechanism and its dependence on the surface properties of the colloidal particles are not yet fully understood. We provide new interfacial studies on the nonequilibrium dynamics of a colloidal system with tunable surface charge density. We push individual sub-micron colloidal particles towards an oil-water interface and track their motion in three-dimensions using holographic microscopy to examine the influence of zeta potential on the dynamics of the system.

[1]This project was funded by the BASF Advanced Research Initiative, BASF SE, Germany.

Daniel Kunz
Harvard University, SEAS Department of Physics

Date submitted: 14 Nov 2013 Electronic form version 1.4