Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Experimental Investigations of Ionic Self-Assembly of Silica Nanoparticles GILLENHAAL BECK, SABIN NSHIMYUMUKIZA, MOHAMMAD ABUDAYYEH, REBECCA MELKERSON, ESTEVAN HALL-MEJIA, IRINA MAZILU, DAN MAZILU, Washington Lee University — We present a novel experimental method for determining the rate at which anionic silica nanoparticles in a colloidal suspension are adsorbed to a cationic polymer on a glass substrate. This method allows us to study particle self-assembly at time scales under one tenth of a second, two orders of magnitude smaller than previously reported in literature. We compare our experimental findings with a class of stochastic models for cooperative sequential adsorption of particles.

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Date submitted: 05 Nov 2015 Electronic form version 1.4