Abstract Submitted
for the DFD11 Meeting of
The American Physical Society

Capillary-Driven Convective Assembly of Colloidal Monolayers ALEXANDER WELDON, PISIST KUMNORKAEW, TANYAKORN MUANGNAPOH, JAMES GILCHRIST, Lehigh University — Convective self-assembly is a powerful method for the deposition of particle thin films. We investigate the coupling between suspension properties and the deposition process during convective deposition of unary colloidal silica microspheres as well as the use of nanoparticles as packing aids. We can tune suspension and deposition properties to deposit submonolayer, monolayer, or multilayer morphologies. Thin films are analyzed via high speed confocal and scanning electron microscopy in order to generate local dynamic data describing the deposition process as well as the long-range structure of deposited thin films.

Alexander Weldon
Lehigh University

Date submitted: 22 Jul 2011 Electronic form version 1.4