Abstract Submitted
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**Preparation and Characterization of Large Area Monolayer Films of Pt Nanoparticles**[1] BRIAN KELLY, Department of Physics and Astronomy, University of Delaware, RONALD CICHOCKI, JIE REN, Department of Chemistry and Biochemistry, University of Delaware, ROBERT SCHMIDT, Department of Physics and Astronomy, University of Delaware, KLAUS THEOPOLD, Department of Chemistry and Biochemistry, University of Delaware, KARL UNRUH, Department of Physics and Astronomy, University of Delaware — Highly uniform monolayer thick coatings of Pt nanoparticles with areas as large as 20 $cm^2$ have been prepared by first self-assembling the desired Pt film at the interface between two immiscible liquids and then transferring the film to a glass substrate. The controlled addition of ethyl alcohol to a phase separated mixture of an aqueous colloidal solution of Pt nanoparticles and hexane allowed both monolayer and multilayer films to be prepared. Optical microscopy and UV-vis spectrophotometry measurements have been used to verify the large scale uniformity of the coatings while transmission electron and atomic force microscopy measurements confirmed that single and multilayer films can be prepared.

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