Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Charge transport properties of nanocrystals studied by electrostatic force microscopy ZONGHAI HU, MICHAEL FISCHBEIN, HUGO ROMERO, MARIJA DRNDIC, University of Pennsylvania — Charge transport in semiconductor and metal nanocrystal multilayers between two electrodes is probed by electrostatic force microscopy. The in-plane charge diffusion coefficients are deduced from the charge distribution imaged in real time. Temperature dependence of the transport properties and effects of photoionization and oxidation are also investigated. Implications of these results on the transport mechanisms will be discussed. This work was supported by the ONR Young Investigator Award N000140410489, the American Chemical Society (ACS) PRF award # 41256-G10, and the startup funds at the University of Pennsylvania. MF acknowledges funding from the NSF IGERT program (Grant #DGE-0221664) and SENS.

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Date submitted: 04 Dec 2004 Electronic form version 1.4