

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Nonlinear optical probe of molecular structure on colloidal particle surfaces SHIH-HUI JEN, HEATHER ECKENRODE, JUN HAN, HAI-LUNG DAI, Department of Chemistry, University of Pennsylvania, DEPARTMENT OF CHEMISTRY, UNIVERSITY OF PENNSYLVANIA TEAM — The structure of molecules adsorbed at the colloidal particle surface has great influence on how the colloidal particles interact among themselves and with the environment. In this presentation we show that Second Harmonic Generation from molecules adsorbed at the particle surface can be used for determining the orientation of the molecules at this buried interface. The determination is facilitated by nonlinear Rayleigh-Gans-Debye analysis of polarization and scattering angle dependent SHG. The first demonstration is performed on the cationic Malachite Green (MG) molecule adsorbed on three types of polystyrene microspheres with different surface composition and charges.

Shih-Hui Jen
Department of Chemistry, University of Pennsylvania

Date submitted: 29 Nov 2004

Electronic form version 1.4