Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Excess Charge Density at the Air-Electrolyte Solution Interface JINSUK SONG, KAIST, MAHN WON KIM — Understanding the differential adsorption of ions at the interface of the electrolyte solution is very important because it is closely related, not only to the fundamental aspects of biological systems, but also to many industrial applications. We have measured the excess interfacial negative charge density at the air-electrolyte solution interfaces by using resonant second harmonic generation of oppositely charged probe molecules. The excess charge density increased with the square root of the bulk electrolyte concentration. A new adsorption model which includes the electrostatic interaction between adsorbed molecules is proposed to explain the measured adsorption isotherm and it is in good agreement with the experimental results.

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Date submitted: 19 Nov 2009 Electronic form version 1.4