

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Structural characterization of irreversibly adsorbed polymer layers at the polymer/solid interface - In-situ grazing incidence angle x-ray scattering studies¹ NAISHENG JIANG, FEN CHEN, XIAMENG CHEN, ZEXI HAN, CHEN LIANG, PETER GIN, Department of Materials Science and Engineering, Stony Brook University, MITSUNORI ASADA, Kurashiki Research Center, Kuraray Co., Ltd., Japan, MAYA ENDOH, TAD KOGA, Department of Materials Science and Engineering, Stony Brook University — In recent years, great attention has been paid to irreversibly adsorbed polymer layers formed on solid substrates since they can modify various properties of polymeric materials confined at the nanometer scale. In this talk, by the combined use of in-situ grazing incidence small angle x-ray scattering and x-ray reflectivity techniques, we aim to characterize the detailed structures of the adsorbed layers composed of different homopolymers (polystyrene, polybutadiene, poly (ethylene oxide), and poly (methyl methacrylate)) prepared on silicon substrates. We will highlight the generality/differences in the structures, leading to a better understanding of the formation process of the adsorbed layers at the impenetrable solid interfaces.

¹We acknowledge the financial support from NSF Grant No. CMMI-084626.

Naisheng Jiang
Dept of Materials Science and Engineering, Stony Brook University

Date submitted: 12 Dec 2011

Electronic form version 1.4