

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Enhancement of Raman signal for nanoconfined samples MALGORZATA GRACA, SANG CHUL BAE, STEVE GRANICK, Department of Materials Science & Engineering, University of Illinois, 1304 W. Green St., Urbana, IL 61801 — Previously, studies on confined fluids in parallel confinement geometries were limited to perturbation/relaxation force measurements. Recent advances in our research group have allowed the probing of these systems by spectroscopic means. One major hurdle in these experiments is the fact that a vibrational spectrum is very hard to collect from a confined fluid, due to very thin (few molecules) sample. To this end we have developed a novel experimental platform by which introduce a smooth surface with the ability to enhance a Raman signal - without perturbing the film structure. The goal of this work is to enhance the signal from the confined fluid to the point where Raman signals can be collected from a film only a few nm thick in a short period of time with sufficient signal as compared to background.

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Date submitted: 20 Mar 2013

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