Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Halomethane Adsorption on Graphite and Silica surfaces[1] C. LAMSAL, G. LEUTY, Southern Illinois University at Carbondale, JONATHAN NEHRING, North Park University, MESFIN TSIGE, Southern Illinois University at Carbondale — Owing to their simple nature and number of practical applications, the adsorption of halomethanes onto various substrates has been a topic of study in materials science for a number of years. While a number of studies have reported on the surface characteristics of halomethane adsorption on simple, neutral substrates such as graphite, less well understood in general is the behavior of similar adsorbates on other, possibly widely different substrates. How the choice of substrate affects the manner in which these compounds are adsorbed as well as the effects of the substrate on the structure of the adsorbate more than a monolayer thick is less understood. In this presentation, we report the results of a recent molecular dynamics study comparing the structure and dynamics of systems composed separately of three tetra substituted halomethanes - CF_4, CF_3Cl, and CF_3Br - adsorbed onto two different substrates - graphite and silica (α-quartz) - along a range of temperatures to examine how these systems evolve and change according to the characteristics of the substrate surface.

[1]Work supported by the Donors of the American Chemical Society Petroleum Research Fund.

C. Lamsal
Southern Illinois University at Carbondale

Date submitted: 21 Nov 2008 Electronic form version 1.4