Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Comparison of AFM and Density Functional Theory Force Profiles KEENAN DOTSON, JOHN MCCOY, DANIEL MCCOY, Materials Department, New Mexico Tech, Socorro, NM 87801, SERGIO MENDEZ, JOHN CURRO, BRETT ANDRZEJEWSKI, GABRIEL LOPEZ, DAVID KELLER, Chemical and Nuclear Engineerng Department, Univ. of New Mexico, Albuquerque, NM 87131 — Monolayer films of tethered poly(N-isopropylacrylamide) in water (and related systems) are investigated with Atomic Force Microscopy. The resulting profiles are analyzed with Density Functional Theory. Of interest are the effects of temperature, degree of polymerization, and surface coverage upon the colloidal force. A particular challenge is the modeling of the adhesive behavior of the film to the coated AFM tip.

Daniel McCoy
Materials Department, New Mexico Tech, Socorro, NM 87801

Date submitted: 26 Nov 2007 Electronic form version 1.4