Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Adsorption equilibration processes inside narrow pores[1] SAMANTHA MOLNAR, M. MERCEDES CALBI, Physics & Astronomy, University of Denver — Initially motivated by experimental results concerning gas adsorption in open-ended carbon nanotubes, we investigate the adsorption kinetics of a gas inside a nanopore by implementing a Kinetic Monte Carlo simulation of the gas dynamics. In addition to obtaining the change in coverage with time, we analyze the spatial configuration of the adsorbed phase inside the pore as it evolves towards equilibrium. We also identify blockage events near the ends of the pore, and determine the dependence of these processes on the length of the pore and the amount of gas adsorbed.

[1]Work supported by NSF through grant CBET-0746029.

Maria Calbi
Physics & Astronomy, University of Denver

Date submitted: 14 Nov 2013 Electronic form version 1.4