Abstract Submitted
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Kinetics of Gas Adsorption on External Surfaces of Carbon Nanotube Bundles[1] CHONG PARK[2], Dept. of Physics, Westminster College, MO, JARED BURDE, SUNEEL PADMARAJU, M. MERCEDES CALBI, Dept. of Physics, Southern Illinois University Carbondale — We present a study of adsorption kinetics on the exterior of a carbon nanotube bundle by means of computer simulation. The surface is modeled as a group of one-dimensional chains of sites with different binding energies. The simulation is performed by using a Kinetic Monte Carlo scheme that follows the time evolution of the gas uptake for different values of external pressure and temperature. The results are analyzed in terms of the difference between the binding energies and the amount of particles that are exchanged between the lines as adsorption is taking place. We show that preliminary experimental results for CF_4, Ar, and CH_4on nanotube bundles with closed ends are consistent with our results.

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