

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Effects of host relaxation on gas uptake in porous media MILTON COLE, Pennsylvania State University, ANNIE GROSMAN, University of Paris VI, SUSANA HERNANDEZ, University of Buenos Aires, ANGELA LUEKING, Penn State University — We have recently predicted [1] an *imbibition transition* as a prototype of a general phenomenon-substrate relaxation due to adsorption. That transition is exemplified by a graphene sheet's lifting off of a surface in order to intercalate gas. Other relevant phenomena include the expansion of nanotube bundles or MOFs to accommodate imbibed gases. In our new work, we first analyze the relaxation problem, in general, and then address infinite cylindrical and slit pore geometries, for which simplifications occur because there is just one finite dimension. Research supported by DOE.

[1] K. E. Noa, A. D. Lueking and M. W. Cole, *Imbibition transition: gas intercalation between graphene and silica*, submitted to J. Low Temp. Phys.

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Date submitted: 02 Nov 2010

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