

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Stability of the commensurate monolayer solid of xenon/graphite

L.W. BRUCH, Department of Physics, University of Wisconsin-Madison, A.D. NOVACO, Department of Physics, Lafayette College — A stability analysis based on model calculations of the grand potential finds that the transition from hexagonal incommensurate to commensurate monolayer solid of xenon/graphite is continuous with increasing pressure, in agreement with experimental observations. An atomic-scale interaction model gives an internally consistent account of the thermal expansion of the solid at the 2D sublimation curve and of the chemical potential increase for isothermal compression from monolayer condensation to the commensurate solid. An estimate is given for the corrugation energy of xenon/graphite.

L.W. Bruch
University of Wisconsin-Madison

Date submitted: 30 Nov 2007

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