Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Electronic Properties of Boron Nitride Nanotubes BRAHIM AKDIM, RUTH PACHTER, Air Force Research Lab/ WPAFB — In this work, we present a first-principles study coupled with Green's function formalism to investigate changes in the electronic properties of Boron Nitride Nanotubes (BNNTs) due to analyte adsorption, including hexadecanol, benzaldehyde, and benzoic acid. A transverse electric field representing a gate source is also included in our calculations to study band-gap modulation due to the Giant Stark effect. Effects of the analytes-adsorption on the electronic band structure, density of states, and transport properties will be outlined.

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Date submitted: 16 Nov 2007 Electronic form version 1.4