

Abstract Submitted  
for the MAR08 Meeting of  
The American Physical Society

**Probing the electrostatics of a metal-carbon nanotube Schottky diode using capacitive measurements** YU-CHIH TSENG, JEFFREY BOKOR, UC Berkeley — Capacitance-voltage measurement is a technique widely used to characterize metal-semiconductor contacts. We apply this technique to measure the capacitance-voltage across a p-type Schottky contact formed by titanium and a semiconducting carbon nanotube. Ohmic and Schottky contacts are made on the nanotube using palladium and titanium, respectively. The results agree qualitatively with simulations done using a Poisson-Schroedinger solver, considering only the electrostatics. We found additional frequency-dependent effects in the capacitance measurement that indicate the presence of electronic states arising from adsorbates or defects on the length of the nanotube.

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Date submitted: 14 Nov 2007

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