Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Two-dimensional Percolation Effects of Transparent, Conductive Carbon Nanotube Films LIANGBING HU, DAVID HECHT, GEORGE GRUNER, UCLA Physics, NANO-BIOPHYSICS GROUP AT UCLA TEAM — Ultra-thin, uniform single-walled carbon nanotube films of varying densities have been made at room temperature by a vacuum filtration method. Measurements of the sheet conductance as a function of nanotube network density show 2D percolation behavior. In addition, the network transparency in the visible spectral range was examined and the results are in agreement with a standard thin-film model: fits to the standard theory at 550 nm. Transparency measurements also indicate the usefulness of nanotube network films as a transparent, conductive coating.

Liangbing Hu
UCLA

Date submitted: 23 Nov 2004 Electronic form version 1.4