

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Nanoscale electrical detection of DNA CHIH-KUAN TUNG, Department of Physics, Princeton University, ROBERT REIHN, Department of Physics, Princeton University, LUKAS URBAN, Department of Physics, University of Illinois, Urbana-Champaign, ALI YAZDANI, Department of Physics, Princeton University, ROBERT AUSTIN, Department of Physics, Princeton University — We try to detect DNA electrically by different nano-devices, including single-walled carbon nanotubes and platinum nano-wires. We will demonstrate the responses of carbon nanotubes conductance to the exposure to DNA, and ac lock-in measurements across metal nano-wires based on the biochemical properties of the DNA bases. The effects of different bases are also studied, which may provide us a real opportunity to sequence DNA electrically.

Chih-kuan Tung
Department of Physics, Princeton University

Date submitted: 30 Nov 2005

Electronic form version 1.4