Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Effects of molecular adsorption on electron transport properties
of carbon nanotubes MOONSUB SHIM, University of Illinois — Highly sensitive
response of semiconducting single-walled carbon nanotubes (SWNTs) to molecular
adsorption provides a simple yet efficient direction in exploiting their unique electrical
properties. For example, simultaneous doping and nearly ideal gate efficiencies
are achieved with polymer electrolytes. However, highly sensitive responses can also
lead to difficulties in interpretation of many observations such as the controversy
surrounding whether oxygen adsorption causes doping or changes in the nature of
SWNT-metal contacts. Effects of molecular adsorption from oxygen in the ambient
surrounding to polymers with varying chemical groups on the electrical properties
of SWNTs will be discussed.

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Date submitted: 01 Dec 2004

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