Abstract Submitted
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Effects of molecular adsorption on electron transport properties of carbon nanotubes MOONSUB SHIM, University of Illinois — Highly sensitive response of semiconducting single-walled carbon naotubes (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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