

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Optical properties of composite functionalized carbon nanotubes and Au nanorods thin films¹ DEOKJIN YU, Oklahoma State University, JAMES WICKSTED, Oklahoma State University — Optoelectronic properties of hybrid layer-by-layer (LbL) structures of Au nanorods and functionalized single-walled carbon nanotubes (SWNT) might be utilized in future solar cells and optoelectronic sensor devices. The SWNTs were functionalized with poly (sodium 4-styrenesulfonate) (PSS) by in situ polymerization. The Au nanorods were prepared with wet-chemical methods. Sequential LbL deposition of poly (diallyldimethyl ammonium chloride) (PDDA) and PSS-SWNTs on glass substrate were carried out to obtain the polyelectrolyte multilayer films. Au nanorods were then polymer coated on the multilayer films. Optical properties of these composite films were studied using Raman scattering and UV-VIS-IR absorption spectroscopy.

¹Supported by the National Science Foundation.

James Wicksted
Oklahoma State University

Date submitted: 23 Nov 2009

Electronic form version 1.4