

Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Surfactant Effects on Single-Walled Carbon Nanotube Raman Spectroscopy LARS ERICSON, PEHR PEHRSSON, Naval Research Laboratory — Raman spectroscopy is a common tool used to characterize the composition of nanotube devices and probe the effectiveness of electronic separation schemes. Raman spectroscopy of samples made from single-walled carbon nanotubes (SWNTs) suspended in various common aqueous surfactants has been performed. Changes in the radial breathing modes, disorder mode, and tangential mode have been explored as a function of aggregate state, surfactant presence, and sample deposition, including dielectrophoretic deposition (DEP). The nature of these changes has been analyzed in the context of resonance shifts, charge transfer effects, and SWNT electronic separation. The metallic SWNT selectivity of DEP has been examined in the presence of surfactant.

Lars Ericson
Naval Research Laboratory

Date submitted: 30 Nov 2004

Electronic form version 1.4