

Abstract Submitted
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Exciton Effects in the Optical Spectra of Single-Walled Carbon Nanotubes ANGELA HIGHT WALKER, NIST-Optical Technology Division, DANILO ROMERO, ECE Department, UMD — We investigate excitonic effects in the optical spectra of single-walled carbon nanotubes (SWCNT) by means of resonant Raman and photocurrent spectroscopies. The measurements are carried out with the newly built confocal Raman microscope at the NIST-Optical Technology Division. The microscope is capable of working over a wide range of temperatures ($T = 4.2\text{-}300\text{ K}$) and magnetic fields ($H = 0\text{-}8\text{ T}$). Resonance enhancement of the Raman scattering intensity of the radial breathing modes and the photocurrent spectra in SWCNTs is probed with tunable laser excitation sources. The influence of an applied magnetic field on the exciton spectra at low temperatures will be presented in this talk.

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