

Absorption Spectra of Multiwall Carbon Nanotubes Dispersed in Solvents and Glass

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Abstract

This paper summarizes our investigation of the absorption spectra of multiwall carbon nanotubes in the ultraviolet, visible and near-infrared regions. We took measurements of various carbon-nanotube suspensions and nanotube-doped glass in order to observe the absorptive characteristics of multiwall carbon nanotubes in distinct environments. Experimental results indicate that the near-infrared absorption features, due to the solvent effects, appear at different wavelengths to resemble those of semiconducting singlewall carbon nanotubes, and that the matrix-isolated sample displays a visible absorption band at a wavelength characterized by metallic singlewall carbon nanotubes.

Keywords: carbon nanotube, matrix isolation, absorption spectrum

