Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Reflectance spectra of individual single walled carbon nanotubes

HUALING ZENG — We report back scattering spectroscopic measurements on individual single walled carbon nanotubes (SWNTs). The reflectance spectra show geometry-dependent resonant peaks corresponding to optical transitions between Van Hove singularities in SWNTs' joint density of states. All nanotubes display certain colours as their reflectance spectra demonstrate strong energy dependence. This approach was proved to be an effective tool to probe geometric structures and optical properties of individual SWNTs.

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Date submitted: 19 Nov 2007 Electronic form version 1.4