Abstract Submitted
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**Resonant Raman scattering in Br2-adsorbed double wall carbon nanotubes**[1] ANTONIO SOUZA FILHO, Univ. Federal do Ceara - Frotaleza - Brazil, MORINOBU ENDO, HIROYUKI MURAMATSU, YOONG A. KIM, TAKUYA HAYASHI, Shinshu University - Nagano - Japan, N. AKUZAWA, Tokyo National College of Technology - Japan, RIICHIRO SAITO, Tohoku University - Japan, MILDRED S. DRESSELHAUS, MIT - USA — The vibrational and electronic properties of Br2-adsorbed double-wall carbon nanotubes (DWNTs) were investigated by resonance Raman scattering. We have found that Br2 molecules interact with the DWNTs and their intercalation characteristics are completely reversible upon thermal annealing. Upshifts in the Raman frequencies for the tangential modes and depression of their Raman intensities indicate that electrons are transferred from the nanotubes to the Br2 molecules. Metallic nanotubes are specially sensitive to the adsorption of Br2 molecules, even when they are the inner tubes of DWNTs. The vibrational spectra of the bromine dopant also provide information about the intercalation process.

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