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Excitons in double-walled carbon nanotubes: fluorescent spectrum BARRY YEH — The fluorescent spectroscopy of the double-walled carbon nanotudes (DWNT) is mapped to the chirality and diameter feature by the result from single-walled carbon nanotubes (SWNT). The transition energy of SWNT's resonance Raman spectroscopy is applied to categorize DWNT's chirality and diameters relationship [P.T. Araujo et. al, 2007]. The agreement of their energy level distribution will decide whether the fluorescent spectrum can be use to distinguish carbon nanotubes and the different activity between SWNT and DWNT. Not a peak contains two chiralities at one data set. Since DWNT contains two SWNTs, tubes where matched up within a diameter difference of 0.67nm ~ 0.77 nm [M. Gao et. al, 2005].

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