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# Effect of Graphite Particle Size on Structural and Morphological Characteristics of Carbon Nanotubes Grown by Microwave Oven

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The influence of graphite particle size on the formation and diameter of carbon nanotubes (CNTs), is investigated. graphite with different diameters are used for the growth of CNTs by a cost-effective method using a microwave oven. Morphological observations by field emission scanning electron microscopy (FESEM) reveal consistently that smaller graphite diameter generates CNTs with a different diameter. Raman spectroscopy indicates that the full width at half maximum (FWHM) of G, D and 2D bands decreases gradually with increasing CNTs diameter. Furthermore, CNTs diameter is found to be inversely proportional to (002) line width.

**Keywords:** carbon nanotubes; microwave, graphite particle size, Raman spectroscopy