

## **A simple and controllable method to make a large area carbon nanotube films by arc-discharge method**

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A simple and controllable method to make a large area carbon nanotube films is developed. Single wall carbon nanotubes were synthesized on glass substrates by in-situ arc-discharge method. Hollow graphite rod in which catalytic metal (Fe, Ni, Mo) wires were inserted was used for the source. Arc-discharge was performed under the arc condition of 60A D.C. and variable H<sub>2</sub> pressure. Since the method is based on a point source, the uniformity of the single wall carbon nanotube films could be obtained by modifying the shape of the slot through which the synthesized single wall carbon nanotube fly to deposit on the substrate. The thickness uniformity of single wall carbon nanotube Film was measured electrically by 4-point probe, and it was revealed within 10%. The morphology and crystal quality of the single wall carbon nanotube film were characterized by field emission scanning electron microscopy and raman spectroscopy.