

## **Long Amorphous Carbon Nanotube Ropes Synthesized by Arc Discharge**

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The normal processes of synthesizing amorphous carbon nanotubes (using arc discharge and chemical vapor deposition) can obtain the soot, which the typical morphology is powders. Here, we report a long amorphous carbon nanotube rope, up to twenty-one centimeters in length and two to five micrometers in width and the macroscopic film of amorphous carbon nanotube can be synthesized by an arc discharging furnace at controlled temperature in hydrogen atmosphere using Co/Ni catalyst at 650°C. The structural characteristic of amorphous carbon nanotube rope was studied using TEM, HRTEM and XRD. The formation mechanism of this carbon nanotube has also been explained.

Keywords: Carbon nanotubes, Catalyst, Soot