

Abstract Submitted
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Coating of Multi-walled Carbon Nanotubes with Inorganic - Organic Silicas PURNATOSH SAHA, BRIAN GRADY, University of Oklahoma — Silica-coated multi-walled carbon nanotubes (MWCNTs) have been prepared by sol-gel techniques. An inorganic silica layer has been formed by hydrolyzation of tetraethoxy silane (TEOS) on surfactant-treated nanotubes. Additionally, a secondary layer has been deposited using organosilane precursors. Coating thicknesses have been measured by transmission electron microscopy (TEM) and thermogravimetric analysis (TGA) has also been used to determine the amount of silicates coating the nanotubes. The thickness of the final coating can be tailored by controlling reaction conditions and the number of layers. It is expected that carefully controlling the inorganic to organic ratio in the coatings will allow for the variation of its stiffness.

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