



CNT/Polymer Nanocomposites

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LAP Lambert Academic Publishing Sep 2012, 2012. Taschenbuch. Book Condition: Neu. 220x150x6 mm. This item is printed on demand - Print on Demand Neuware - This book presents synthesis and characterization of CNT/Polymer nanocomposites. CNT/Polymer nanocomposites are materials whose major component is a polymer and the minor component is CNT whose dimension is below 100 nm. CNT/Polymer nanocomposites have become an active field of research in recent years because there have been accounts of large property changes with very small addition of CNTs(less than 5 wt%). CNTs have been synthesized by Chemical vapor deposition (CVD) and Arc discharge techniques. Solution cast method has been adopted for the synthesis of CNT/Polymer nanocomposites. The thickness of composites is controlled by using the weight of polymer. Volumetric method has been adopted to fix the thickness (40 m) of the polymer and verified by ellipsometer. Polymethyl methacrylate (PMMA) and Polystyrene (PS) amorphous polymers as base polymers, MWNTs as filler in (0.01-0.05) wt% have been used. A systematic study of these composites have been performed by using X-Ray Diffraction (XRD), Raman spectroscopy, Fourier Transform Infrared (FT-IR) spectroscopy, Dynamic Mechanical Analysis (DMA), Optical microscopy and Scanning electron microscopy (SEM). 104 pp. Englisch.



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