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Impedance characteristics and conductivity of CNT/ABS nanocomposites

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Abstract: Electrical impedance characteristics of multi-walled carbon nanotube (MWCNT)/acrylonitril-butadiene-styrene nanocomposite was studied as a function of MWCNT concentration in the frequency range of 10^0 – 10^6 Hz. The nanocomposites were prepared by solution processing and characterized to have good dispersion of the nanofiller within the polymer matrix as observed by the transmission electron microscopy. In the frequency range of 1 – 10^4 Hz, the alternating current (ac) conductivity versus frequency...