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Effect of dc-bias on the dielectric behavior of CNT/ABS nanocomposites

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Abstract: Several aspects of the dielectric behavior of multi-walled carbon nanotube (MWCNT)/acrylonitrile-butadiene-styrene (ABS) nanocomposites were studied. MWCNT/ABS nanocomposites with filler content between 2wt% and 15wt% were prepared by melt mixing and characterized by the impedance technique. The results showed that the dc and ac conductivities increase with increasing dc bias and MWCNT content. The effect of dc bias was more pronounced for nanocomposites with low MWCNT content. The bode ...