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Dielectric Properties of MWCNT-Muscovite/Epoxy Hybrid Composites

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Abstract : In the present work, the dielectric properties of Epoxy/MWCNTs-muscovite HYBRID and MIXED composites based on ratio 30:70 were studies. The multi-wall carbon nanotubes (MWCNTs) were prepared by two method; (a) muscovite-MWCNTs hybrids were synthesized by chemical vapor deposition (CVD) and (b) physically mixing of muscovite with MWCNTs. The effect of different preparations of the composites and filler loading was evaluated. It is revealed that the dielectric constants of HYBRID epoxy composites are slightly higher compared to MIXED epoxy composites. It is also indicated that the dielectric constant increased by increases the MWCNTs filler loading.

Keywords : muscovite, epoxy, dielectric properties, hybrid composite
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