Preparation and dielectric characterization of PVDF-HFP/GO/PVDF-HFP and PVDF-HFP-BZT-BCT/GO/PVDF-HFP-BZT-BCT stacked structure for storage application

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**Abstract**. PVDF-HFP and PVDF-HFP/BZT-BCT(10%) composite film were prepared by solution casting followed by the hot-pressing technique. These films were stacked with GO to form two sandwich structures, the outer layers containing PVDF-HFP in one and PVDF-HFP/BZT-BCT(10%) in the other. XRD and FTIR were done to confirm the structure and to find the fraction of β-phase of PVDF-HFP and PVDF-HFP/BZT-BCT films. The β-phase were found to be >70%. The morphological characteristics of the stacked structures were studied from both the surface as well as cross-section with the help of SEM. From the dielectric study it is clear that after adding GO both to PVDF-HFP and PVDF-HFP/BZT-BCT in the form of sandwich structures, the dielectric permittivity of the stacked films are comparatively higher than that of the pure polymer film($\in $r=11.4) and well as the composite film($\in $r=12.5), taken individually. These stacked structures having comparatively higher dielectric constant can be used for energy harvesting and storage applications

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