Abstract

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PYROELECTRIC PROPERTIES OF NANOCOMPOSITE OF POLYVINYLIDENE FLUORIDE AND

In recent years, polymer-ceramic nanocomposite materials have been given great attention due to the possibility of their use in piezoelectric and pyroelectric transducers. Nanocomposite of polyvinylidene fluoride (PVDF) and barium titanate (BaTiO3) is prepared using cast technique. When infrared spectra were used, it is concluded that pure PVDF and their composite with BaTiO3 exist in the unpoled state (\?-phase). It is found that incorporation of BaTiO3 into PVDF has destroyed the spherulite structure (\#97;\#110;\#100; has dispersed in the PVDF matrix with nanosize particles. It is observed that nanocomposite of 30 wt. % of PVDF has the highest pyroelectric coefficient of 1.00 nC/cm2/oC.