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| Title | Thermal and electrical transport properties of polyvinyl alcohol and bismuth ferrite nanocomposites film | | |
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| Abstract: The pure phase Bismuth ferrite (BFO) nanomaterial calcined at 500°C for 2hr. is synthesized by sol-gel method. From the TEM micrograph analysis the average particle size of BFO is calculated as 37nm. The polyvinyl alcohol (PVA) and PVA-BFO (2wt%) composites films are synthesized by drop casting method. The thermal stability of the composites films is increased with adding BFO 2wt% in PVA matrix and which is observed by TGA curve analysis. The variation of real part of dielectric constant and the ac electrical conductivity with frequency range 20Hz to 1MHz at different temperature range from 30°C to 130°C is measured. The electrical transport properties shows the correlated barrier hopping (CBH) model and it is well fitted with the experimental data which is measured from the ac conductivity plot. |  |
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