Nonlinear Dielectric Relaxation in Solutions of 6CHBT in Nonpolar Medium

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The frequency dependence of the nonlinear dielectric increment was studied for benzene solutions of the nematogenic molecule 4-(*trans*-4′-*n*-hexylcyclohexyl)isothiocyanatobenzene (C_6H_{13}CyHx-Ph-N=C=S, 6CHBT) at 25°C. The increment was induced by a quasi-static electric field of high strength (10^7 V/m), and its relaxation was detected by an alternating field of low strength (10^2 V/m) in the frequency range 1 MHz–3 GHz. The results are discussed in the framework of Coffey's theory.

Key words: Dielectrics; Nonlinear Dielectric Increment; Nonlinear Relaxation.