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Dielectric properties of the weakly polar liquid crystals

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Abstract

The purpose of the study is to analyze the dielectric properties of a system of plane-parallel liquid-crystal layers as a function of the frequency of the applied field at various temperatures.

The method of time dielectric spectroscopy is used in the work. The Cole-Cole diagrams are given at different temperatures.

The subject of the study is the search for the dependence of the property of a system of plane-parallel liquid-crystalline layers on the frequency of the applied field at different temperatures.

The main results and conclusions of the study – the transition from bulk to micronematics is accompanied by a noticeable increase in the dielectric increment. This confirms the assumption that as the thickness of the layer decreases, the energy of van der Waals interaction energy of molecules of a liquid crystal with the surface increases.

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