Orientating liquid crystals using surface-directed structures

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Abstract:

The orientation of molecules of liquid crystalline substances (LCS) is of considerable practical interest [1]. Numerous methods of surface treatment with chemical reagents, as well as the methods for creating additional orienting layers are used for the orientation of the LCS [1]. For example, a widespread orientation method is spraying metal films at a large angle to the surface normal. In this case micro-grooves are formed on the surface and they orient the LCS. One more common orientation method is creating an electrostatic field. The above orientation methods do not allow to solve all the problems that arise when creating LCS-based devices. The aim of this work is to study the behavior of LCS on oriented microstructures with various spatial resolution.

Keywords: liquid crystal, surface-directed structure, molecule substance, LCS, electrostatic field

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Access full text (in Russian)

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