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Molecular Crystals and Liquid Crystals

Publisher: Taylor & Francis**Volume:** Volume 438 / 2005**Pages:** 67/[1631] - 75/[1639]**URL:** [Linking Options](#)**DOI:** 10.1080/15421400590955983**Light-Induced Alignment of Liquid Crystals on Dye-Deposited Film**D. Fedorenko ^{A1}, E. Ouskova ^{A1}, Yu. Reznikov ^{A1}, V. Reshetnyak ^{A2}^{A1} Institute of Physics, National Academy of Sciences of Ukraine, Kyiv, Ukraine^{A2} Kyiv National Taras Shevchenko University, Kyiv, Ukraine**Abstract:**

Light-induced anchoring in dye-doped LCs is caused by light-induced adsorption of dye molecules from bulk to aligning surface and light-induced processes in a layer of dark-adsorbed dye molecules on this surface. We report on light-induced anchoring study due to processes in the adsorbed layer only. We modelled the adsorbed layer by coating of aligning surface by dye molecules and investigated orientation of undoped LC in a cell with dye film previously irradiated by polarized light. We found that desorption of dye from adsorbed layer is a predominant mechanism of light-induced anchoring resulting in the easy axis perpendicular to polarization of incident light.

Keywords:

dye-doped liquid crystal, light-induced adsorption and desorption, light-induced alignment, light-induced anchoring

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