



## Influence of temperature on dynamics of birefringence switching in photochromic nematic phase

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Auteur	Mysliwiec, Jaroslaw [1], Czajkowski, Maciej [2], Bartkiewicz, Stanislaw [3], Zygodlo, K. [4], Galewski, Z. [5], Sahraoui, Bouchta [6]
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Résumé en anglais	<p>We present results of dynamic and fast switching of birefringence in a photochromic liquid-crystalline system as a function of the sample temperature. The system consists of photochromic molecules of 4-heptyl-4-methoxyazobenzene showing a liquid-crystalline nematic state close to room temperature. An experiment of dynamic birefringence switching was done in optical Kerr-effect set-up, where for the sample excitation, a picosecond-pulsed laser was used. Measurements were done for different temperatures of the sample in the liquid-crystalline nematic phase. We have proposed a mathematical model of dynamic, fast, and fully reversible birefringence changes. Theoretical estimations and experimental results have shown very good agreement. (C) 2011 American Institute of Physics. [doi:10.1063/1.3665123]</p>
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