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A.V. Zakharov, P.V. Maslennikov

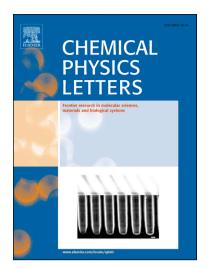
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Field-induced stress response of nematics encapsulated in microsized volumes

A. V. Zakharov*

Saint Petersburg Institute for Machine Sciences,
The Russian Academy of Sciences, Saint Petersburg 199178, Russia.

P. V. Maslennikov[†]

Immanuel Kant Baltic Federal University, Kaliningrad 236040, Str. Universitetskaya 2, Russia.

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Abstract

The peculiarities in the dynamics of the director reorientation in confined nematic liquid crystals (LCs) under the influence of a strong electric field **E** have been investigated theoretically based on the hydrodynamic theory including the director motion with appropriate boundary and initial conditions. Analysis of the numerical results for the turn-on process, when a strong electric field **E** is suddenly applied in the positive sense, provides an evidence for the appearance of the spatially periodic patterns in confined LC film.

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^{*}author to whom correspondence should be addressed. Email address:alexandre.zakharov@yahoo.ca;

[†]Email address:pashamaslennikov@mail.ru

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