



All-optical measurement of elastic constants in nematic liquid crystals

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Résumé en anglais	<p>In this article we present a new all-optical method to measure elastic constants connected with twist and bend deformations. The method is based on the optical Freedericksz threshold effect induced by the linearly polarized electro-magnetic wave. In the experiment elastic constants are measured of commonly used liquid crystals 6CHBT and E7 and two new nematic mixtures with low birefringence. The proposed method is neither very sensitive on the variation of cell thickness, beam waist or the power of a light beam nor does it need any special design of a liquid crystal cell. The experimental results are in good agreement with the values obtain by other methods based on an electro-optical effect.</p>
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