

Abstract Submitted
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Photoinduced distortions of polydomain liquid crystal elastomer samples¹ WILDER IGLESIAS, PETER PALFFY-MUHORAY, Liquid Crystal Institute, Kent State University — We have studied the effects of illumination of a dye doped polydomain nematic elastomer. The sample was on a glass substrate, and its free surface was illuminated by polarized light from an Ar+ laser. The intensity of the reflected light in the far field was studied to probe photoinduced deformations. Above a threshold intensity, a target pattern appeared in the far field, indicating sample deformation. We discuss the experimental observations, and relate these to the processes such as photoinduced surface relief. Experimental results are compared with the predictions of simple theory.

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