

Abstract Submitted
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Coexistence of two colloidal crystals at the nematic liquid crystal-air interface¹ A. NYCH, V. PERGAMENSHCHIK, U. OGNYSTA, B. LEV, V. NAZARENKO, Institute of Physics, Academy of Sciences, Kyiv, Ukraine, M. SKARABOT, I. MUSEVIC, J.Stefan Institute, Ljubljana, Slovenia, O. LAVRENTOVICH, Liquid Crystal Institute, Kent State University, Kent, OH — Glycerol droplets at a nematic liquid crystal - air interface form two different lattices – hexagonal and dense quasihexagonal – which are separated by the energy barrier and can coexist. The director distortions around each droplet form an elastic dipole. The first order transition between the two lattices is driven by a reduction of the dipole-dipole repulsion through reorientation of these dipoles. The elastic-capillary attraction is essential for the both lattices. The effect has a collective origin.

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Oleg Lavrentovich
Liquid Crystal Institute, Kent State University

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