Microlense liquid crystal devices on the base of cylindrical objects

Victor V. Belyaev (Foreign) [1],

Alexey S. Solomatin (Foreign) [2],

Douglas R. Suarez (Foreign) [3],

Hakob Margaryan (Foreign) [4],

Nune Hakobyan (Foreign) [5],

Aliaksandr G. Smirnov [6]

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1 Foreign (Division of MRSU Scientific Development/Department of Theoretical Physics, Moscow Region State University, Moscow, Russia; Department of Mechanics and Mechatronics, RUDN University (People's Friendship University of Russia), Moscow, Russia)

2 Foreign (Department for Information and Computer Design, Dmitry Mendeleev University of Chemistry and Technology, Moscow, Russia)

3 Foreign (RUDN University (People's Friendship University of Russia), Moscow, Russia)

4 Foreign (Department of Radiophysics, Erevan State University, Erevan, Armenia)

5 Foreign (Center of Semiconductor Devices and Nanotechnologies, Erevan State University, Erevan, Armenia)

6 Department of Micro- and Nanoelectronics/Information Displays and Optical Processing Systems Laboratory, Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus

Abstract: Liquid crystal (LC) director and refractive index distribution in a cylindrical object (eg, micropore) with different LC boundary conditions have been simulated. Splay and bend configurations were simulated in the LC pores with Franck elastic coefficients K_{33}/K_{11}ratio from 0.5 to 3. For different LC orientation configurations, parabolic profiles of radial dependence of the refractive index are obtained with focus distance up to 80 mm that makes it possible for application in different LC devices.