

POLARIZATION STRUCTURE OF CONOSCOPIC
PATTERNS FOR PLANAR NEMATIC
AND CHOLESTERIC LIQUID-CRYSTAL
CELLS

R.G. Vovk, A.D. Kiselev

Institute of Physics, Nat. Acad. of Sci. of Ukraine
(46, Nauky Ave., Kyiv 03680, Ukraine;
e-mail: roman.vovk@gmail.com)

S u m m a r y

The distributions of light polarization in conoscopic patterns obtained for planar nematic and cholesteric liquid-crystal cells have been studied theoretically. The geometry of polarization patterns is characterized in terms of polarization singularities, such as C -points (points corresponding to circular polarization) and L -lines (lines corresponding to linear polarization of light). The conditions required for the formation of polarization singularities (C -point) in a conoscopic pattern ensemble parametrized by the polarization azimuth and the ellipticity of incidence light have been considered. The selectivity with respect to polarization parameters has been found to be a characteristic feature of those conditions.