

ANALYSIS OF DYNAMICS OF TOPOLOGICAL
PECULIARITIES OF VARYING RANDOM
VECTOR LIGHT FIELDS

V.I. Vasil'ev, M.S. Soskin

Institute of Physics, Nat. Acad. Sci. of Ukraine
(46, Nauky Ave., Kyiv 03680, Ukraine;
e-mail: vv@iop.kiev.ua)

S u m m a r y

The method of Stokes-polarimetry is applied to study the varying random optical fields. Mathematical methods, which allow C -points, saddle points, and bifurcation lines on the surface of an azimuth distribution and L -lines on the surface of a polarization handedness distribution to be determined, are proposed. The dynamics of a topological network at the development of photo-induced scattering in a $\text{LiNbO}_3\text{:Fe}$ crystal has been analyzed. A reduction of the C -point density in time under the crystal irradiation has been revealed. The processes of creation and annihilation of the pairs of C -points have been analyzed.