

OPTICAL ELEMENTS BASED ON PHASE POLARIZATION GRATINGS

M.V. Vasnetsov, V.A. Pas'ko, M.S. Soskin

Institute of Physics, Nat. Acad. of Sci. of Ukraine
(46, Nauky Prosp., Kyiv 03028, Ukraine)

S u m m a r y

We overview the main principles of polarization holography and concentrate the attention on thin phase holograms possessing exact half-wave birefringence plate properties. A method of phase control by optical elements with the spatially distributed axis of birefringence is analyzed. A “half-wave” polarization hologram can achieve the 100-% diffraction efficiency in a single diffracted order. The spatial orientation of the birefringence axis is determined for cylindrical and spherical optical focusing elements.