

POLARIZATION DEPENDENCES OF LIGHT  
EMITTED BY FREE ELECTRONS  
IN MULTIVALLEY SEMICONDUCTORS

*V.M. Bondar, A.E. Levshin, P.M. Tomchuk*

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

S u m m a r y

The polarization dependences of light emitted by free electrons in  $n$ -Ge at liquid helium temperatures have been studied. The general expression for the intensity of spontaneously emitted light in multivalley semiconductors has been obtained, taking into account the mechanism of spontaneous emission of phonons by hot electrons. The results of numerical calculations of the polarization dependences of the light emission are in a qualitative agreement with the experiment.