

REGISTRATION OF THE ROTATION  
ANGLE OF LIGHT-BEAM POLARIZATION  
PLANE WITH THE USE OF OPTICALLY  
TRANSPARENT FERRIMAGNETIC CRYSTALS

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S u m m a r y

We have analyzed a modulation photopolarimeter, in which the active element is a ferrimagnetic crystal transparent in the infra-red range. The Faraday effect is 3 to 4 times stronger than that for applied earlier paramagnetic crystals. The method developed for the registration of a polarization-plane rotation angle allows one to work in the range of the optimum amplitudes of polarization-plane angular vibrations, i.e. when the signal-to-noise ratio is maximal. It has been shown that, in this case, the sensitivity of the photopolarimeter decreases insignificantly, if the quality of the optical channel gets worse sharply, i.e. if the passing light beam is strongly depolarized.