PHOTOINDUCED SPIN REORIENTATION IN FERRITE-GARNETS. 1. THRESHOLD CONDITIONS OF FORMATION AND PARAMETERS OF THE NUCLEUS OF A NEW MAGNETIC PHASE

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S u m m a r y

Photoinduced nucleation conditions in the homogeneously magnetized volume of ferrite-garnets are considered. It is shown that the density energy threshold value of photoinduced magnetic anisotropy depends on the parameters and initial state of the medium and determines by its linear dimensions or irradiation conditions (the degree of irradiation focusing and the spatial irradiance distribution in the cross-section of an optical spot). The optimal concentrations of active centers in ferrite-garnets and optimized irradiation conditions for photoinduced nucleation have been established.