

ELECTRO-MAGNETO-OPTICAL EFFECTS  
ON LOCAL AREAS OF FERRITE-GARNET FILMS

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S u m m a r y

The electro-magneto-optical (EMO) effect from separate magnetic domains is investigated in the epitaxial films of yttrium-ferrite-garnet with the simultaneous visual control over the film domain structure. The existence of local EMO effects from separate domains and from the sites with a domain wall is shown. The differences between the effects from a multidomain area of a film and local effects are revealed. It is shown that a value of the intradomain EMO effect for a domain magnetized along the applied magnetic field is decreased drastically in the magnetization stage connected with vanishing the domains with opposite signs of magnetization. In a homogeneously magnetized film, the EMO effect is practically absent. It is concluded that an electric field does not practically modify the film magnetization, and the local EMO effects are connected with the influence of the electric field on the magnetic anisotropy parameter of studied films.