

“INTRINSIC” AND PHOTOINDUCED
ANISOTROPIES IN AS-DEPOSITED
AMORPHOUS $\text{As}_x\text{S}_{1-x}$ FILMS

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S u m m a r y

Optical anisotropy of amorphous $\text{As}_x\text{S}_{1-x}$ films making use of wave-guide technique has been investigated. Fresh amorphous films obtained by a standard method of thermal evaporation in vacuum have been shown to possess a significant (about 10^{-2}) “intrinsic” optical anisotropy (the birefringence) between the in-plane and normal directions in the film. This anisotropy is characterized by a relaxational behavior, which is enhanced by thermal annealing. A simple phenomenological model, taking into account structural and chemical properties of the fresh-deposited films, has been proposed to explain the appearance and characteristic features of the anisotropy. Namely, the latter has been connected to the existence of layered formations involving quasicrystalline clusters with relevant polarization.