

POINT-DEFECT CONCENTRATION PROFILES
IN THIN PbS FILMS SUBJECTED
TO ISOTHERMAL ANNEALING

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S u m m a r y

It has been shown that a nonuniform distribution of point-defect concentration across thin PbS films of the p -type isothermally annealed in vacuum and the formation of a p - n -structure in them can be explained by fast diffusion of electrically neutral sulfur interstitial atoms, slow diffusion of electrically charged sulfur and lead vacancies, and reactions occurring between those defects. The evolution of defects has been described by a system of nonhomogeneous diffusion equations, and the corresponding numerical solution has been presented graphically. By fitting the theoretical dependence to experimental data, the values of key kinetic parameters of the process of point-defect isothermal annealing in vacuum have been obtained.