

MIGRATION KINETIC OF PRIMARY RADIATION DEFECTS AT NONUNIFORM IRRADIATION

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The migration of interstitial atoms and vacancies under nonuniform irradiation is theoretically studied. The possibility of the formation of regions with increased concentration of point defects of certain kind in crystals with low concentration of dislocations at the surface and at Bragg peak is demonstrated. The region of the penetration of interstitials beyond the irradiated area is estimated. It might be of order of 0.02 cm at the dislocation density 10^4 cm^{-2} . The difference of the flows of interstitials and vacancies changes its sign in process of irradiation which can lead to different processes of macroscopic defect formation at the initial stages of irradiation and in the stationary state.