

INFLUENCE OF THE CHARGE
STATE OF NONEQUILIBRIUM VACANCIES
ON THE FORMATION AND ANNEALING
KINETICS OF RADIATION-INDUCED
DEFECTS IN *n*-Si CRYSTALS

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S u m m a r y

The influence of the charge state of nonequilibrium vacancies on the processes occurring in *n*-Si crystals during their irradiation and heat treatment has been studied. The *n*-Si specimens with the electron concentration of $1 \times 10^{13} - 2 \times 10^{14} \text{ cm}^{-3}$ prepared by the method of zone melting were studied. The irradiated crystals were investigated by the Hall and the local irradiation methods with subsequent measurements of the bulk photovoltage emerging across the irradiated part of the specimen. The researched specimens were irradiated with 2-MeV electrons or 25-MeV protons at a temperature of 300 K. It has been shown that the nature, energy spectrum, as well as the formation and annealing kinetics of radiation-induced defects in *n*-Si crystals depend on the charge states of nonequilibrium vacancies, doping impurities, and regions of disordering.