INFLUENCE OF UNIAXIAL DEFORMATION ON THE FILLING OF THE LEVEL ASSOCIATED WITH A-CENTER IN n-Si CRYSTALS

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S u m m a r y

Single crystals of n-Si with the initial charge carrier concentration of 1.24×10^{14} cm^{-3} which were irradiated with Co^{60} γ-quanta to a dose of 3.8×10^{17} quantum/cm^2 have been studied. The piezoresistance of γ-irradiated n-Si crystals has been measured in the case where $X \parallel J \parallel$ [100] and $X \parallel J \parallel$ [110]. The technique of calculations of the drift rate is presented, and the filling degree α of deep levels is estimated. The variation of the energy gap between the deep energy level $E_C - 0.17$ eV and the lower valleys in the conduction band in n-Si crystals induced by an uniaxial elastic deformation along the crystallographic directions [100] and [110] is calculated. The average value of the coefficient α is determined at various temperatures.