INFLUENCE OF POINT DEFECTS ON THE EQUILIBRIUM CONCENTRATION OF INTERSTITIAL OXYGEN IN CRYSTALLINE SILICON

A. Sarikov

V.E. Lashkaryov Institute of Semiconductor Physics,
Nat. Acad. of Sci. of Ukraine
(*45, Nauky Ave., 03028 Kyiv, Ukraine;*
e-mail: sarikov@isp.kiev.ua)

S u m m a r y

The effect of excess point defects on the equilibrium concentration of interstitial oxygen for the system of interstitial oxygen/SiO_2 precipitates in crystalline Si is theoretically investigated. The expression for the equilibrium concentration of interstitial oxygen in Si modified by the excess point defects is derived. Excess vacancies in Si are found to decrease this concentration, while the excess Si self-interstitials have the opposite effect. The effects of different conditions for the point defect generation on the equilibrium in the system of interstitial oxygen/SiO_2 precipitates in crystalline Si are studied.