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MODIFICATION OF RADIATION DEFECTS IN Si AND Ge BY BACKGROUND IMPURITY

Model of modification of basic levels of the known radiation defects in silicon and a germanium is offered. Energy of Hubbard is independent of number of electrons on radiation defect, and its size depends on base-line admixtures near-by vacancy defect. If near-by vacancy defect of the interstitial atom of oxygen is located, then energy of the negatively-charged acceptor defect is reducing on 0.06 eV, and energy of donor rises on the same size. The interstitial atom of silicon and of germanium changes the levels of defect on 0.03 eV. The atom of carbon in the interstitial site changes energy of vacancy defect on 0.035 eV, but in opposite direction. Modification of vacancy defects does not change energy of neutral defect level in the band gap in silicon and germanium.

Keywords: silicon, germanium, fast neutron, divacancy.