

Statement of Novelty

The impact of FeB pair dissociation on the photovoltaic parameters of silicon solar cells was examined. Unlike previous similar calculations, 1) the paper presents the results of simulation of solar cell with varying base thickness and doping levels under various external conditions (temperature, intensity, and spectral composition of illumination); 2) in addition to analyzing the ability to use photovoltaic parameter changes induced by iron-related defect restructuring to evaluate iron concentration, principal component analysis was used to estimate the number of independent variables in the multiple photovoltaic parameter set.