

Metastable defects concentrated near growth dislocations in cadmium sulfide

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Abstract

The article examines the metastable defects concentrated near the growth dislocations in cadmium sulfide. Using the methods of transient capacitive spectroscopy of deep levels it has been revealed that the concentration of these defects depends on the shape of etch pits of dislocations, i.e. on the ratio between the depth and width of holes. In the work, with the help of different models, we calculated the stress state of the surface region. We came to the conclusion that the appearance of deep levels in the spectra is due to the onset of compressive stress at a certain profile of etch pit.