

Measurements of DC photocurrent-voltage characteristic, photocurrents spectral response and laser induced transient current technique enable investigation of surface recombination centers, bulk trap levels and distribution of the inner electric field. In the presented work, the n- type planar CdZnTe detectors with quasi Ohmic contacts were studied by above mentioned methods. It has been shown that in the case of strongly absorbed light under the DC regime of illumination not only surface recombination influences the detector's transport properties. The effect of the space charge, created as a consequence of carriers trapped by the impurity levels, must be taken into account. Therefore some new theoretical models were created in order to describe measured photocurrent-voltage dependencies. Obtained data were fitted with the new theory and the mobility and surface recombination velocity for electrons were determined.