

This work deals with the study of charge transport in a semiconductor detector made of CdZnTe material. Theoretical models of charge density distribution are based on a drift-diffusion equation with consideration of infinite and finite lifetime of a charge carrier caused by a shallow and deep trap. The shapes of the measured waveforms with the L-TCT method are fitted by the Monte Carlo method. The obtained values of drift mobility, electric field profile, charge passage time and surface recombination rate are obtained by fitting with the OriginPro program.