

This work studies charge transport in halide perovskites made of methylammonium lead tribromide $\text{CH}_3\text{NH}_3\text{PbBr}_3$. By finding and using bipolar pulsation parameters, we describe the transport properties of both holes and electrons. The shapes of

the measured current waveforms with the L-TCT method are simulated by the Monte Carlo simulations. Theoretical models of charge density distribution are based on a drift-diffusion equation with consideration of the infinite and finite lifetime of a charge carrier caused by a shallow and deep trap. The obtained values of drift mobility, electric field profile, transit time, and surface recombination rate are obtained by Monte Carlo simulation. We have successfully shown the effect of pulsing with unipolar and bipolar biases. By finding the pulsation parameters at which the sample does not polarize, we calculated the hole mobility around $13 \text{ cm}^2\text{V}^{-1}\text{s}^{-1}$. We arrived at the ambiguity of determining the effect of the expanding deep trap region and the effect of space charge formation. Thus, we found multiple possible models to describe the measured current waveforms. This work confirms the high sensitivity of perovskites to the method and history of measurement.