



Simulation of Open Circuit Voltage Decay for Solar Cell Determination of the Base Minority Carrier Lifetime and the Back Surface Recombination Velocity

<http://www.firstlight.cn> 1996-03-29

The Open Circuit Voltage Decay (OCVD) method for the determination of the base minority carrier lifetime (τ) and the back surface recombination velocity (S) of silicon solar cells has been investigated at constant illumination level. The validity of the method has been discussed through a simulation study by considering the mathematical solution of the continuity equation. Extracted values of τ and S are compared to their input values in order to evaluate the performances of our method and the precision with regard to cell structural parameters, namely the base width and the base doping level. Deviations in lifetime values remain lower than 7% for almost all the cell configurations while recombination velocity deviations are shown to be dependent on cell structure parameters and experimental procedure.

[存档文本](#)