

Physics of charge carrier collection in solar cells –

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Even in the ideal case, the situation described by Shockley and Queisser, the collection of charge carrier at the electrical terminals of the solar cell implies energetic losses. More losses occur in practical device where the carrier mobilities in the absorber, contact recombination and Ohmic losses reduce the achievable efficiency below the theoretical limit. The present contribution introduces a systematic classification of these practical losses illustrated by numerical simulations and experimental results.