

Numerical Simulation of Multijunction GaAs/CIGS Solar Cell by AMPS-1D

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Abstract : During the past few years a great variety of multi-junction solar cells has been developed with the aim of a further increase in efficiency beyond the limits of single junction devices. This paper analyzes the GaAs/CIGS based tandem solar cell performance by AMPS-1D numerical modeling. Various factors which affect the solar cell's performance are investigated, carefully referring to practical cells, to obtain the optimum parameters for the GaAs and CIGS top and bottom solar cells. Among the factors studied are thickness and band gap energy of dual junction cells.

Keywords : multijunction solar cell, GaAs, CIGS, AMPS-1D

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