Study of back metal contact effect on the CZTS thin film solar cells performances

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Abstract: The output characteristics of solar cells are affected by several parameters. For thin film solar cells, the different interfaces play significant role on the performances of the cell. In this work, a numerical simulation of ZnS/CZTS based solar cell is investigated using the solar cell capacitance Simulator (SCAPS). We studied the effect of back metal contact on the solar cell performances. The investigation was performed for the common materials (used in large scale) as back contact for thin film solar cells. We have noticed that the solar cell outputs depended strongly on the back metal work function as well as the band gap and carrier concentration of the absorber.

Keywords, *back metal contact, CZTS solar cell,simulation*