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Photovoltaic Properties of $n\text{-(ZnS)}_x\text{(CdTe)}_{1-x}/p\text{-Si}$

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Abstract: Hetrojunction solar cells $n\text{-(ZnS)}_x\text{(CdTe)}_{1-x}/p\text{-Si}$, with Al, In and Au as front grid contacts, have been fabricated by thermal evaporation technique. Their photovoltaic properties and the forward I-V characteristics of the annealed cells at 400 °C were studied. The efficiency, ideality factor and other parameters have been obtained. The results showed that the efficiency, as well as the ideality factor, depends on the ZnS content in the cell and the efficiency is high for Au front contact compared with that of Al and In.

Key Words: Photovoltaic properties, $n\text{-(ZnS)}_x\text{(CdTe)}_{1-x}/p\text{-Si}$, Hetrojunction solar cells, thermal evaporation technique, efficiency, ideality factor

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