

In2S3 Buffer Layer Properties for Thin Film Solar Cells Based on CIGS Absorber

Authors : A. Bouloufa, K. Djessas

Abstract : In this paper, we reported the effect of substrate temperature on the structural, electrical and optical properties of In2S3 thin films deposited on soda-lime glass substrates by physical vapor deposition technique at various substrate temperatures. The In2Se3 material used for deposition was synthesized from its constituent elements. It was found that all samples exhibit one phase which corresponds to β -In2S3 phase. Values of band gap energy of the films obtained at different substrate temperatures vary in the range of 2.38-2.80 eV and decrease with increasing substrate temperature.

Keywords : buffer layer, In2S3, optical properties, PVD, structural properties

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