

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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