

INFLUENCE OF DEPOSITION TEMPERATURE ON THE SPRAYED PYROLYSED In_2S_3 THIN FILMS PROPERTIES

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Abstract: Films of In_2S_3 of 264-416 nm thickness were deposited onto FTO ($\text{SnO}_2:\text{F}$) glass, at 225-275 °C, by spray pyrolysis, from water:ethanol (1:1) solutions of indium(III) chloride and thiourea with molar ratio $\text{In}:\text{S} = 1 : 7.50$. The study shows that deposition temperature has more influence on the composition (at low temperature a mixture of powder and film is obtained) and the films formation mechanism (crystal nucleation and growth), than on the structural and electrical properties of In_2S_3 thin films prepared by spray pyrolysis.

Key words: thin films, In_2S_3 , spray pyrolysis deposition, solar cells.

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