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Influence of substrate temperature on structural, morphological and electrical properties of PbSe film deposited by radio frequency sputtering

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Abstract: PbSe films were prepared by radio frequency magnetron sputtering from PbSe slices target under different substrate temperature (from room temperature to 300°C). The effect of substrate temperature on structural properties of PbSe thin film was investigated. The surface morphology and the crystal structure of film was determined using field emission scanning electron microscopy and X-ray diffractometry, respectively. It was found that the grain shape changed with substrate temperature. When the substrate temperature was below 250 °C, most of the crystal grains were spherical in shape. For temperatures above 250°C, the grains transformed

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