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Study of Nickel oxide thin films deposited by spray pyrolysis, solar cells applications

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Abstract : Nickel oxide (NiO) thin films were deposited on glass substrates by chemical spray pyrolysis technique. A high quality crystal was obtained after annealing at 500 K. The structural properties of the films have been studied by the X-ray diffraction (XRD). It has been shown that thin films in the NiO crystallized structure is attained after the deposition. Whatever the precursor molarity, the grain size is about 28-62 nm. The crystallites are preferentially oriented in the directions (111) at 0.2M and (200) at 0.3M.

Keywords : thin film, NiO, spray pyrolyse, Structural properties, solar cells, X-ray diffraction