

Investigation of Molybdenum Oxide Thin Films for CIGS Applications

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Molybdenum oxide thin films were deposited on p-type Si(100) by an RF magnetron sputtering method. The physical and chemical properties of these films were studied with X-ray diffraction (XRD) and X-ray photoelectron spectroscopy (XPS) techniques. The thickness of molybdenum oxide thin films was measured by spectroscopic ellipsometer (SE) and the thickness was about 200 nm. As the oxygen gas pressure increased, the thickness was decreased, the phases of the thin films were changed, and the amount of metallic Mo decreased but the contents of Mo⁶⁺ species increases.