

Investigation on Molybdenum Thin Films Deposited by DC-Sputtering on Polyethylene Terephthalate Substrate

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abstract

Molybdenum (Mo) films were prepared by DC sputtering on a polyethylene terephthalate (PET) substrate with different thicknesses. The molybdenum finds use in a very broad spectrum of applications in widely different forms. The obtained results of thin films of molybdenum deposited on PET are characterized by atomic force microscopy (AFM) and X-ray diffraction (XRD) and (EDX). It was found that the thickness increases with the time of deposition and reduces the resistivity and sheet resistance. The lowest resistivity value we found for the Mo films was $1.3 \times 10^{-5} \Omega \cdot \text{cm}$ at thickness (210 nm).

Keywords: DC sputtering, molybdenum, polyethylene terephthalate