Structural and DC Electrical Properties of (CuI ) Thin Film Prepared by Pulse Laser Deposition

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ABSTRACT

In this paper , Copper(I) Iodide (CuI) thin films were prepared by Pulsed Laser Deposition (PLD). The effect of different No. of laser pulse (200,500 and 800) on the structural and electrical properties were studied . The structure of all CuI films is tested using X-ray diffraction (XRD) the results were found to be polycrystalline of hexagonal structure with strong crystalline orientation at (111)plane. DC measurements revealed that the electrical activation energy (Ea) decreases with increasing of pulse shoot of thin films. The Hall effect measurements confirmed that the CuI are P-type and the charge carriers concentration (n) were increased with increasing of pulse shoots . Also, it can observe that Hall mobility ($\mu_H$) decreases with the increasing of pulse shoot for films.

Keywords : PLD technique, CuI thin film, Al, Nd:YAG, PL