

Effects of Pb Dopant on Structural and Optical Properties of CuO Thin Films Prepared by Sol-Gel

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CuO and Pb

CuO thin films have been deposited by the sol-gel and spin coating technique. Lead at two different concentrations was introduced into 3-layered. The structural characterization by XRD reveals that the prepared films were tenorite phase and have a high level of purity and crystallinity. The crystallite size of the CuO films was affected by Pb concentration and was found to be decreased with the increase of Pb content. Raman and FTIR measurements of CuO pure and Pb: CuO films confirmed the structure of CuO. SEM studies revealed the cubic and spherical nano-textured surface as the Pb concentration changed. A clear correlation between the broadening of the optical band gap with increasing Pb doping concentration was observed.

Biography

My name is Nassim TOUKA. I graduated from the University of Constantine in Algeria in 2007 and a PhD in 2012 in Crystallography from the same university. I joined the University of Bouira in 2011 as a lecturer. During the years 2007-2012, I worked on the preparation and study of the optical properties of nanoparticles of organic and inorganic semiconductors dispersed in matrices with wide bandgap. From 2012, I am studying physical properties of semi-conductors developed in the form of thin layers by the sol-gel method for optoelectronic applications. I participated in writing many articles and papers in the above areas.

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