

CuO/Cu₂O Nanostructured Films for Gas Sensors

Cretu Vasiliu, Ababii Nicolai, Chistruga Alexandru, Magariu Nicolae, Postica Vasile, Lupan Oleg

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Abstract

The CuO/Cu₂O nanostructured films were synthesized via a simple chemical solution based method (SCS). The morphological properties were investigated using a scanning electron microscope (SEM). The elaborated sensors based on nanocrystalline films of CuO/Cu₂O were tested to hydrogen gas. It was observed that thermal treatment at different temperatures in air can induce changes in morphology of the films and also change the gas response to the tested gas. The gas sensing mechanism of non-planar CuO/Cu₂O films to the hydrogen gas was proposed.

Keywords: nanostructured materials, nanostructured films, thin films, copper compounds, gas sensors, nanosensors, nanocrystalline films, scanning electron microscope

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