

The influence of electrode metals and its configuration on the response of tin oxide thin film CO sensor

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Abstract

Thin films of tin oxide were deposited by electron beam evaporation. The effects of the electrode materials (Ag, Al, Au and Pt) and different electrode configurations on the CO-sensing of tin oxide thin films were investigated. The Pt and Au electrodes with bottom electrode configuration show much higher response than Ag and Al electrodes. The sensor response and recovery times have also been measured. The films were characterized using X-ray diffraction and X-ray photoelectron spectroscopy. All the films were found to be amorphous. It was found that the CO-sensing properties depend both on the electrode materials and configuration.

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