55. Application of Metal Oxides ZnO-SnO_2 As a Carbon dioxide Gas Sensor

S.B. Unhale , S.P. Yawale , S.S. Yawale

ABSTRACT

The ZnO-SnO_2 sensors using powders of ZnO and SnO_2 weight ratio's of 0-100 were prepared by screen-printing technique on a glass substrate. For electrical contacts, electrodes of conducting silver paste were printed on adjacent sides of the sensor film. 60ZnO-40SnO_2 sensor was used for CO_2 gas sensing investigation. Sensitivity of sensors at different concentrations of CO_2 gas was measured by a voltage drop method at room temperature (303 K). At certain higher concentration of CO_2 gas, saturation effect was observed. The response and recovery time were found small in 60ZnO-40SnO_2 sensor. XRD, SEM and TG were used to analyze the ZnO-SnO_2 powder.

Keywords: ZnO-SnO_2; Screen-printing technique; Carbon dioxide gas;