THE CHARACTERIZATION OF A SnO\textsubscript{2}–CuO COMPOSITE–TYPE GAS SENSOR HAVING SENSITIVITY FOR H\textsubscript{2} GAS

Tulu\'s Ikhsan Nasution, Ramli Omar, Ibrahim Abu Talib, Syahrial and Elvaswer

School of Applied Physics, Faculty of Science and Technology, Universiti Kebangsaan Malaysia,

43600 UKM Bangi, Selangor Darul Ehsan, Malaysia

Email : bunga_irwana@yahoo.com

ABSTRACT

The hydrogen gas sensing properties and the electrical conductivity of SnO\textsubscript{2}-CuO composites were investigated at the temperature range of 125 - 400 °C in air and in 200 ppm H\textsubscript{2} gas. Four composite samples of SnO\textsubscript{2}:CuO with the ratio of 4:1, 3:2, 2:3 and 1:4, respectively, were fabricated in the pellet form by mechanically pressing and sintered at 800 °C for 3 h in air. The electrical conductivity of the composites was found to increase with the increasing content of CuO and the SnO\textsubscript{2}:4CuO composite showed the highest conductivity value. On the other hand, 2SnO\textsubscript{2}:3CuO composite was found to have the highest sensitivity to 200 ppm H\textsubscript{2} gas and may be suitable for use as a H\textsubscript{2} gas sensor.

REFERENCES


