

THE CHARACTERIZATION OF A SnO₂-CuO COMPOSITE-TYPE GAS SENSOR HAVING SENSITIVITY FOR H₂ GAS

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ABSTRACT

The hydrogen gas sensing properties and the electrical conductivity of SnO₂-CuO composites were investigated at the temperature range of 125 - 400 °C in air and in 200 ppm H₂ gas. Four composite samples of SnO₂: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 SnO₂:4CuO composite showed the highest conductivity value. On the other hand, 2SnO₂:3CuO composite was found to have the highest sensitivity to 200 ppm H₂ gas and may be suitable for use as a H₂ gas sensor.

<http://journal.masshp.net/wp-content/uploads/Journal/2004/Tulus%20Ikhsan%20Nasution%20219-223.pdf>

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