Solid State Science and Technology, Vol. 12, No. 1 (2004) 213-218

ELECTRICAL AND HYDROGEN GAS SENSING PROPERTIES OF ZnO-CuO COMPOSITES

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ABSTRACT

Composites of xZnO:CuO with $1 \leq x \leq 3$ composition ratio were fabricated in the form of pellets by sintering at 800oC. Their electrical conductivity and hydrogen gas sensitivity were examined between 100 and 500oC. Sample consisting of 1.5ZnO:CuO was found to have the highest sensitivity to both 5%H2 and 200 ppm H2. The sensitivity of the samples was found to decrease for the values of x greater than 2. The samples also shows higher sensitivity to 5%H2 than 200 ppm H2 above 250oC. The electrical conductivity of the composites varies with temperature and has a minimum values when the ZnO content is about 60-67 mole% for temperature above 350oC.

http://journal.masshp.net/wp-content/uploads/Journal/2004/Syahriyal%20213-218.pdf

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