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Conducting PolymerPolyanilineas CO_2 gas sensor

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Abstract: The gas sensitivity response ofnano-metal oxide (ZnO) doped composites (ZnO/PANI) was studied. The chemicals used for the preparation of gas sensor were first calcinated at 800°C for 5 h. Composites of ZnO/PANI were prepared and multilayer sensor was developed using screen printing technique with Al_2O_3 as substrate on glass plate. The composites of ZnO and PANI were characterized by FTIR and XRD. The sensitivity was measured by measuring the electrical resistance in presence of CO_2 gas which was found to be more for ZnO/PANI/Al_2O_3 multilayer sensor. It was found that response of multilayer sensor increases with increase in ppm concentration of CO_2 gas. The entire phenomenon is discussed on the basis of gas adsorption on the surface of the sensor which arises due to charge transfer.
Keywords: ZnO; screen-printing technique; CO_2 gas sensor, sensitivity.

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