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| Title: | Sensing behaviour of nanosized zinc-tin composite oxide towards liquefied petroleum gas and ethanol |
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| Abstract: | A chemical route has been used to synthesize composite oxides of zinc and tin. An ammonia solution was added to equal amounts of zinc and tin chloride solutions of same molarities to obtain precipitates. Three portions of these precipitates were annealed at 400, 600 and 800 °C, respectively. Results of X-ray diffraction and transmission electron microscopy clearly depicted coexistence of phases of nano-sized SnO2, ZnO, Zn2SnO4 and ZnSnO3. The effect of annealing on structure, morphology and sensing has been observed as well. It has been observed that annealing promoted growth of Zn 2SnO4 and ZnSnO3 at the expense of zinc. The sensing response of fabricated sensors from these materials to 250 ppm LPG and ethanol has been investigated. The sensor fabricated from powder annealed at 400 °C responded better to LPG than ethanol. |
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