

Microtechnology with SILAR and RPP for semiconductor oxide gas sensors

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Abstract

Microtechnology with Successive Ionic Layer Adsorption and Reaction (SILAR) technique and rapid photothermal processing (RPP) was elaborated and applied for semiconductor oxides gas sensors. The experimental results shown that by RPP is possible to control the surface morphology, photoluminescence, sensing properties and operating temperature of impurity doped zinc oxide thin films. The highest sensitivity to 1.5 ppm NO₂ was obtained for 5 - 10 at.% Sn concentration in the solution of ions and RPP temperature of 550-650/spl deg/C.

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