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Effect of Al Sn — Doping on properties of zinc oxide nanostructured films grown by magnetron sputtering

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Abstract:

Metal doping in nanostructured zinc oxide is important for device applications. To obtain improved performances for practical applications, Aluminum (Al) and Tin (Sn)-doping in zinc oxide nanostructured layers were investigated. Samples were grown by magnetron sputtering and studied by X-ray diffraction (XRD), micro-Raman, scanning electron microscopy (SEM), and energy dispersive X-ray (EDX) techniques. It was observed that nanoparticles are interconnected and form porous network of individual nanoparticles. It is found clear evidence of changes of different properties after doping with aluminum or tin in zinc oxide nanostructured films grown by magnetron sputtering.

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