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Synthesis and characterization of SnO₂ Nanostructures for gas sensing applications

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Abstract content
 (Max 300 words)

Tin oxide (SnO₂) is an important wide-bandgap (3.6 eV) n-type semiconductor with a rutile structure which has received a great deal of attention over the past few years due to its high transparency in the visible part of the spectrum, structural and chemical stability. It has been investigated for advanced functional use such as solid state gas sensors, transparent conductors, oxidation catalysts and optoelectronic devices [1-4]. In this work we report on the successful formation of SnO₂ nanostructures by using the Chemical vapour deposition process. As synthesized SnO₂ samples were characterized using scanning electron microscopy (SEM), X-ray powder diffraction (XRD), and nitrogen adsorption analysis (BET). X-ray analysis of the tin oxide nanomaterial showed a highly, pure crystalline material

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