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Nanofibrous zinc oxide films synthesized by magnetron sputtering

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Abstract

ZnO nanofibrous-based materials required for sensors and dye-solar cells have been grown on tin oxide/glass substrates by magnetron sputtering. Synthesis regimes have been identified that give nanoporous and nanofibrous morphologies of depositions as shown by SEM. The structural properties of the nanomaterial have been characterized by X-ray diffraction. Vibrational properties have been investigated by Micro-Raman spectroscopy. All experimental data are discussed in details and promising applications are suggested.