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Structural and morphological characterization of thin films based on zinc oxide

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Abstract : Zinc oxide (ZnO) is a semiconductor wide direct gap (3.37 eV), which has many interesting properties (chemical, piezoelectric, optical, catalytic ...) .A wide range of applications makes it one of the most studied materials in the last decade, especially in nanostructured form. In this work, we study the electrochemical synthesis of thin films by anodizing a wafer of zinc in aqueous solution. It was found that the morphology and the structure of final deposits are sensitive to conditions preparation (temperature; concentration and pH of the solution). The structure and morphology are studied by means techniques of X-ray diffractometry (XRD and scanning electron microscopy (SEM)

Keywords : Zinc oxidation, thin layer, Anodic polarization, Zinc oxide