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Surface analysis of Activated Reactive Evaporation deposited Znic Oxide Thin Film

M. R. Mansur, O. V. Penkov, V. Yu. Plaksin, Sang Beom Joa, Kim Ji Hun, Lee Heon Ju*

Department of Nuclear & Energy Engineering, Jeju National University

Zinc oxide is a potential material for many industrial applications and technically important for its wide range of optical and electronic properties. Non-thermal plasma produced by atmospheric dielectric barrier discharge has been used to deposit zinc oxide thin films on silicon wafer. Zinc 2, 4 - pentanedionate monohydrate, a crystalline organic precursor has been used as the source of zinc oxide. The whole process can be classified as activated reactive evaporation as oxygen has supplied as reactive gas and the presence of plasma enhanced the reaction rate. Field emission scanning electron microscopy has been used to observe the thickness and surface topography of the deposited samples. It reveals that the thickness of the film ranges from 7 to 9 μm. X ray photo electron spectroscopy has confirmed the presence of zinc oxide.