

ECR-MOCVD에 의해 고분자 필름에 증착된
투명주석산화막의 특성에 관한 DC bias의 영향

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The effects of direct current(DC) bias, including the various bias voltage, frequency, waveforms and duty on the characteristics of the deposited tin oxide thin film on polymer substrate were investigated. The tin oxide films were prepared under the room temperature by the electron cyclotron resonance chemical vapor deposition(ECRCVD) coupled with a DC bias system. In order to induce ion on the non-conductive polymer substrate, the pulse DC bias was applied to the stainless steel electrode above the substrate. The precursor TMT (tetra methyl tin) was used as an organometallic source and polyethylene terephthalate(PET) film was employed as substrate. The surface resistivity of the deposited film was determined by the four-point probe measurements. The optical transmittance in a visible region were observed by UV-spectrophotometer. In our results, DC bias voltage, frequency, waveforms and duty applied around the substrate strongly affected the surface resistivity and surface morphology of deposited film. The tin oxide films with good transparent property can be prepared by ECR-MOCVD coupled with a DC bias system.