

## Fabrication of ZnO Thin Films by Liquid Source Misted Chemical Deposition Method

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Transparent electronics are nowadays a crucial technology for the next generation of optoelectronic devices. A stable supply of ITO may be difficult to achieve for the recently expanding market for optoelectronic devices because of the cost and scarcity of indium, the principal material of ITO. Various oxide-based materials have recently been proposed, and wurtzite-structured ZnO thin films have been most widely studied. Many deposition techniques were applied to synthesize ZnO thin films. However, these conventional thin film deposition methods have several disadvantages. In order to overcome these problems, we have designed a liquid source misted chemical deposition (LSMCD) method. The major benefits of LSMCD technology include its capability of deposition vapors onto a large surface area with uniformity in thickness and precise stoichiometry. In this study, we focused on the fabrication of ZnO films with silicon substrate using the LSMCD at low temperature. The structure, morphology, and optical properties of the films were studied as a function of the annealing temperatures by employing the XRD, SEM, Hall system and micro Raman system.