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Design and fabrication of a simple cost effective spin coater for deposition of thin film (Article)

Ferdaus, M.M., Rashid, M.M. [✉](#), Rahman, M.A. [👤](#)

Department of Mechatronics Engineering, Department of Mechanical Engineering, International Islamic University of Malaysia, 53100, Kuala Lumpur, Malaysia

Abstract

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This paper describes the design and fabrication of an economical spin coater for depositing thin films. Spin coater is a machine that can dispense a liquid onto a substrate uniformly. Some desirable properties of Spin coater such as ability to make defect free and uniform thin film, accuracy in rotation control together with a closed optimized process chamber etc. are maintained in this prototype spin coater. The materials used for making thin film liquefied in a volatile solvent. Here the system is fabricated by using a dc motor and simple electronics circuit, in which the spinning speed can be controlled very easily. In this design the spinning speed is up to 3,000 rpm that can be controlled step by step manually. ZnO thin films are successfully prepared through this spin coater by sol-gel process. This thin film is a mixture of Zinc acetate dihydrate, ethanol and di-ethanolamine. Thin film deposition by this cost effective spin coater is a very simple technique and can be used widely for preparing films of uniform thickness. © 2014 AENSI Publisher All rights reserved.

Author keywords

[Film deposition](#) [Spin coating](#) [Substrate](#) [Thin films](#) [Zinc oxide](#)

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
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