DESIGN AND DEVELOPMENT OF A UNIFORM SPRAY COATER FOR SPIN COATING

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Degree of Master of Science

Department of Electrical Engineering

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Thesis/Dissertation submitted in partial fulfillment of the requirements for the degree Master of Science

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DECLARATION

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Prof. D. P. Chandima

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ABSTRACT

Semiconductor coating is a principle technique which is used to fabricate semiconductors. Spin coating is the commonly use technique to coat the semiconductors among the several coating techniques such as spin coating, spray coating, physical vapor deposition (PVD) and chemical vapor deposition (CVD). Spin coating is a process used to deposit uniform thin films to flat substrates by applying a small amount of coating material on the centre of the substrate, which is either spinning at low speed or not spinning at all and the substrate is rotated at high speed in order to spread the coating material by centrifugal force. Although there are few researches done with spin coating technique and its improvements, there are several defects such as limited to flat surfaces, high material wastage and etc. Hence, to overcome from the limitations based on spin coating, this thesis presents designing of a spray coating machine which is better than the existing spin coating technique and to be used in multiple applications.

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LIST OF ABBREVIATIONS

UV	Ultraviolet
CMOS	Complementary Metal-Oxide Semiconductor
PZT	Lead Zirconate Titanate
AC	Analog Current
DC	Digital Current