PREPARATION AND CHARACTERIZATION OF COPPER (I) IODIDE THIN FILMS PRREPARED BY SPIN COATING METHOD AT DIFFERENT MOLARITIES OF SOLUTION

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ABSTRACT

This work will show the effect of using different molarities of solution on CuI thin films. The material that used in preparing thin film is CuI that have been synthesized using chemical vapor deposition method. The method used to deposit the solution onto the glass substrate for preparing thin film was spin coating technique. The purpose using glass substrate is for characterization the physical, electrical and optical properties. It was characterized by using Atomic Force Microscopy (AFM), UV-Vis-NIR measurement and two point probe I-V measurement. For physical properties, the nanostructure CuI thin films can be seen through AFM measurement. The value of transmittance, absorption coefficient and optical was concentrated on characterization the optical properties. Next for electrical properties, the main purpose is to study on its resistivity and conductivity.

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Project Title: Preparation and Characterization of Nanostructured Copper (I) Iodide Thin Films Prepared by Spin Coating Method at Different Molarities of Solution

CHAPTER 1

1.1 INTRODUCTION

1.1.1 Nanostructured Thin Film

Nanostructured is an object that is in the intermediate state between atoms or molecules and traditional bulk material. In describing nanostructures it is necessary to differentiate between the numbers of dimensions on the nanoscale.

During the last few years, nanostructured materials have received high interest due to their morphology-related properties, their potential in building novel functional nanometer-scaled electronic, optoelectronic, electrochemical, and sensor nanodevices. Not only that, CuI has received much attention because of unique applications for nanoelectronic and optoelectronic devices and for self-assembled growth of three-dimensional nanoscale systems [1].

CuI nanostructures have been prepared by different methods like chemical vapor deposition [2], high vacuum deposition [3], pulse laser deposition [3,4], sol-gel [5], radio frequency magnetron sputtering [6], and vacuum vapor deposition [7].