


**RAMAN CHARACTERIZATION OF CARBON NANO TUBES
PREPARED FROM CATALYTIC ATOMIZER SYSTEM USING
PALM OIL**

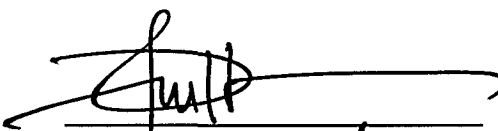
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This Final Year Project Report entitled “Raman Characterization of Carbon Nanotubes prepared from Catalytic Atomizer System using Palm Oil” was submitted by Mohd Rozieman in Razali, in partial fulfillment of the requirements of the Degree of Bachelor of Science (Hons.) Physics, in the Faculty of Applied Sciences, and was approved by:


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ABSTRACT

RAMAN CHARACTERIZATION OF CARBON NANO TUBES PREPARED FROM CATALYTIC ATOMIZER SYSTEM USING PALM OIL

In this paper we have investigated the synthesis of carbon nanotubes by catalytic atomizer system or spray pyrolysis which is type of catalyzed chemical vapor deposition method. The advantages use this method consist in the direct and continuous generation of fresh catalytic particles throughout the entire growth. This system method using palm oil as the carbon source and the ferrocene $\text{Fe}(\text{C}_5\text{H}_5)_2$ as the catalyst precursor which process is based on the decomposition of hydrocarbon in a reaction furnace. The thermal decomposition of ferrocene solution was realized in an argon atmosphere. The material was characterized by Field Emission Scanning Electron Microscope (FE-SEM), Thermo gravimetric Analysis (TGA) and Raman Spectroscopy. CNTs were found to grow at 750°C . At a temperature of 750°C using FE-SEM, CNTs were found as a look likes “bamboo” structure. At a temperature of 750°C using Raman spectroscopy, the carbon G and D peaks were prominent at 1540 cm^{-1} and 1306 cm^{-1} respectively. The ratio of the intensities of these peak, I_G/I_D was found is 1.18. The best curve in the temperature at a 750°C and other temperatures a few amount of amorphous carbon in CNTs using TGA.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	xiii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1 INTRODUCTION	
1.1 Background	1
1.2 Carbon nanotubes (CNTs)	4
1.3 Significant of study	5
1.4 Problem statement	6
1.5 Objective of the study	7
CHAPTER 2 LITERATURE REVIEW	
2.1 Properties of CNTs	8
2.1.1 Types of CNTs	9
2.1.2 Optical absorption of CNTs	9
2.2 Application of CNTs	11
2.1.1 Structural	11
2.1.2 In Electrical Circuit	12
2.3 Characterization of CNTs by using Raman Spectroscopy	14
2.3.1 D band- G band relation (Previous Study)	14
2.4 Preperation of CNTs	16
2.5 Catalytic atomizer System	17
2.6 Characterization of CNTs	18
2.6.1 Field Emission Scanning Electron Microscopy	18
2.6.2 Raman Spectroscopy	19
2.6.3 Thermogravimetric Analysis	19
2.7 Features of Raman Spectroscopy on types of CNTs	20
2.7.1 Single Walled Carbon Nanotubes (SWCNTs)	20
2.7.2 Multi Walled Carbon Nanotubes (MWCNTs)	21