




**ANALYSIS OF COOLING PERFORMANCE FOR AIR
COOLING CHANNELS OF A PEM FUEL CELLS
USING CFD**

**MOHD HAFIZI BIN MOHD DIN
(2006689922)**

**BACHELOR ENGINEERING (HONS) (MECHANICAL)
UNIVERSITI TEKNOLOGI MARA (UiTM)**

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“I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree.”

Signed: 

Date: 19 Mei 2010

Mohd Hafizi Bin Mohd Din

UiTM No: 2006689922

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ABSTRACT

The propose of this project “Analysis of Cooling Performance For Air Cooling Channels Of A PEM Fuel Cells Using CFD” is to do some research vehicles using fuel cell and develop a new design of fuel cells that will improved a lot from many aspects such as power supply, air flow and others compared to the fuel cells that have been develop nowadays. From the basic shape and flow of existing fuel cells, I try to design a new shape for the fuel cells so that it can improve the performance. By using CATIA software to make the drawing then using Star CCM software to run the design to get the result of the analysis. Given t' at the parameter then will be needed and collect the data. This project aims to build the Faculty's excellent international reputation, to improve and develop the staff and student experience and set a benchmark for excellence in engineering education across the world. A fuel cell is an electrochemical cell that produces electricity. The electricity is generated through the reaction, triggered in the presence of an electrolyte, between the fuel (on the anode side) and an oxidant (on the cathode side) which react in the presence of an electrolyte. The reactants flow into the cell, and the reaction products flow out of it, while the electrolyte remains within it. Fuel cells can operate virtually continuously as long as the necessary flows are maintained.

TABLE OF CONTENTS

CONTENTS		PAGES
	ACKNOWLEDGEMENT	i
	ABSTRACT	ii
	TABLE OF CONTENTS	iii
	LIST OF TABLES	vi
	LIST OF FIGURES	vii
CHAPTER 1	INTRODUCTION	
1.0	Overall Project	1
1.1	Overview of Fuel Cell	2
	1.1.1 Fuel Cell Basic	3
1.2	Problem Statement	4
1.3	Scope Of Work	4
1.4	Objective	4
1.5	Scope Of study	5
1.6	Significant Of Study	6