MODELLING OF FABRY-PEROT INTERFEROMETER

ADIBAH BINTI MOHAMMAD NOR

Final Year Project Report Submitted in Partial Fulfilment of the Requirements for the Degree of Bachelor of Science (Hons.) Physics In Faculty of Applied Sciences Universiti Teknologi MARA

JULY 2012

This Final Year Project Report entitled "Modelling of Fabry-Perot Interferometer" was submitted by Adibah binti Mohammad Nor, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Physics, in the Faculty of Applied Sciences, and was approved by

DR ABDEL-BASET MOHAMED Senior Lecturer Faculty of Applied Sciences 40450 UiTM Shah Alam, Selangor

Dr. Abdel Baset M. Ibrahim Supervisor B.Sc. (Hons.) Physics Faculty of Applied Sciences Universiti Teknologi MARA 40450 Shah Alam Selangor

Assoc. P. of. Yusoff bin Teehran Project Coordinator B.Sc.(Hons.) Physics Faculty of Applied Sciences University Teknologi MARA 40450 Shah Alam Selangor

Dr. Abdul Malik bin Marwan Head of Programme B.Sc.(Hons.) Physics Faculty of Applied Sciences University Teknologi MARA 40450 Shah Alam Selangor

Date: 3 0 JUL 2012

ACKNOWLEDGEMENT

Firstly, I am very grateful to Allah S.W.T because of His consent, i finally finished my Final Year Project on time.

Thanks goes to my supervisor, Prof. Dr. Abdel Baset M. Ibrahim because of his valuable comments, suggestions and precious advice, ideas and help during the process of preparing this thesis. I would also like to express my special thanks to my family and friends for their support, help and understanding throughout the completion of this thesis. Lastly, my gratitude goes to the master student for her help.

Once again, thanks to all who has contribute in the making of this report either directly or indirectly. I am truly grateful to know all of you.

Thank you.

TABLE OF CONTENTS

		Page
ACKNOWLEDGEMENTS TABLE OF CONTENTS ABSTRACT ABSTRAK		iii iv v v
CH	APTER 1: INTRODUCTION	
1.1 1.2 1.3	Background of Study Significance of Study Objective	1 3 3
CH	APTER 2: METHODOLOGY	
2.1	Method flow chart	4
CH	APTER 3: MATHEMATICAL FORMULATION	
3.1 3.2. 3.3	Perfectly Reflecting surface Define the field in each medium Applying boundary condition	6 6 8
CH	APTER 4: RESULTS AND DISCUSSION	
4.1	Simulation result	12
СН	APTER 5: CONCLUSION	
5.1	Conclusion	18
REFERENCES		19
CURRICULUM VITAE APPENDIX		20 22

ABSTRACT

Modelling of Fabry –Perot Inferometer

Interferometric device called Fabry Perot interferometer. A Fabry – Perot Interferometer is an optical interferometer in which a beam of light undergoes multiples reflections between two reflecting surfaces

ABSTRAK

Model Fabry- Perot Interferometer

Peranti interferometric dipanggil Fabry Perot interferometer. Fabry - Perot interferometer adalah interferometer optik di mana pancaran cahaya melalui gandaan refleksi antara dua permukaan cermin.