بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

بعض الوثائق الاصلية تالفة

بالرسالة صفحات لم ترد
بالاصل

Numerical Solution of Boundary-Value Problems for Partial Differential Equations Using Multigrid Methods in Nonuniform Domains

A thesis

Submitted to the Department of Mathematics

Faculty of Science, Tanta University in Partial Fulfilment of the Requirements for the Award of the Degree Master of Science

In

{Pure Mathematics}

By

AMIN MOHAMMED ABD EL-KHALEK EL-FEKY

Department of Mathematics

Faculty of Education, Kafr El-Sheikh

Tanta University

2000

SUPERVISORS

Prof. Dr. Abou-Zaid H. EL-Banna

Prof. of Pure Mathematics, Department of Mathematics

Faculty of Science, Tanta University

Prof. Dr. Said Ahmed Abou El-Ela El-Sharkawy

Ass. Prof. of Pure Mathematics, Department of Mathematics

Faculty of Science, Tanta University

Prof. Dr. Laila Rasheed

Ass. Prof. of Pure Mathematics, Department of Mathematics

Faculty of Education, Kafr El Shaikh Tanta University

Prof. Dr. Mohammed Osama El Gayar

Ass. Prof. of Pure Mathematics, Department of Mathematics

Military Technical Colloge.

Head of Mathematics Department

E. ELKholy

(Prof. Dr. E. M. El-kholy)

CURRICULUM VITA

Name	:	Amin Mohammed Abd El Khalek El Feky
Date of Birth	:	12/9/1969
Location	:	Tanta
Nationality	:	Egyptian.
Qualification	:	B. Sc. Degree in Mathematics (1991), Faculty of Science, Tanta University.

Head of Mathematics Department

E. El-Kholy

(Prof. Dr. E. M. El-Kholy)

ACKNOWLEDGMENT

All gratitude is due to Almighty God, who gave me the energy to finish this thesis.

I wish to express my deepest thanks and gratitude to **Prof. Dr. E. M. EL-Kholy,** Head of Mathematics Department, Faculty of Science, Tanta University and all members of staff.

I'd like thank **Prof. Dr. S. Abou El-Ella El-Sharkawy** Assistant Professor of Pure Mathematics, Department of Mathematics, Faculty of Science, Tanta University, for continuous encouragement during most of the time.

I am also much indebted to **Prof. Dr. Laila Rasheed** Assistant Professor of Pure Mathematics, Faculty of Education, Kafr El-Sheikh, Tanta University for her support and guidance during the work in this thesis.

Al so, I wish to express my deepest thanks and gratitude to **Prof. Dr. M. O. El-Gayar,** Assistant Professor of Mathematics, Military Technical College, Cairo, for continuous help, guidance and invaluable discussion which were so willing give during the work of this thesis.

I am deeply indebted and grateful to my family who gave me help and encouragement.

A. M. El-feky

POSTGRADUATE STUDIES

The present thesis is submitted to Mathematics Department, Faculty of Science, Tanta University in Partial Fulfilment of requirements of the degree of Master of Science in Pure Mathematics.

Beside the research work materialized in this thesis, the candidate has attended four postgraduate courses within two years including the following topics :

1- Abstract Algebra

2- Numerical Analysis

3- Partial Differential Equations.

4- Functional analysis.

5- German language.

The applicant **Amin Mohammed Abd El-Khalek El-Feky** had successfully passed the final examinations (1994-1995) of these courses.

Head of Mathematics Department

E. El-Kholy

(Prof. Dr. E. M. El-Kholy)