

Ain Shams University

M.Sc. thesis

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F. M

Submarine Erbium-Doped Fiber Amplifier Systems

52162

Mustafa

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By: Eng. **Fatma M. Misk**

Submitted in Partial Fulfilment to the Electronics and
Communication Eng. dept.
Faculty of engineering

Under supervision of

Prof. **Mahmoud H. Ahrned**







﴿ن وَالْقَلَمِ وَمَا يَسْطُرُونَ﴾

صدق الله العظيم



إِنَّ الْأَبْرَارَ لَفِي نَعِيمٍ عَلَى الْأَرَائِكِ يَنْظُرُونَ
تَعْرِفُهُ فِي وَجْهِهِمْ نَضْرَةَ النَّعِيمِ
يُسْقَوْنَ مِنْ رَحِيقٍ مَخْتُومٍ

خَتَامُهُ مَسْكٌ

وَفِي ذَلِكَ فَلْيَتَنَافَسِ الْمُتَنَافِسُونَ
صَدَقَ اللَّهُ الْعَظِيمُ

اللَّهُمَّ اجْعَلْ

هَذَا الْإِسْدَاءَ لَوَالِدَايَ ثُمَّ لِعَلَمِي مُحَمَّدٍ حَنَفِي

وَحُلْ مِنْ تَفَضُّلِكَ عَلَيَّ بِعِلْمٍ نَافِعٍ

دَعَاءٌ مَقْبُولٌ وَمَسْمُوعٌ

يَا رَجَا الْعَالَمِينَ

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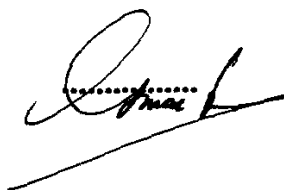
EXAMINER COMMITTEE

Name, Title and Affiliation

Signature

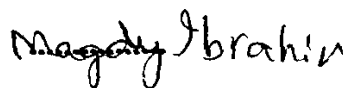
Prof. *Osman Lotfi*

Prof. of Optical Communications
Dept. of Electronics and Communications
Faculty of Eng. , Cairo University
& Chairman of National Authority
of Telecommunication



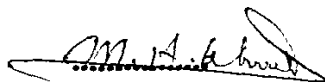
Prof. *Magdy Mahmoud Ibrahim*

Prof. of Optical Communications
Dept. of Electronics and Communications
Faculty of Eng. , Ain Shams University



Prof. *Mahmoud Hanafi Ahmed*

Prof. of Optical Communications
Dept. of Electronics and Communications
Faculty of Eng. , Ain Shams University



Date : 10 / 4 / 1996 .

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STATEMENT

This dissertation is submitted to Ain Shams University for the degree of Master of Science in Engineering of Electronics and Communications.

The theoretical work included in this thesis was carried out by the author in the Electronics and Communication Engineering Department, Ain Shams University in Egypt from Dec.10,1990 to April, 10, 1996. The experimental work was carried out in the photonics and Electronics Department, Alcatel Alsthom Research in Marcussess, France, from November, 1992 to February, 1993 .

No part of this has been submitted for a degree or a qualification at any other University or Institution.

Name : Fatma Mostafa Misk
Signature :
Date : 10 /4 /1996

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(C . V .)

- * **Student Name** : Fatma Mostafa Misk.
- * **Place of Birth** : Port - Said, Egypt.

- * **First University Degree** :
B.Sc. Electrical Engineering, Electronics and Communications
Department, Ain Shams University, June 1987.

- * **Second University Degree** :
High Diploma in Electronic Engineering, Electronics and
Communications Department, Ain Shams University, Dec.,
1990 .

- * **Previous Experience** :
 1. Optical Communication and Lasers Lab. Engineer, **Faculty of Engineering, Ain Shams University**, 1987 - 1992.
 2. Training in **ALCATEL ALSTHOM RESEARCH, Marcoussis, France**, 1992 - 1993 .
 3. MEDICAL INSTRUMENTS

Name : *Fatma Moustafa Misk*
Signature :
Date :10/4/1996



