



1- Lecturer C.V.

Mohamed Ahmed Metawe'e

Email: drmohmetawee@gmill.com
Phone: (203)5611781 – Mobile: (0020)1007337579



(1) Education:

2002-2005

Ph.D., Menoufia University, Faculty of Electronic Engineering, Menouf, Department of Electronic & Electrical Communication Engineering. Degree received: November, 2005; Area: **Optical Communication Channels;** Dissertation: "**Reduction of Propagation problems in Optical Communication Systems**".

1998-2002

English Studying, Test of English as a Foreign Language (TOEFL), American Center, Alexandria.

1996-1998

Studying of Computer Applications& Programming, Faculty of Engineering, Alexandria University & Military Institute for information systems, Alexandria, Egypt.

1991-1995

MS.C., Alexandria University, Egypt. Degree received: May, 1995; Area: Spread Spectrum Communications; Dissertation: "**Frequency Spread Spectrum System under Partial-Band Jamming Interference in Fading Environment**".

1979-1990

Researches in Various Technical Branches in Armed Forces. Cairo.

1973-1978

BSEE, Military Technical Collage, Cairo, Egypt; Degree received: July 1978; Area: **Communication Engineering.**

(2) Work Experience:

9/2018 - now

El-Arish Higher Institute for Engineering & Technology, Dean of Department of Electronic & Communication Engineering.

- 1- Fiber Optics Fields (practical & theoretical).
- 2- Electric Measurements.

- 3- Electronics (1).
- 4-Solid States Electronics.
- 5- Electromagnetic fields (1&2).
- 6- Digital Electronic.
- 7- Electromagnetic wave Engineering.
- 8- Satellite Communications
- 9- Antennas and Propagation

3/2014- 9/2018

Collage of Engineering – Delta University for Engineering & Technology

- 1- Fiber Optics Fields (practical & theoretical).
- 2- Electric Measurements.
- 3- Electric Circuits
- 3- Advanced Electric Circuits
- 4- Electromagnetic Engineering
- 5- Microwave Engineering

2006 –3/2014

El-Arish Higher Institute for Engineering &Technology, Dean of Department of Electronic & Communication Engineering.

- 1- Fiber Optics Fields (practical & theoretical).
- 2- Electric Measurements.
- 3- Electronics (1).
- 4-Solid States Electronics.
- 5- Electromagnetic fields (1&2).
- 6- Electric Circuit (1&2) .
- 7- Digital Electronic.
- 8- Electromagnetic Engineering.
- 9- Antennas and Propagation.
- 10- Physics.

1990-2006

Arab Academy for Science &Technology, Faculty of Engineering & Technology, Department of Electronic & Communication Engineering,
 Assistant of Optical Communication (Lab.) Prepare Experiments Book as a reference & Guide for students; Solid States Electronic (Lec., Lab.& Exercises.); Electric Measurements (Lec., Exercises), Digital Electronics (Exercises)

1995-1997

Researcher, Teacher of Spread Spectrum Systems, *Electronic warfare Weapon, Armed Forces, Cairo.*

1990-1994

Chief of Electronic Equipments Group, *Electronic warfare Weapon, Armed Forces, Cairo.*

1986-1989

Chief of Wireless Department, *Electronic Warfare Repair Workshop. Cairo.*

1982-1985

Superintend of Electronic Repair Workshop, Precision Measuring Equipment Laboratory, *Electronic Warfare Workshop. Cairo.*

1978-1981

Electronic Measurement Specialist, Precision Measuring Equipment Laboratory, Electronic Warfare Sub sector Control Center. Cairo.

(3) Teacing Experience as the following:

i) Faculty of Engineering, Arab Academy (1990:2006):

- *Optical Communications (EC 524),(Lab.)*
- Preparing Lab. Handel Experiments as a reference in Optical Comm. Lab. (good show during visiting IEE British Group to Academy)
- *Digital Electronics (CC 442), (Sec.)*
- *Electric circuits (1),(2)(Sec. & Lab.)*
- *Antenna (Lab.) and Electronic measurements (Lec. & Sec.)*
- *Solid States Electronics (EC 210, 230), (Lec ., Sec. & Lab.)*
- *Electric Measurements (EC 237, (Lec ., Sec. & Lab.)*

ii) Faculty of Engineering, Kafr-EL Shikh university (2006-2007):

- Electronic Measurements(*Lec .*)
- Acoustics (*Lec .*)
- Fiber Optics (*Lec .*)
- Digital Electronics (*Lec .*)

iii) Faculty of Air Deffence (2007) :

- Laser Applications.

v) El Arish Higher Institute of Engineering & Technology (2007:2/2014):

- Fiber optical communications (*Lec .*)
- Electronics (1) (*Lec .*)
- Circuits (1,2) (*Lec .*)
- Electromagnetic fields (1,2) (*Lec .*)
- Measurements (1) (*Lec .*)
- Physics (4) (*Lec .*)

iv) Collage of Engineering-Delta university for Science & Technology (3/2014 till 8/2018):

- Fiber optical communications (*Lec .*)
- *Advanced Electric circuits (Lec.)*
- *Electric measurements (Lec.)*
- Electromagnetic fields (Lec.)
- Microwave engineering (Lec.)
- Optoelectronic devices

(4) Under-graduated Projects (Fiber Optical Communication Systems) as a supervisor :

- i) Faculty of Engineering, Arab Academy for Science&Tech.(2002:2006)
- ii) Faculty of Air Deffence (2007)
- iii) Alexandria Higher Institute of Engineering & Technology (2005: now)
- v) Al-Arish Higher Institute of Engineering & Technology (2007: 2013)
- iv) Collage of Engineering-Delta university for Science & Technology(2014: now)

(5) List of Publications

- 1) Mohamed A. Metawe'e; Abd-EL-Fattah A. Saad, Said A. El-Halafawy, Mahmoud G.El-Kholy, "**Isothermal Surfaces of Dispersion-Free Zones of Germania-Doped Silica Fibers in High Speed Optical Communication Networks**", SCI 2003, Vol.X, Orlando, Florida, USA, July 27-30,2003.

-
- 2) Mohamed A. Metawe'e; Hossam El-Dien H. Ahmed, Abd El-Naser A. Mohamed, Abd-El-Fattah A.Saad, "**Multicore Fiber Cable of Equal Performance for Ultrawide Wavelength Division Multiplexing in Optical Communications Networks**", SCI 2003, Volume X, Orlando, Florida, USA, July 27-30, 2003.
-
- 3) El -Sayed A. El-Badawy, Hossam El-Dien H. Ahmed, Mahmoud G.El-Kholy, Mohamed A. Metawe'e, "**Dispersion Compensation in Binary Optical Fiber for Ultra-Multiplexing (SDM+ WDM) Applications**", SCI 2004, Volume XV, Orlando, Florida, USA, July 18-21, 2004.
-
- 4) Distributed Optical Raman Amplifiers in Ultra High Speed Long Haul Transmission Optical Fiber Telecommunication Networks"
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Ahmed N. Z. Rashed , and Mahmoud M. A.Eid.
Published in International Journal of Computer and Network Security(IJCNS), Vol.1, No. 1, pp. 1-8, October 2009, Journal ISSN:2835-9942, Malaysia.
-
- 5-"Recent Applications of the Electrooptic Modulators in Radio-Over-Fiber"
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Abd El. Fattah. A.Saad , and Mahmed S.F. Tabbour.
Published in proc. 6th International Symposium on High Capacity Optical Network & Enabling Technologies, Dec. 28-30, Alex., Egypt, 2009, ©2009 IEEE.
-
- 6-"High Transmission Capacity Multiplexing Techniques with Full Bi-Directional Pumping Amplification Technique in Advanced High Speed Wire Optical Communication Networks"
Ahmed N. Z. Rashed , Mohamed A. Metawe'e and Amena M. El-Nabawy.
Published in International Journal of Computational Intelligence and Information Security (IJCIIS) , Vol.1, No. 1, pp. 42-56, January 2010, Journal ISSN:1837-7823,USA.
-
- 7-"Important Role of Optical Add Drop Multiplexers with Different Multiplexing Techniques in Optical Communication Networks"
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Ahmed N. Z. Rashed and Mahmoud M. A. Eid.
Published in International Journal of Computational Intelligence and Information Security (IJCIIS), Vol. 1, No.1, pp. 72- 85, January 2010, USA.
-
- 8-"Unguided Nonlinear Optical Laser Pulses Propagate in Waters with Soliton Technique"
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Ahmed N. Z. Rashed and Amina E.M. El-Nabawy.
Published in International Journal of Multidisciplinary Sciences, and Engineering (IJMSE), Volume 2 Number 1, pp. 1- 10, March 2011,UK.
-
- 9-"Ultra Wide Arrayed Waveguide Grating (AWG) Devices for Dense Wavelength Division Multiplexing (DWDM) Optical Communication Systems"
Mohamed A. Metawe'e .
Published in International Journal of Computer Science and Telecommunications (IJCST), Volume 2 Number 2, pp. 38- 44, April 2011, UK.
-
- 10-"Recent Progress of LiNbO₃ Based Electrooptic Modulators with Non Return to Zero (NRZ) Coding in High Speed Photonic Networks"
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Ahmed N. Z. Rashed and Amira M. I. Bendary.
Published in International Journal of Multidisciplinary Sciences and Engineering (IJMSE), Vol.2, No. 4, pp. 13-21, July 2011, UK.
-

- 11-“High Speed Performance of Electrooptic Polymer Modulator Devices in Advanced Optical communication Systems” Mohamed A. Metawe'e.
Published in International Journal of Computer Science and Telecommunications, (IJCST), ISSN:2045-7535, Volume 2 Number 5, August 2011, UK.
-
- 12-"Ultra High Speed Semiconductor Electrooptic Modulator Devices for Gigahertz Operation in Optical Communication Systems"
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Ahmed N. Z. Rashed and Amira M. I. Bendary.
Published in International Electrical Engineering Journal (IEEJ) , Vol.2(2011), No. 3, pp. 560-570, ISSN2078-2365, Canada.
-
- 13- "Operation performance characteristics of Vertical-Cavity Surface-Emitting Lasers (VCSELs) under high terminal neutron irradiated fields".
Ahmed Nabih Zaki Rashed and Mohamed A. Metawe'e.
Published in Journal of Russian Laser Research, ISSN:1071-2836(print), 1573-8760(online), Volume 34, Number 1, January, 2013
-
- 14-"Maximization of repeaters spacing in ultra-wide-wavelength-division multiplexing optical communication systems based on multi-pumped laser diodes".
Ahmed Nabih Zaki Rashed and Mohamed A. Metawe'e
Published in Journal of Russian Laser Research, ISSN:1071-2836(print), 1573-8760(online), Volume 34, Number3, May, 2013
-
- 15-"Recent Applications of the Electrooptic Modulators in Radio-Over-Fiber".
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Abd El. Fattah. A.Saad , and Mahmed S.F. Tabbour.
6th International Symposium on High Capacity Optical Network & Enabling Technologies, Dec. 28-30, Alex., Egypt, 2009, ©2009 IEEE.
-
- 16-"Unguided Nonlinear Optical Laser Pulses Propagate in Waters with Soliton Transmission Technique".
Abdel-Naser A. Mohammed , Mohamed A. Metawe'e , Ahmed N. Z. Rashed and Amina E.M. El-Nabawy.
International Journal of Multidisciplinary Sciences, and Engineering (IJMSE), Volume 2 Number 1, pp. 1- 10, March 2011,UK.
-
- 17-"New Trends of Transmission Capacity Evaluation of Submarine Fiber Cable systems With Different Ultra High Multiplexing, Amplification and Propagation Techniques".
Abd-El-Naser A. Mohammed, Mohamed A. Metawe'e, and Ahmed Nabih Zaki Rashed.
Arabian Journal of Science &Engineering, (Springer), ISSN 1319-8025, volume 39, Number 2, February 2014
-
- 18-"Interaction of Harmful Thermal Irradiation Fields With Avalanche Photo-detector Receiver Near Infra-red Spectrum Transmission Region".
Mohamed A. Metawe'e,
International Journal of Science, Engineering and Technology Research (IJSETR), Volume 3, Issue 3, 3, March, 2014.
-
- 19-"Efficient Role of Optical Fiber Modulators For High Speed Optical Communication System Applications".
Mohamed A. Metawe'e,
International Journal of Science, Engineering and Technology Research (IJSETR), Volume 3, Issue 3, 3, March, 2014.
-

- 20-"Different Atmosphere Turbulence Levels and Noise Effects on Signal Transmission Efficiency in Terrestrial Free Space Optical Communication Networks".
Mohamed A. Metawe'e and Ahmed N. Z. Rashed.
International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE) Volume 3, Issue 4, April 2014.
-
- 21-"Optical Filters Dimensions and Thermal Operation Conditions Impact on Its Transmission Considerations in Near Infra-red (NIR) Optical Spectrum Transmission Region".
Mohamed A. Metawe'e and Ahmed N. Z. Rashed.
Optoelectronics and Advanced Materials Journal., (IF=0.402)
-
- 22-"**Maximum Stabilization System Operation Control with Second Order Short Pass Optical Filters and Filter Transient Time Response Analysis**".
Mohamed A. Metawe'e and Ahmed N. Z. Rashed.
Published in International Journal of Advanced Research in Electronics & Communication Engineering (IJARECE), Volume 3, Issue , 25 May 2014.
-
- 23- "**Hardware implementation of antenna array system for maximum SLL reduction.**"
Amr H. Hussien, Mohamed A. Metawe'e, Hythem H. Abdullah
Published in Engineering Science and Technology, an international Journal (20) (2017) 965-972.
-
- 24- "**SAC-OCDMA system performance using MDW signature codes with different photodiodes: A comparative study**"
Somaya A. Abd El-Mottaleb, H. A. Fayed, M. H. Aly,*, Mohamed A. Metawe'e, and M.R.M. Rizk.
3rd International Conference , Advanced Technology & Applied Science (ICATAS 2018) 17-19 October 2018 Putrajaya, Malaysia.
-
- 25- "**Enhanced Spectral Amplitude Coding OCDMA System Utilizing a Single Photodiode Detection**"
Somia A. Abd El-Mottaleb , Heba A. Fayed , Ahmed Abd El-Aziz , Mohamed A. Metawe'e and Moustafa . Aly .
-

(6) Technical Experience

- Taught many courses in the areas of Spread Spectrum Communication Equipments. *Electronic Warfare Institute, Armed Forces-Cairo.*
- Maintenance & Repair of Electronic Warfare Equipments. *Electronic Warfare Workshop-Cairo.*
- Research for Electronic Deception. *Electronic Warfare Weapon, Armed Forces-Cairo.*

(7) Technical Training

- Training in calibration and repair of electronic equipments, *Workshop of Electronic Warfare Weapon, Armed Forces-Cairo.*
- Precision Measuring Equipment Specialist Course, *Institute of Electronic Warfare-Cairo.*

(8) Computer Skills

- **Computer** applications and programming:
Word, Excel, Power point & Smart draw
- **Software:** MATLAB, FORTRAN & MATH.

(9) Personal Skills

- **Self** starter and have an excellent leadership, analytical and problem solving skills.

(10) Training in Faculty & Leadership Development Center (Alexandria University)

- Strategic Planning
- Exams & Student Evaluation Systems
- The Credit Hour Systems
- Quality Standards in the Education Process

Certified by: International Board of Certified Trainers (IBCT) – European Division.

Ph.D. Dissertation Abstract

Dispersion compensation is controlled via squeezing of its level under any desired value in ultra-wide space division multiplexing (up to 200 links UW-WDM) system employing 2400 channels in ultra-wide wavelength division multiplexing (UW-WDM).

The process of compensation is done via the use of two successive sections of binary glass fiber, but of alternating total chromatic dispersions, that are squeezed at any desired value. The links are made of binary glass single-mode fiber under different thermal conditions. Each link processes a central wavelength of its sub-optical window, and consequently has its design parameters {germania percentage, relative refractive index difference}. The treated optical spectral window is 200 nm ranging from 1450 nm up to 1650 nm, for the sake of parametric Raman amplification.

Three-dimensional presentation are depicted to clarify the variations of the set {number of successive sections, the germania percentage, the relative refractive index difference}, at each link. The total number of links and consequently, the channels per link affect the designed set of parameters. Also two-dimensional results are depicted to clarify that the “Shanon” capacity increases as the number of sections, N_s increases as well as the squeezed dispersion decreases. It is found that the bandwidth increases as the number of sections, N_s increases and as the order of links N_L , also as dispersion and temperature T decreases, yielding higher bit rates.

Isothermal surfaces of dispersion-free zones of Germanium-doped silica fibers are parametrically investigated, over wide ranges of variations of controlling parameters for high-speed optical communication networks. These surfaces facilitate the design of different links in space division multiplexing (SDM) as well as the ultra-wide wavelength division multiplexing (UWDM), over the range of optical wavelengths λ_s ranging from 1.45 μm up to 1.65 μm . The different design set of parameters is: optical wavelength, the germania percentage, the core-clad refractive index difference, the ambient temperature, the single mode fiber radius. Based on the three-term Sellmeier equation, chromatic dispersion is deeply analyzed taking into account thermal effect. The study is of rigorous impact in the design of high-speed optical communication networks, which multiplex 2400 channels (UWDM) through links from 4 up to 24 links (SDM).

The investigation assures the following facts:

- 1- As the center of the span of the optical wavelengths increases, the percentage of germania as well as the relative refractive index difference increase.
- 2- As the ambient temperature decreases, the isothermal surfaces are raised to higher levels.
- 3- Each link has its design parameters of dispersion-free feature at assigned spectral width, and the operating temperature.

A novel technique based on multicore cable (N_c cores) for ultimate transmission capacity as well as the repeater spacing is suggested and employed where chromatic dispersion management is processed via squeezing. Fixed-radius fibers as well as fixed values of chromatic dispersion (near zero) are designed at variant thermal environmental conditions. Each core of the cable contains N_s space division multiplexed fiber links. These N_s links (carry 2400 channels ultra wide wavelength division multiplexing

(UWDM)), have its characteristics (radius, chemical structure, and optical structure) to achieve the same fixed chromatic dispersion at variant thermal environmental conditions. For ultimate transmitted bit rate, we suggest a system of multicore cables where the input moves from a core to other if the thermal conditions are changed. This new core undergoes the same chromatic dispersion as the old one but with different geometrical and chemical structures. This suggested novel technique facilitates the design of good-high-speed cables in optical communication networks without severe reduction of the transmitted bit rate, the repeater spacing.

Master Thesis Abstract

There is considerable current interest in the application of frequency hopping spread spectrum (FHSS) techniques for combating jamming in radio communication systems. These systems use binary frequency shift keying (BFSK) modulation, and for practical reason, tend to be noncoherent from hop to hop. In order to thwart follower jamming, fast hopping is required. In this thesis, the performance of FH-BFSK in the presence of partial-band noise jamming plus system noise is considered with fading environment.

The thesis performed error probability analysis by simulation for linear, Linear with clipping and Product Combining Receivers for systems using L hops/bit BFSK-FH spread-spectrum waveforms transmitted over partial-band noise jamming channel in Rayleigh frequency selective and non-selective slow fading channels.

The bit error probabilities are obtained for square-law linear combating soft decision receiver, square-law nonlinear combining (clipper) receiver and product combining receiver (PCR) under the assumption of worst-case partial-band noise jamming with frequency selective and non-selective fading channels.

Performance curves are obtained for Linear combining, Linear combining with Clipper and PCR receivers under worst-case partial-band noise jamming plus thermal noise with Rayleigh selective and non-selective slow fading channels.

(11) Major Area of Interest

Fiber Optics Fields (practical & theoretical).
Electric Measurements.
Solid States Electronics.
Electric Circuits.
Advanced Electric Circuits.
Digital Electronics.
Electromagnetic Field Theory.
Microwave Engineering.
Analog Communications.
Digital Communications.
Satellite Communications.

(12) Minor Area of Interest

There is no any minor area for work.

(13) Hobbies

Football (player).
Running (long distance).
Sporting exercises and training.

(14) Languages

Arabic and English.

جمهورية العراق

جامعة المنوفية

قرر مجلس الشيوخ محمد احمد محمد ابراهيم مطاوع
ابن احمد محمد ابراهيم مطاوع

المولود في المنصورة - سوق
سنة ١٩٥٤ ميلادية
درجته دكتور الفلسفة
في الهندسة الالكترونية
تخصص هندسة الاتصالات في مجال (قنوات الاتصال البصرية)
في موضوع
(تقليل مشاكل الاستدراك في نظم الاتصالات البصرية)

وفى ذلك بجلستها المنعقدة بتاريخ ٣١ ديسمبر ٢٠٠٥ م بناء على قرار مجلس
كلية الهندسة الالكترونية بجلستها المنعقدة بتاريخ ١٠ ديسمبر ٢٠٠٥ م

رئيس المجلس
أ.د. عباس علي الحفناوي

بتاريخ

توقيع صاحب الدرجة

عميد الكلية



بجلت هذه الشهادة من رقم ٥



P2/ 00160



Postgraduate
Minufiya University
Faculty of Electronic Engineering-Menouf

CERTIFICATE

To whome it may concern

This is to certify that Mohamed Ahmed Mohamed Ebrahim Metawe'e

born on Desouk- Kafr el-Sheekh , in Oct.,30 , 1954

was awarded The Ph.D. Degree in Electronic Engineering .
Electrical Communications Engineering.
Optical Communications Channels

Title of the thesis

“ Reduction of Propagation Problems in
Optical Communications Systems”

By the Faculty Council on 10/12/2005

Approved by the University Council on 31/12/2005

This certificate has been issued upon his/her request.

Mahed Sachwan

Vice Dean

D./ A. Abou El Azmy
12.8.2007

Dean

D./ A. Abou El Azmy
12.8.2007

Date :

12/8/2007





P1/ 00406



جامعة المنوفية

كلية الهندسة الالكترونية

(شهادة مؤقتة)

تشهد الكلية أن/

الطالب محمد أحمد محمد إبراهيم مطاوع

المولود في:

بتاريخ:

دسوق - كفر الشيخ

١٩٥٤/١٠/٣٠

قد حصل على:

درجة دكتور الفلسفة في الهندسة الإلكترونية
فرع الدراسة: هندسة الاتصالات
مجال الرسالة: قنوات الاتصال البصرية

اسم موضوع البحث

" تقليل مشاكل الامتداد في نظم الاتصالات البصرية "

تاريخ موافقة مجلس الكلية:

٢٠٠٥/١٢/١٠

تاريخ اعتماد مجلس الجامعة:

٢٠٠٥/١٢/٣١

وقد تحررت هذه الشهادة بناء على طلبه لتقديمها لمن يهمله الأمر.

مدير الإدارة

عميد الكلية

أ.د. محمد مبروك شرف

رئيس القسم

اختص بالدراسات العليا

وكيل الكلية للدراسات العليا

أ.د. مجدى عبد الستار قطب

التاريخ: ٢٠٠٥/١١/١٠



جامعة الإسكندرية
كلية الهندسة

شهادة

تشهد كلية الهندسة بجامعة الإسكندرية بأن المهندس / محمد احمد محمد ابراهيم مطاوع
(من مواليد ٣٠ / ١٠ / ١٩٥٤ جهة كفر الشيخ) حصل/حصلت
على درجة الماجستير في الهندسة فرع الهندسة الكهربيه
بموافقة مجلس الكلية بتاريخ ١١ / ٧ / ١٩٩٥
وإعتماد مجلس الجامعة بتاريخ ٣٠ / ٧ / ١٩٩٥
في موضوع

(الاتصالات بالطيف الموسع)

وزارة خارجية جمهورية مصر العربية
مكتب تصديقات الاسكندرية
رقم التصديق ٦٤٤٠ بتاريخ ١٩٩٧
انصادق على صحة التوقيع النهائي
دون اذى مسئولية فيما يختص بمضمون ومحتويات الوثيقة
الرسم المرفق
ع/القنصل للتصديقات
جديه
محمد عبد الفتاح شامه



تحريرا في ٢٩ / ٩ / ١٩٩٧



يعتمد،
عميد الكلية

محمد عبد الفتاح شامه



مسجل الدراسات العليا



أمين الجامعة

١٩٩٧/٩/٢٩



جامعة الإسكندرية
كلية الهندسة

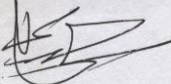
أفادة

التخصص الدقيق لرسالة الماجستير الخاصة بالمهندس / محمد احمد محمد ابراهيم

مطوع هو " القفز الترددى فى وجود تشويش بضوضاء جزئية النطاق فى ظل

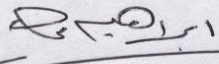
الخفوت "

الاستاذ المشرف

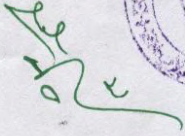

د. محمد محمود بنوى
استاذ نظم اتصالات

رئيس القسم




د. ابراهيم مجاهد







الى من يهمه الأمر

نفيدكم علماً بأن الدكتور/ محمد احمد مطاوع قام بتدريس المواد الآتية في قسم الإلكترونيات
بالأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري في الفترة من عام 1990 حتى الآن :-

- 1- جوامد الكترونية (محاضرة)
- 2- قياسات كهربية (تمرين معمل)
- 3- اتصالات بصرية (تمرين معمل)
- 4- دوائر الكترونية (معمل)
- 5- هوائيات (معمل)
- 6- قياسات الكترونية (تمرين)

رئيس قسم الإلكترونيات والاتصالات

أ.د. ناصر حمدي
١٤
٥٦



(Handwritten signature)

