

Curriculum Vitae

Name: Hossam Eldin Abdalla Talaat

Nationality: Egyptian

Current Position: Professor, Electrical Engineering Department

Business Address

Electrical Engineering Department

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Date& Place of Birth

26th January 1954, Cairo, Egypt.

Degrees Held

- Ph. D. in Electrical Power Engineering, with the Highest Honor Degree (Trés Honorable), Thesis Title: “Design of an Adaptive Multivariable Stabilizer – Implementation on a laboratory dynamic model Constructed around a Micro-Alternator”, University of Grenoble, France, September 1986.
- M. Sc. in Electrical Power Engineering and Machines, Thesis Title: “Optimal control of Transients in Power Systems”, Ain Shams University, Cairo, Egypt, April 1980.
- B. Sc. in Electrical Power Engineering, Distinction with Honors, Ain Shams University, Cairo, Egypt, June 1975.

Employment

▪ Sept. 2001-Present	Professor	Electrical Engineering Department, College of Engineering, <i>King Saud University</i> , Riyadh, Kingdom of Saudi Arabia.
▪ Jan. 2000- Sept. 2001	Professor	Department of Electrical Power Engineering and Machines, Faculty of Engineering, <i>Ain Shams University</i> , Cairo, Egypt.
▪ Jun. 1995- Jan. 2000	Associate Professor	Department of Electrical Power Engineering and Machines, Faculty of Engineering, <i>Ain Shams University</i> , Cairo, Egypt.
▪ Sept. 1989 - Jun. 1995	Assistant Professor	Electrical Engineering Department, Faculty of Engineering, <i>United Arab Emirates University</i> , Al-Ain, United Arab Emirates.
▪ Jan. 1987 - Sept. 1989	Assistant Professor	Department of Electrical Power Engineering and Machines, Faculty of Engineering, <i>Ain Shams University</i> , Cairo, Egypt.
▪ Feb. 1982- Dec. 1986	Researcher	Laboratoire d'Electrotechnique, Ecole National Supérieur d'Ingenieur Electricien de Grenoble, <i>University of Grenoble</i> , France.
▪ April 1980 - Feb. 1982	Lecturer Assistant	Department of Electrical Power Engineering and Machines, Faculty of Engineering, <i>Ain Shams University</i> , Cairo, Egypt.
▪ Sept. 1975 - April 1980	Assistant	Department of Electrical Power Engineering and Machines, Faculty of Engineering, <i>Ain Shams University</i> , Cairo, Egypt.

Professional Membership

- A member of the Egyptian National board of Electricity and Energy Researches – Scientific Research and Technology Academy, 1999-2001. The board is composed of 27 members, selected from the Egyptian Universities and Electrical Utilities.
- Chairman of the IEC Technical Committee No. 49 – **IEC** Egypt (Piezoelectric and Dielectric Devices for Frequency Control and Selection), 1999-present.
- Chairman of the IEC Technical Committee No. 93 – **IEC** Egypt (Design Automation), 1999-present.
- A member of the Technical committee of the Electrical Regulations - Saudi Building Code, 2002-2006.

Research Interests

- Reconfiguration of Distribution Networks for Load Balancing Using Search Optimization Techniques.
- Design of Optimal, Self-Tuning, Genetic Algorithm, Neural Networks and Fuzzy Power System Stabilizers.
- Microprocessor-based Real Time Digital Simulator for Protective Relaying Testing.
- Application of Artificial Intelligence Techniques in Fault Location determination.
- Transient Security Assessment Using Pattern Recognition, Fuzzy Logic and Neural Networks.
- Adaptive and Optimal Coordination of Overcurrent Relays.
- Optimal and Adaptive Load Frequency Control Using H^∞ and Artificial Neural Networks.
- Predictive Out-of-Step Relaying Using Fuzzy Classification.
- Distance protection of six-phase transmission lines using fault induced high frequency transients and wavelets.
- Protection of Series Compensated Transmission Lines using Artificial Neural Networks.
- Generator Tripping Emergency Control Strategy for Dynamic Security Enhancement Using Fuzzy Logic.
- Distribution System Service Restoration Using Expert Systems.
- Artificial Intelligence Based Load Frequency Control of Multi-Area Systems.

Research Activities

- Application of Artificial Intelligence techniques (Neural Networks, Knowledge-Based systems, Genetic Algorithms, and Fuzzy Logic) to Power System Analysis, Control, and Protection (Since 1992 till now).
- Application of Real Time control and protection algorithms to models of Electrical Power Systems and Machines (Since 1982 till now).
- Application of Optimal and Adaptive Control techniques for the Enhancement of Power System Stability (Since 1976 till now).

- Implementation of computer, microprocessor and microcontroller–based systems to a number of laboratory setups for the purpose of control, measurements and protection (Since 1982 till now).
- Sharing a Joint research with the National Energy Control Center – Egyptian Electricity Authority, under the title “Developing New Strategies for Load Frequency Control of the Egyptian Power System with the Consideration of the Interconnection with Neighbour Countries”. This research includes the design of new control strategies based on optimal control and fuzzy logic and their application to the multi-area system comprising the Egyptian System and the systems interconnected to it (Libya and Jurdan Power Systems).
- Co-Supervising a Research Project with the Egyptian German Electrical Manufacturing Company “EGEMAC”, which is one of the biggest companies of manufacturing the electrical equipment. The Objective was the Design and Manufacturing of a Multi-Function Digital Relay based on a microcontroller. This project includes the design and implementation of hardware part (signal conditioning and interfacing circuits) and firmware part (written in assembly language). The first phase of the project (finished) aimed to build a prototype for the relay.
- Sharing a Joint Research with Prof. Dr. El-Hawary, Vice Dean, Faculty of Engineering, DalTech, DALHOUSIE University, Halifax, Canada, under the title “Emergency Control and Security Assessment of Power Systems Using Fuzzy Logic Technique” (1997-2000).
- A Visiting professor to Faculty of Engineering, DalTech, DALHOUSIE University, Halifax, Nova Scotia, CANADA, during April / May 1998.
- The Pricipal Investigator of a research project sponsored by Faculty of Engineering – United Arab Emirates University under the title, “ Fuzzy Logic Based Power System Dynamic Security Assessment” (1994).
- Reviewing Research Projects funded by KACST (King Abdulaziz City for Science and Technology).
- Reviewing technical papers of specialized international journals (Electric Power System Research, Electric Energy systems, Electric Machines and Power Systems,...)

Funded Research Projects

- Co-Investigator of the Research project of the Saudi Electricity Company # S0302 under the title " Integrated economy-security assessment of power systems", budget SR460,000 (2003-2005).
- Pricipal Investigator of the National research project # AR40 sponsored by PARCI, King Saud University, under the title “Design and Implementation of Fuzzy Logic Stabilizer for Improving Power System Stability”, budget SR176,000 (2003-2007).
- Investigator of the Research Grant # 2/427 funded by the research center of the college of Engineeing, King Saud Unversity under the title “Adaptive Coordination of Overcurrent Relays”, budget SR30,000 (2006-2008).
- Investigator of the Research Grant # 38/422 funded by the Research Center of the College of Engineeing, King Saud Unversity under the title “Microcontroller-Based Intelligent Transmission Line Fault locator”, budget SR30,000 (2002-2005).
- Co-Investigator of the Research Grant# 12/425 funded by the Research Center of the College of Engineeing, King Saud Unversity under the title “Effects of Electrical Supply Voltage Dips in Process Industry Applications”, budget SR40,000 (2005-2007).

Ph. D. Thesis Supervised

1-	High-Phase Order Power Transmission Lines Relaying Approach Based on the Wavelet Analysis of the Fault Generated Traveling Waves	June 2001
2-	Emergency Control of Synchronous Generators Using Artificial Intelligence	Mar 2000
3-	Artificial Intelllignce Based Load Frequency Control of Multi-Area Systems	Oct 1999
4-	Distribution System Service Restoration Using Artificial Intelllignce	Oct 1998

M.Sc. Thesis Supervised

1-	Reconfiguration of Distribution Networks for Load Balancing Using Ant-Colony Optimization Technique	June 2007
2-	Microprocessor-based Real Time Digital Simulator for Protective Relaying Testing	June 2005
3-	Optimum load shedding Techniques for Power Systems	Jun 2000
4-	GA Approach for Load Frequency Control of Power Systems	Sep 1999
5-	Adaptive Coordination of Overcurrent Relays in Distribution Networks	Jul 1999
6-	AI Based Approach for Protective Relaying Schemes	Aug 1997
7-	Pattern Recognition Technique for Out-Of-Step Protection	Jan 1990
8-	Methods of locating Short Circuit Positions in Electrical Power Networks	Jul 1989

Conferences' Committees

- A member of the Scientific Committee of the Seventh Saudi Engineering Conference, Riyadh, December 2-5, 2007.
- Co-Chairman of Session R&D-EE2 (Research and Development in Electrical Engineering), Seventh Saudi Engineering Conference, Riyadh, December 2-5, 2007.
- A member of the Technical Committee of the Seventh International Middle East Power Systems Conference, MEPCON 2000, Cairo, March 28-30, 2000.
- Co-Chairman of Session #C4 (Application of AI in Protection Eng.), Seventh International Middle East Power Systems Conference, MEPCON 2000, Cairo, March 28-30, 2000.
- Vice Chairman, and a member of the Organization and Technical Committees of the Second Symposium on Electrical Energy in the UAE, Al-Ain, November 1991.

- Co-Chairman of Session #5 (Power System Analysis) of the Second Symposium on Electrical Energy in the UAE, Al-Ain, November 1991.

Conferences Attended

Date	Location	Theme	Organizer
2/12 – 5/12/2007	Riyadh – KSA	Seventh Saudi Engineering Conference	King Saud University
28/3 - 30/3/2000	Cairo – EGYPT	Seventh International Middle East Power System Conference (MEPCON'2000)	Ain Shams University
29/8 – 2/9/1999	Budapest	Power Tech'99	IEEE
27-30 /9/1997	Cairo – EGYPT	Technical, Economical, and Environmental Aspects of Power Systems to Satisfy Electricity Needs in Africa	CIGRE - Egypt
6-7 / 5/ 1992	Dubai – UAE	Operation and Maintenance of Electrical Power Generators	CIGRE - GCC
17-19 / 11/ 1991	Al Ain - UAE	Interconnection of the UAE Power Networks	UAE Univ.
Jan. 1989	Giza - Egypt	First International Middle East Power System Conference (MEPCON'1989)	Cairo & Assiut University
July 1983	Copenhagen	Applied Control and Identification	IASTED
July 1982	Paris	Modelling and Simulation	AMSE

Short Courses

- 1- Advanced Power System Protection
- 2- Power System Operation and Control
- 3- Power Distribution Systems
- 4- Power Flow Studies
- 5- Power System Stability
- 6- MATLAB and Simulink Application in Power System Analysis
- 7- Power System Dynamics Using SimPowerSystem Toolbox
- 8- PLC - Basic Course
- 9- PLC - Advanced Course
- 10- PLC - Specialised Training
- 11- Spreadsheet Lotus 123
- 12- Introduction to Microprocessors

Seminars

- 1- Power System Simulators Powerful Teaching Tools
- 2- Power System Analysis using PowerWorld Simulator
- 3- Artificial Intelligence applications in Power System Operation and Control
- 4- Artificial Intelligence applications in Power System Protection
- 5- Power System Transient Security Assessment
- 6- Recent Developments in Power System Protection

Industry Consultations

Enterprise	Description	Date
The Egyptian German Electrical Manufacturing Co. (EGEMAC)	Design, Implementation and Testing of a prototype multi-function digital relay. The functions include: overcurrent (inverse and definite), thermal overload, unbalanced, fault recording.	July 99 – Jul. 2000
Faculty of Girls – Ain Shams Univ.	Modernizing of Distribution Network, Distribution Boards, and Distribution Transformers.	Sep 1998- Oct 1999
Helwan Company for metallic industries (Military Factory 63)	Study of upgrading and automating the Quadruple Rolling Mill Plant 1300. The study includes the detailed design of the distributed control system using PLC's and a supervisory computer.	Sep 1999
ADWIA- Egypt, 10th of Ramadan Project (factory of medicines)	Complete Design for Electrical work: Distribution Boards, Networks, Fire Alarm System, etc...	March - June 1998
Egyptian Electrical Cables Company	Investigating the problem of power failure to the production line of high and medium voltage cables by installing a disturbance analyzer	July 1998
International Company for cables	Design of PCB's for control circuits of power converters	May 1998
Ain Shams University	Examining the distribution boards and networks at various locations of the University to check if they comply with specifications (Committee of Inquiry)	January 1998
International Company for cables 10th of Ramadan	Study of Development and Upgrading of Production Line of Telephone Cables using PLC and supervisory computer	Sept. 1997
International Company for cables 10th of Ramadan	Study of Load Characteristics of the factory using a data acquisition system	Mar. 1997

Development of Engineering Education

- A member of the Academic Committee of the College of Engineering, King Saud University, 2002-now.
- Chairman of the Academic Committee of the Electrical Engineering Dept, King Saud University, 2002-now. During this period, a new non-thesis master program has been introduced, thesis M.Sc. program and Ph.D. program have been renewed.
- Designing a set of experiments on the TQ power system simulator to serve understanding the concepts of power system operation, protection and control (2006-2007).
- Chairman of the departmental committee for developing the curriculum of the undergraduate studies of the Power Engineering Department, Faculty of Engineering, Ain Shams University, February-July 2000.
- A member of several committees at UAE University aiming to develop new curricula of the College of Engineering. These developments focused on the proper use of computers and digital equipment to enhance teaching methods and to encourage self-learning.
- Assisting in a workshop organized at UAE University under the theme “ On Designing a New Engineering Curriculum”.
- The representative of the Electrical Engineering Department in the committee of the College of Engineering- UAE University for designing M.Sc. study plan in energy Engineering.
- Assisting in developing the study plan of undergraduate and M.Sc. programs at Ain Shams University (1996-1998).
- Assisting in constructing two new Laboratories at Ain Shams University (during 1996-1998): Electrical Power Measurements Lab and Power System Analysis Lab. This includes citing the objectives, selection of the equipment and/or software, and testing of the equipment.
- Introducing new courses in the field of power systems and control systems for both theoretical and experimental aspects.

- Introducing the use of the mathematical package MATLAB/ Simulink in control systems and power systems courses.

Graduate Courses Taught

- Advanced Power System Operation and Control
- Microprocessors Applications in Power System
- Artificial Intelligence Applications in Power Systems
- Advanced Power System Protection
- Power System Dynamics

Undergraduate Courses Taught

- Power System Analysis
- Advanced Power System Analysis
- Power System Control
- Advanced Power System Control
- Power System Protection
- Power System Planning
- Fundamentals of Power Systems
- Electric Machinery
- Fundamentals of Electric Circuits
- Electric Circuit Analysis
- Electric Circuits and Machines (for Non-Electrical)
- Power System Lab
- Automatic Control Lab
- System Simulation
- Electrical Measurements and Digital Instruments
- Microprocessor and Its Application to Power System
- Classical Control Theory
- Advanced Control Systems
- Discrete-Time Control systems

Graduation Projects Supervised

- Power Transformer Protection based on Artificial Neural Network
- Optimal Coordination of Overcurrent Relays
- Design and Implementation of a SCADA System for the Power System simulator
- Optimal Operation of a Power System using PowerWorld Simulator
- Distribution Automation system
- Flexible AC Transmission Systems
- Voltage Sag Analysis and Mitigation
- Design and Implementation of a Digital Overcurrent Relay
- Computer Control of SVC for Enhanced Performance of Transmission Line
- Design and Implementation of a Power System Simulator
- Design and Implementation of Programmable Load Simulator
- An Intelligent PCB Drilling Machine
- Supervisory Control and Data Acquisition "SCADA" of Power System Simulator
- Fuzzy Logic based Temperature Control
- Dynamic Stability of a Simplified Power System
- Graphical Interface Package for Power System Analysis

University Activities

- Coordinator of the Power Group – Electrical Engineering Department – College of Engineering – King Saud University, 2001-now.
- Member of the Students Activities Advisory Committee, 2006-2007.
- Chairman of the students' activities Committee at Faculty of Engineering, UAE University, 1992-1993.
- Supervisor of the Engineering Association for Students, Faculty of Engineering, UAE University, 1992-1993.
- Supervisor of the Electronic Engineering Association for Students (Girls), Faculty of Engineering, UAE University, 1992-1993.
- Member of the Society Services Committee, Faculty of Engineering, UAE University, 1991-1992.
- Member of the Training and Journey Committee, Faculty of Engineering, UAE University, 1991-1992.

Publications

Journal Papers

- 1) H.E.A. Talaat, A. Alsulaiman and A. Abdennour, "Design and Implementation of a GA-Optimized Fuzzy Decentralized Power System Stabilizer", submitted to *Electric Power System Research Journal*, Dec. 2007.
- 2) A.Y. Abdelaziz, A.M. Ibrahim, M.M. Mansour and H.E. Talaat, "Modern Approaches for Protection of Series Compensated Transmission Lines", *Electric Power Systems Research*, Vol. 75, 2005, pp. 85-98.
- 3) A.Y. Abdelaziz, Y.G. Mostafa, A.M. Ibrahim, M.M. Mansour and H.E. Talaat, "Protection of Series Compensated Transmission Lines using Travelling wave", *Scientific Bulletin, Faculty of Engineering, Ain Shams University*, Vol. 39, No. 1, March 2004.
- 4) M. M. Mansour, H. A. Talaat, and Ammar A. Hajjar, "Ultra High Speed Relaying Approach for Six-Phase Transmission Lines," *IEEE Power Engineering Review*, September 2002, pp 50-51.
- 5) A.Y. Abdelaziz, H.E.A. Talaat, A.I. Nousseir, Ammar A. Hajjar, An adaptive protection scheme for optimal coordination of overcurrent relays, *Electric Power Systems Research*, Vol. 61, No. 1, 2002, pp. 1-9.
- 6) Ammar A. Hajjar, M.M. Mansour, and H. A. Talaat, "Signal processing using wavelet transform for power transmission lines protection," *The 1st IEEE ISSPIT Symposium*, Dec. 28-30. 2001, Cairo, Egypt.
- 7) Hossam E.A. Talaat, "Adaptive Load Frequency Control Using Neural Network-Based Inverse Controller", *Scientific Bulletin, Faculty of Engineering, Ain Shams Univ.*, Vol. 34, No. 4, Dec. 1999, part II.
- 8) Hossam E.A. Talaat, A.Y. Abdelaziz, A.I. Nousseir, A.A. Hajjar, "Optimal Coordination of Directional Overcurrent Relays Using Linear Programming: An Enhanced Formulation", *Scientific Bulletin, Faculty of Engineering, Ain Shams Univ.*, Vol. 34, No. 4, Dec. 1999, part II.
- 9) Hossam E.A. Talaat, M.A. El-Sharkawy, H.E. Moustafa, K. Yassin, "Robust Load-Frequency Control Based on H_{∞} - Optimal Control", *Scientific Bulletin, Faculty of Engineering, Ain Shams Univ.*, Vol. 34, No. 2, June 1999, part II, pp.201-214.
- 10) Hossam E.A. Talaat, "Predictive Out-of-Step Relaying Using Fuzzy Rule-Based Classification", *Electric Power Systems Research*, Vol.48, No.3, 1998, pp. 143-149.
- 11) A.M. Sharaf, R.M. El-Sharkawy, Hossam E.A. Talaat, M.A.L. Badr, "Fault Detection on Radial and Meshed Transmission Systems Using Hilbert Transform", *Electric Power Systems Research*, Vol. 41, 1997, pp. 185-190.
- 12) Hossam E.A. Talaat, R.M. El-Sharkawy, M.M. Mansour, M.A.L. Badr, "A Knowledge-Based System for the Coordination of Distance Relays in Meshed Power Systems", *Scientific Bulletin, Faculty of Engineering, Ain Shams Univ.*, Vol. 32, No. 4, Dec. 1997, part II, pp. 479-493.

- 13) A.M. El-Arabaty, Hossam E.A. Talaat, M.M. Mansour, and A.Y. Abd-Elaziz, "Out-Of- Step Detection Based On Pattern Recognition", *International Journal of Electrical Power & Energy Systems*, Vol.16, No.4, August 1994.
- 14) Hossam E.A. Talaat, and A.D. El-Koshairy, "Analysis and Practical Aspects of Neutralizing Rotor Leakage and Magnetizing Reactances of a 3-phase Induction Motor", *Dirasat Hundasia, Faculty of Engineering, United Arab Emirates Univ.*, Vol.6, No.6, Al-Ain, UAE, December 1993.
- 15) Hossam E.A. Talaat, and M.M. Mansour, "A Pattern Recognition Clustering Technique for Transient Stability Assessment", *Ain Shams Univ., Engineering Bulletin*, Vol. 27, No.1, pp.267-284, Cairo, Mars 1992.
- 16) Hossam E.A. Talaat, "Design of Discrete Controller for Turbo-generator Through Numerical Determination of Performance Index", *Ain Shams Univ., Engineering Bulletin*, Vol. 25, No.2, pp.268-280, Cairo, August 1990.
- 17) K. Rashid, H. Talaat, R. Moret, "Optimal Output Local Control of Multimachine Power Systems", *Electric Machines and Power Systems*, No.11, pp.89-103, 1986.

Conference Papers

- 18) Ammar A. Hajjar, M. M. Mansour, and H. A. Talaat, "High-Phase Order Power Transmission Lines Relaying Approach Based On The Wavelet Analysis Of The Fault Generated Traveling Waves", *The 39th Universities Power Engineering Conference UPEC 2004*, WEU, Bristol, U.K, Conference Proceedings, pp. 805-809.
- 18) A.Y. Abdelaziz, Y.G. Mostafa, A.M. Ibrahim, M.M. Mansour and H.E. Talaat, 'A Neural Network Based Approach for Protection of Series Compensated Transmission Lines', *Proceedings of the Ninth International Middle-East Power Systems Conference MEPCON'2003*, Menofia University, Egypt, December 2003, pp. 405-411.
- 19) Ammar A. Hajjar, M. M. Mansour and H. A. Talaat, "A New Approach for High-Speed Distance Protection Based on Fault Induced High Frequency Currents and Wavelets," *JIEEEC 2003 Conference*, October 13-16, 2003, Amman – Jordan.
- 20) Ammar A. Hajjar, M. M. Mansour, H. A. Talaat, and S. O. Faried "Distance protection of six-phase transmission lines using fault induced high frequency transients and wavelets", *The 2002 IEEE Canadian Conference on Electrical & Computer Engineering*, 12-15 May, 2002, Canada, Vol.1, pp. 7-11.
- 21) A. A. Hajjar, M.M. Mansour, and H. A. Talaat, " Wavelets for six-phase transmission line relaying fault classification and phase selection," *The 11th IEEE MELECON 2002 Conference*, May. 27-29. 2002, Cairo, Egypt, Conference Proceedings, pp. 235-239.
- 22) A. A. Abbas, M.S. Morsy. H. E. A. Talaat and M. E. El-Hawary, " A Generator Tripping Emergency Control Strategy for Dynamic Security Enhancement Using Rule Based Fuzzy Assessment", *The 11th IEEE MELECON 2002*, May 7-9, Cairo, Egypt, Conference Proceedings, pp. 137-141.
- 23) transform for power transmission lines protection," *The 1st IEEE ISSPIT Symposium*, Dec. 28-30. 2001, Cairo, Egypt.

- 24) M. M. Mansour, H. A. Talaat, and Ammar A. Hajjar, "Travelling Wave-Based Protection for Six-Phase Transmission Lines Using Wavelets," *The 36th Universities Power Engineering Conference UPEC 2001*, Swansea, U.K.
- 25) Ammar A. Hajjar, M.M. Mansour, and H. A. Talaat, "Travelling wave-based protection of six-phase transmission lines," *The 4th Conference of Arab CIGRE National Committees*, Mars 18-21, 2001, Tripoli Libya.
- 26) A.A. Abbas, Hossam E.A. Talaat, M.S. Morsy, M.E. El-Hawary, "Fuzzy Rule Based Dynamic Security Assesment", *Seventh Int. Middle East Power Systems Conference, MEPCON 2000*, Cairo, March 28-30, 2000, Conference Proceedings, pp.350-354.
- 27) H.E. Moustafa, Hossam E.A. Talaat , M.A. El-Sharkawy, K. Yassin, "H ∞ and Fuzzy Load Frequency Controllers Applied to the Egyptian Power System", *Seventh Int. Middle East Power Systems Conference, MEPCON 2000*, Cairo, March 28-30, 2000, Conference Proceedings, pp.430-437.
- 28) A.Y. Abdelaziz, Hossam E.A. Talaat , A.I. Nosseir, A.A. Hajjar, "An Adaptive Protection Scheme for Optimal Over Current Relay Coordination in Interconnected Power Systems", *Seventh Int. Middle East Power Systems Conference, MEPCON 2000*, Cairo, March 28-30, 2000, Conference Proceedings, pp.556-561.
- 29) E.A. Mohamed, Hossam E.A. Talaat , E.A. Khamis, "ANN Based High Speed Fault Diagnosis System for an EHV Transmission Lines with Intermediate Loads", *Seventh Int. Middle East Power Systems Conference, MEPCON 2000*, Cairo, March 28-30, 2000, Conference Proceedings, pp.624-629.
- 30) Hossam E.A. Talaat, S. El-Safty, M.M. Mansour, S. El-Debeiky, " A Rule-Based Expert System for Distribution System Service Restoration", *IEEE Power Tech '99 Conference*, Budapest, 29 Aug– 2 Sept. 1999, Conference Proceedings, paper BT99-321-23.
- 31) Ammar A. Hajjar, A. Y. Abdelaziz, H. A. Talaat, and A. I. Nosseir, "Optimal Coordination Of Overcurrent Relays By Linear Programming: An Enhanced Problem Formulatin," *The 3th Regional Conference for Arab CIGRE Countries*, Doha, Qatar ,May 25-27, 1999.
- 32) A.A. Abbas, M.E. El-Hawary, Hossam E.A. Talaat, M.S. Morsy, "A Fuzzy Approach for Dynamic Security Assessment and Selection of Unstable Generators", *1999 Large Engineering Systems Conference on Power Engineering*, Halifax, Canada, 27-29 May 1999.
- 33) Hossam E.A. Talaat, S.T El-Safty, S. El-Debeiky, M.M.Mansour, "Fuzzy Logic Based Load Estimation for Distribution System Restoration", *Sixth Int. Middle East Power Systems Conference, MEPCON 98*, Mansoura, Dec. 15-17, 1998, Conference Proceedings, paper 6C3, Vol. II, pp.646-651.
- 34) Hossam E.A. Talaat, A. El Damaty, I. Qamar, H. El Gohary, "Design of a Power System Stabilizer Using a GA-based Eigenvalue Shift Technique", *Sixth Int. Middle East Power Systems Conference, MEPCON 98*, Mansoura, Dec. 15-17, 1998, Conference Proceedings, paper 3C3, Vol. I, pp.331-335.
- 35) A.M. Sharaf, R.M. El-Sharkawy, Hossam E.A. Talaat, M.A.L. Badr, "Novel Alpha-Transform Distance Relaying Scheme", *1996 Canadian Conference on Electrical and*

- Computer Engineering*, Calgary, Canada, May 26-29 1996, Conference Proceedings, Vol.II, paper 38.4, pp.754-757.
- 36) A.M. Darwish, E.M. Elkanzi, Hossam E.A. Talaat, "Industrial Training for Engineering Students", *Regional Workshop on New Approaches to Engineering Education*, Faculty of Engineering, UAE University, Al Ain, United Arab Emirates, 2-4 April 1995.
 - 37) Hossam E.A. Talaat, "PC- Based Interactive Graphics for Stability Analysis of Synchronous Generators", *Proceedings of the Third Symposium of GCC Cigre, "Operation and Maintenance of Electric Power Generators"* , Dubai, 6-7 May 1992.
 - 38) Hossam E.A. Talaat, and M.M. Mansour, "Integration of Protection and Control for Enhanced System Performance", *Proceedings of the Second Symposium on Electrical Energy in the UAE, "Interconnection of the UAE Power Networks"*, Paper #4.2, Al-Ain, 17-19 Nov. 1991.
 - 39) M.M. Mansour, Hossam E.A. Talaat, and Ibrahim Labib, "Performance Evaluation of Fault Location Algorithms", *Proceedings of Middle East Power System Conference, MEPCON-89*, Gisa & Assiut, January 1989.
 - 40) H. Talaat, and R. Moret, " A Microprocessor-Controlled Micro-machine System for Power System Stability Investigations", *Proceedings of the IASTED Symposium, Modelling & Simulation*, Lugano, June 24-26, 1985.
 - 41) K. Rashid, H. Talaat, and R. Moret, " A Multimachine Power System Model Including Transient Saliency for Linear Optimal Control Application", *Proceedings of the IASTED Symposium, Modelling & Simulation*, Lugano, June 24-26, 1985.
 - 42) H. Talaat, and R. Moret, " On-Line Adaptive Control of a Power System", *Proceedings of the International Electrical, Electronics Conference & Exposition*, Toronto, September 26-28,1983.
 - 43) R. Moret, and H. Talaat, " Identification of Power System for On-Line Optimal Control", *Proceedings of the IASTED, Applied Control & Identification*, Copenhagen, June 28- July 1, 1983.
 - 44) H. Talaat, and R. Moret, "Theoretical and Experimental Application of Optimal Control Theory to Electrical Power Systems", *Proceedings of the IASTED, Applied Control & Identification*, Copenhagen, June 28- July 1, 1983.
 - 45) A. Abul'Wafa, M. Tawfik, R. Moret, and H. Talaat, "Power System Mathematical Models Suitable for Nonlinear Optimal Control Studies", *Proceedings of the AMSE, Modelling & Simulation*, Paris, July 1-3, 1982.

Research Projects Reports

- 46) M. El-Kady, H. Talaat and A. Al-Ohaly, "Integrated economy-security assessment of power systems", Final Report, Research project of the Saudi Electricity Company # S0302, March 2005.
- 47) H. Talaat, A. Alsulaiman and A. Abdennour, "Design and Implementation of Fuzzy Logic Stabilizer for Improving Power System Stability", Final Report, National research project # AR40, King Saud University, June 2007.

- 48) H. Talaat, "Adaptive Coordination of Overcurrent Relays", Final Report, Research Grant# 2/427, Research Center of the College of Engineering, King Saud University, Jan. 2008.
- 49) H. Talaat, "Microcontroller-Based Intelligent Transmission Line Fault locator", Final Report, Research Grant# 38/422, Research Center of the College of Engineering, King Saud University, June 2005.
- 50) S. Al-Ghwainam and H. Talaat, "Effects of Electrical Supply Voltage Dips in Process Industry Applications", Final Report, Research Grant# 12/425, Research Center of the College of Engineering, King Saud University, June 2007.