



CURRICULUM VITAE

Personal Information:

Name : Essam El-Din Mohamed **Aboul Zahab**
Date of Birth : March 26, 1948
Citizenship : Egyptian

Present Position:

Professor of Electrical Power, Electrical Power & Machines Department, Faculty of Engineering, Cairo University.

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Academic Qualifications:

- Diplôme de Docteur d'Ingenieur, Université Paul Sabatier, Toulouse, France, 1979.
- M.Sc. Electrical Engineering, Cairo University, Egypt, 1974.
- B.Sc. Electrical Engineering, Cairo University, Egypt, 1970.

Academic Positions:

- Sep. 1990 – Present:
Professor of Electrical Power. Electrical Power & Machines Department, Faculty of Engineering, Cairo University, Egypt.
- June 1985 – Sep. 1990:
Associate Professor. Electrical Power & Machines Department, Faculty of Engineering, Cairo University, Egypt.
- April 1980 – June 1985:
Assistant Professor. Electrical Power & Machines Department, Faculty of Engineering, Cairo University, Egypt.
- Oct. 1976 – Oct. 1979:
Research Associate. Université Paul Sabatier, Toulouse, France.
- Dec. 1974 – July 1976:
Lecturer. Electrical Power & Machines Department, Faculty of Engineering, Cairo University, Egypt.

- July 1970 – Dec. 1974:

Instructor. Electrical Power & machines Department, Faculty of Engineering, Cairo University, Egypt.

Visiting Professor:

- Sep. 1999 – Dec. 1999:

Electrical Engineering Department, College of Engineering, United Arab Emirates University, Al Ain, U.A.E.

- July 1991 – Sep. 1991 and July 1992 – Sep. 1992:

Electrical and Computer Engineering Department, University of Calgary, Alberta, Canada.

Part Time Professor:

-Engineering Department, American University in Cairo. Since, 1997- Present.

-Petroleum Eng. Dept., American University in Cairo. Since 2009 - Present.

Academic Work Experiences:

- Teaching the different following graduate and undergraduate courses :
 - Electrical Engineering
 - Principles of Energy Conversion
 - Measurements
 - Electrical Circuits
 - Electrical Power Engineering
 - Electrical Power Systems
 - Generation of Electrical Power
 - Utilization of electrical Energy
 - Protection of Electrical Power systems
 - Electrical Installations
- Participating in graduate study programs at Cairo University as a Supervisor for M.Sc. and Ph.D. graduate students, 1980-till now.

Technical work Experiences:

- Research team member in the following research projects :
 - Pollution Flashover of High Voltage Insulators – Cairo University / Supreme Council of Universities, Grant FRCU, 81014, two years, from June 1982.
 - Study of Insulation Characteristics of Sulphur Hexafluoride and its Mixtures – Ibid, Grant FRCU, 830211, three years, from Oct. 1983.
 - Standardization of Switchgear Types Appropriate for Egyptian Substations in Different Locations (Upper Egypt Zone) – Ibid, Grant FRCU, 830214, three years, from Oct. 1983 .
 - Improvement of Current Carrying Capacity of Underground Distribution Network – Ibis, Grant FRCU, 842050, two years, from June 1984.
- Preparation and Teaching the following Training Courses :
 - Switchgear and Protection.
 - Power System Protection.
 - Power Cables.
 - Electrical Installations.
 - Distribution System Grounding.
 - Electrical apparatus in hazardous areas.
 - Illumination Engineering.

- Power transformer operation, testing & maintenance.
- Reactive power management & power factor correction.
- Substation maintenance.
- Electrical distribution system.
- Electrical safety.
- Maintenance of electrical equipments.

Publications:

(A) Journal Papers:

- 1- E. **Aboul Zahab**, C. Huraux, W. Plueksawan; “ Apparatus designed to Measure Phase Angles for Detecting an Interaction between a Superficial Discharge and an Insulating Surface ” ; Rev. Sci. Instrum. 53 (4), April 1982, pp. 509-14.
- 2- M.M. Abdel Aziz, E.M. **Aboul Zahab**; “Oil Pressure Rise of High Voltage Bushing”; Journal of the Egyptian Society of Engineers, Vol. 24, No. 1, 1985, pp. 35-36.
- 3- M.M. Abdel Aziz, E.M. **Aboul Zahab**, A.A.E. Kassem; “Prediction and Elimination of Hot Spots at the Crossing Regions of H.V. Cables”, IEEE Transactions on Power Delivery, Vol. 3, No3, July, 1988, pp. 845-9 .
- 4- A.-R.M Zaghoul, E. **Aboul Zahab**; Pre-Breakdown Photoelectric Monitoring of AC Gaps”, IEEE Transactions on Industry Applications, Vol. 25, No.2, March/April 1989, pp. 230 – 33.
- 5- M. Abo-El-Magd, M.I. Gilany, E. **Aboul Zahab**; “A New Digital Relaying for Transmission Line Protection”; Journal of Engineering and Applied Science, Vol. 36, No.5, Faculty of Engineering, Cairo University, Oct. 1992, pp. 612-24.
- 6- M.M. Abdel Aziz, E. **Aboul Zahab**, S.A. El-Adawy, H.K. Yossef; “Electric Energy Consumption in Cement Industry and a New Method for Forecasting its Maximum Demand”; Journal of Egyptian Society of Engineers, Vol. 32, No.1, 1993, pp. 29-34.
- 7- A.M.F. El-Refaie, M.M. Abdel Aziz, S.A.Y. Khorshid, E.M. **Aboul Zahab**; “Effect of Combined Velocity and Pressure on Life Time of Carbon Brushes”; IEEE-Transactions on Energy Conversion, Vol. 15, No. 2, pp. 176-180, June 2000.
- 8- M.M. Abdel Aziz, **Aboul Zahab**, A.M. Ibrahim, A.F. Zobaa; “On the Economic Selection of Capacitive Compensator Sizes in Non-sinusoidal Conditions”; IEEE Power Engineering Review, Vol. 22, No.10, Oct. 2002, pp. 47-48.
- 9- M.M. Abdel Aziz, **Aboul Zahab**, A.M. Ibrahim, A.F. Zobaa; “Effect of Terminal Capacitance on the Supply Current Distortion Factor”; Electric Power Systems Research, Vol. 63, issue 3, Oct. 2002, pp. 197-201.
- 10- M.M. Abdel Aziz, **Aboul Zahab**, A.M. Ibrahim, A.F. Zobaa; “Sizing of Capacitor to Optimize the Power factor at Non-sinusoidal Frequencies”; Electric Power Systems Research, Vol. 64, issue 1, Jan. 2003, pp. 81-85.
- 11- M. M. Abdel Aziz, E. E. **Aboul Zahab**, A. M. Ibrahim, and A. F. Zobaa, “Effect of connecting shunt capacitance on nonlinear load terminals,” IEEE Transactions on Power Delivery, vol.18, no.4, October 2003, pp.1450-1454.

- 12- M. M. Abdel Aziz, E. E. **Aboul Zahab**, and A. F. Zobaa, "Power factor and your electrical utility bill in Egypt," IEEE Transactions on Power Delivery, vol.18, no.4, October 2003, pp.1567-1568.
- 13- M. M. Abdel Aziz, E. E. **Aboul Zahab**, A. M. Ibrahim, and A. F. Zobaa, "LC compensators for power factor correction of nonlinear loads," IEEE Transactions on Power Delivery, vol.19, no.1, January 2004, pp.331-336.
- 14- M. M. Abdel Aziz, E. E. **Aboul Zahab**, A. M. Ibrahim, and A. F. Zobaa, "Practical considerations regarding power factor for nonlinear loads," IEEE Transactions on Power Delivery, vol.19, no.1, January 2004, pp.337-341.
- 15- M. M. Abdel Aziz, E. E. **Aboul Zahab** and A. F. Zobaa, "LC compensation for nonlinear loads taking into account cost constraints," Electric Power Components & Systems, vol.33, no.6, June 2005, pp.629-640.
- 16-Doaa Khalil Ibrahim, El Sayed Tag Eldin, **Essam Aboul-Zahab**, and Saber Mohamed Saleh, "Unsynchronized Fault Location Scheme for Non-Linear HIF in Transmission lines", IEEE Transactions On Power Delivery, Vol. 25, No. 2, April 2010, pp. 631-637.
- 17- Doaa Khalil Ibrahim, El Sayed Tag Eldin, **Essam Aboul-Zahab**, and Saber Mohamed Saleh, "Real Time Evaluation of DWT-Based High Impedance Fault Detection in EHV Transmission", International Journal of Electric Power Systems Research, Vol. 80, Issue 8, pp.907-917, August 2010.
- 18- Doaa khalil Ibrahim, Ahmed Faheem Zobaa, **Essam Abo El-Zahab**, and Ghada M. Abo-Hamad, "Improving Mho and Quadrilateral Relays Performance during Power Swings", International Review of Electrical Engineering, IREE, Italy, Vol. 5, No. 6, December 2010.

(B) Conference Papers:

- 1- M.K. Gohar, F. Abdel Aal Mohamed, I. Kholaf, E. **Aboul Zahab**; "The Mechanics and Corresponding Forces and Stresses of Overhead Lines during Installation and Erection "; First Conf. for Theoretical and Applied Mechanics, Cairo, 16-18 Dec. 1980, pp. 33-44 .
- 2- M.M. Abdel Aziz, E.M. **Aboul Zahab**; "Solar Heating of Poultry Farms "; - Fifth IASTED international Symposium, MECO 82, Tunis, 1-3 Sep. 1982, Vol. 1,p. 71 .
- 3- M.M. Abdel Aziz, S.E. Abo Shady, E.M. **Aboul Zahab**, K. Gibriel; "Increase of Transformer Rating Using Heat Pipes " ; Proceedings (part 2) of the International Conf. on Electrical Machines, Budapest, Hungary, 5-9 Sep. 1982, pp. 711-14 .
- 4- M.M. Abdel Aziz, E.M. **Aboul Zahab**, A.A. El-Moursi; "Conductor Temperature Distribution of Oil Filled Cable Joints Laid in Soil"; Eighth International Congress for Statistics, Computer Science, Social & Demographic Research, Cairo, Egypt, 26-31 march 1983, Vol. III, pp. 153-60.

- 5- M.M. Abdel Aziz, E.M. **Aboul Zahab**; “Evaporative Cooling of Bus Bars”; 3rd Multi-phase Flow and Heat Transfer Symposium-Workshop, Miami Beach, Florida, USA, 18-20 April 1983.
- 6- M.M. Abdel Aziz, A. El-Tobshy, E.M. **Aboul Zahab**, S.E. Abo-Shady; “Evaporative Cooling of Thyristor Groups”; Ibid.
- 7- M.M. Abdel Aziz, A. El-Tobshy, S.E. Abo-Shady, E.M. **Aboul Zahab**; “Control of Thyristor Temperature via Evaporative Cooling ”; 4th IASTED International Symposium, Modeling and Simulation ,Lugano, Switzerland, June 21-24, 1983, pp. 312-14.
- 8- M.M. Abdel Aziz, E.M. **Aboul Zahab**, L. Ahmed, R. Atia; “Effect of Used Cooling Liquid on Evaporative Cooled bus Bar ”; AFRICON ” 83, IEEE African Electrical Technology conf., Nairobi, Kenya, 7-9 Dec. 1983, pp. D1.2.1-D1.2.6.
- 9- M.M. Abdel Aziz, A. El-Tobshy, S. Abo-Shady, E.M. **Aboul Zahab**; “Optimum Evaporative Cooling of Thyristors”; Ibid, pp. F2.2.1-F2.2.3.
- 10- M.M. Abdel Aziz, E.M. **Aboul Zahab**, H. Abdo; “Computerized Steady State Thermal Analysis of Cable Joint Cooling by Heat Pipe ”; 18th Annual Conf. On Statistics, Computer Science, Operations Research, Math. and its Applications, Cairo, Egypt, 26-29 Dec. 1983, pp. 113-24.
- 11- M.M. Abdel Aziz, E.M. **Aboul Zahab**, H. Abdo; “Computerized Transient Thermal Analysis of Cable Joint” Ibid, pp. 125-41.
- 12- E.M. **Aboul Zahab**; “Optimization of Bus Bar Cooling by Heat Pipes”; IASTED International Conference, ENERGY AND ENVIRONMENTAL SYSTEMS (EES’ 84), Nice-France, 19-21 June, 1984.
- 13- M.M. Abdel Aziz, E.M. **Aboul Zahab**, H. Abdo; “Prediction of Cable Joint Dielectric Life Time”; Ibid.
- 14- A. Bahgat, E.M. **Aboul Zahab**, M.H. El-Sayed; “Development of Feedback Control Circuit for H.V. Testing Transformer ”; Proceedings of the Second Jordan International Electrical and Electronic Engineering Conference (JIEEE’ 85), Amman-Jordan, 28 April – 1 May, 1985, pp. 315-20 .
- 15- M.M. Abdel Aziz, E.M. **Aboul Zahab**; “Effect of Forced Cooling on High Voltage D.C. Oil Filled Cables ”; Proceeding of the 11th International Congress for statistics, Computer Science, Social and Demographic Research, Cairo-Egypt, 29 March-3 April, 1986, pp. 69-82 .
- 16- M.M. Abdel Aziz, E.M. **Aboul Zahab**, M.A. Abou-El-Magd, M.A. El-Wageeh, M.A. Zohdy; “Rating Factors of Underground Distribution Cables ”; IASTED International Conference on High Technology in the Power Industry, Bozeman, MT., U.S.A., 20-22 August, 1986 .
- 17- A.-R.M. Zaghoul, E.M. **Aboul Zahab**; “Pre-Breakdown Electrode-Monitoring of Gaps ”; Proceedings of the IEEE Industry Applications Society, 21st Annual Meeting, Denver, Colorado, U.S.A., Sep. 28-Oct. 3, 1986, pp. 1191-4.
- 18- A.-R.M. Zaghoul, E.M. **Aboul Zahab**; “Space-Charge Development in a Point-to-Plane Gap under AC Conditions”; Ibid, pp. 1195-8.

- 19- A.-R.M. Zaghoul, M. Elshazly, E.M. Aboul Zahab; “Monitoring of Space Charge in Point-to-Plane AC Spark Break-down”; Proceedings of the 19th symposium on Electrical Insulating Materials, Tokuyo, Japan, Sep. 30-Oct. 1, 1986, pp. 101-4 .
- 20- A.-R.M. Zaghoul, M. Elshazly, E.M. **Aboul Zahab**; “Pre-Breakdown Indicators of Different Air Gap Geometries”; Proceedings of the IASTED International Symposium on Simulation, Modeling and Development-SMD’ 87, Cairo, Egypt, March, 1987, pp. 160-3 .
- 21- A.-R.M. Zaghoul, E.M. **Aboul Zahab**, M. Elshazly; “Laser Probing of Air Gaps under AC Conditions”; Proceedings of the 5th International symposium on Dielectrics, Knoxville, Tennessee, U.S.A., May, 1987, pp. 255-61 .
- 22- A.-R.M. Zaghoul, M. Elshazly, E.M. **Aboul Zahab**; “Optical Signatures of the Breakdown Processes of Insulating Oil”; Conference Record of the 9th International Conference on Conduction and Breakdown in Dielectric Liquids, Salford, ENGLAND, July, 1987, pp. 360-4.
- 23- A.-R.M. Zaghoul, M. Elshazly, E.M. **Aboul Zahab**; “High-Voltage Measurements by a Laser Probe”; Conference Record of the 1987 IEEE Industry Applications Society Annual Meeting, Part II, Atlanta, Georgia, U.S.A., October, 1987 , pp. 1518-20 .
- 24- E.M. **Aboul Zahab**, M.A. Abou-EL-Magd, M.M. Abdel Aziz, A.A. Kassem; “Comparative Study of Power Cables Ampacity Evaluations”; Proceedings of the Middle East Power Conference, MEPCON’ 89, Cairo-Assiut, Egypt, January, 1989, Vol. Pp. 62-6 .
- 25- M.A. Abou-El-Magd, E.M. **Aboul Zahab**, F. Oraby; “Traveling Wave based Distance Protection”; Ibid, Vol. 2, pp. 446-50.
- 26- M.I. Gilany, A. Mahfouz, E.M. **Aboul Zahab**; “100% Digital stator Earth Fault Protection for Synchronous Generators”; Proceedings of the 5th International Middle East Power Conference MEPCON’ 97, Alexandria, Egypt, January 4-6, 1997, pp. 520-4 .
- 27- M.I. Gilany, E.M. **Aboul Zahab**, M.M. Abdel Aziz, A.A. Kassem; “A New Digital Technique for Power Cables Differential Protection” Ibid, pp. 252-9.
- 28- A.M. Zaki, A.A. Mansour, O.A. Mahgoub, E.M. **Aboul Zahab**; “Solid – State Power Factor Correction Using Voltage-Source Inverter Self-Controlled DC Bus”; 7th European Conference on Power Electronics and Applications, Norway, 8-10 Sep., 1997 .
- 29- A. Nafeh, F.H. Fahmy, O.A. Mahgoub, E.M. **Aboul Zahab**; “Developed Algorithm of Maximum Power Tracking for Stand-Alone Photovoltaic System”, ENERGY SOURCES Journal of Extraction, Conversion, and Environment, Vol. 20, No. 1., pp. 35-53, Jan –1998.
- 30- A. Nafeh, F.H. Fahmy, O.A. Mahgoub, E.M. **Aboul Zahab**; “Microprocessor Control System for Maximum Power Operation of PV Arrays”; Cairo 6th International Conference on Energy and Environment, pp. 247-51, Cairo, Egypt, May : 18-21, 1998 .
- 31- M.I. Gilany, E.M. **Aboul Zahab**, M. El-Hadidy, B. Hassan; “Numerical Distance Relay Settings: Problems and Solutions”; Proceedings

- of the 6th Middle-East Power Systems Conference MEPCON' 98, Mansoura, Egypt, December 15-17, 1998, pp. 303-8.
- 32- E. Ahmed, M.M. Abdel Aziz, E.M. **Aboul Zahab**, W. Xu; "Investigation and Mitigation of Harmonics from Electric Arc Furnaces"; Proceedings of the 1999 IEEE Canadian Conf. On Electrical and Computer Engineering, Edmonton, Alberta, Canada, May 9-12, 1999, pp. 1126-31.
- 33- Y. Atia, O. Mahgoub, M. Kamel, S. El-Hefnawi, E.M. **Aboul Zahab**; "Direct Torque Control of Photovoltaic Pumping System"; Technical Digest of the International PVSEC-11, Sapporo, Hokkaido, Japan, 1999.
- 34- M.M. Salem, A.M. Zaki, O.A. Mahgoub, E.M. **Aboul Zahab**, O.P. Malik; "Experimental Verification of a Generating Unit Excitation Neuro-Controller"; Proceedings, IEEE Power Engineering Society, Winter Meeting 2000, Singapore, Jan. 22-27, 2000 .
- 35- M.M. Salem, A.M. Zaki, O.A. Mahgoub, E.M. **Aboul Zahab**, O.P. Malik; "Generating Unit Excitation Neuro- Controller", IFAC Symposium on Power Plants & Power System Control 2000, Brussels, Belgium, April 26-29, 2000
- 36- M.M. Salem, A.M. Zaki, O.A. Mahgoub, E.M. **Aboul Zahab**, O.P. Malik; "On-Line Trained Neuro-Controller with a Modified Error Function"; Canadian Conference on Electrical and Computer Engineering, Halifax, May 7-10, 2000 .
- 37- M.M. Salem, A.M. Zaki, O.A. Mahgoub, E.M. **Aboul Zahab**, O.P. Malik; "Studies on a Multi-Machine Power System with a Neural Network Based Excitation Controller"; Proceedings, IEEE Power Engineering Society, Summer Meeting 2000, Seattle, USA, July 16-20, 2000.
- 38- A.M. Ebrahim, M.A. Farahat, M.M. Abdel Aziz, E.M. **Aboul Zahab**; "New Al-Cu Bimetallic Cable Junction"; Proceeding of Abstracts of VPEC 2000 Conference 35th University of Power Engineering Conference, Queen's University of Belfast, pp. 45, 2000.
- 39- M.I. Gilany, E.M. **Aboul Zahab**, M. El-Hadidy, B. Hassan; "A Modified Distance Relay Setting Philosophy", MEPCON 2001, Helwan, Egypt, pp. 339-343, Dec. 2001.
- 40- M.M. Abdel Aziz, E.M. **Aboul Zahab**, A. Ibrahim, A.F. Zobaa; "Skin Effect on Optimal Power Factor"; 2002 Larger Engineering Systems Conf. On Power Engineering, LESCOPEO2, Halifax, Canada, June 2002, pp. 76-8. Also accepted at IASTED- Euro PES 2002, 25-26 July 2002, Crete, Greece.
- 41- M.M. Abdel Aziz, E.M. **Aboul Zahab**, A. Ibrahim, A.F. Zobaa; "Comparing Capacitive and LC Compensators for Power Factor Correction"; 10th International Conf. On Harmonics and Quality of Power, Rio de Janeiro, Brazil, Oct. 6-9, 2002. Also accepted at IEEE – PES/CSEE International Conf. On Power System Technology, POWERCONO2, Kuming, China, Oct. 13-17, 2002, Paper No. 0132. Also accepted at North American Power Symposium, Tempe, Arizona, USA, Oct. 14-15, 2002.

- 42- M.M. Abdel Aziz, E.M. **Aboul Zahab**, A. Ibrahim, A.F. Zobaa; "Practical Considerations on Power Factors Correction for Non-linear Load"; 10th International Conf. On Harmonics and Quality of Power, Rio de Janeiro, Brazil, Oct. 6-9, 2002. Also accepted at North American Power Symposium, Tempe, Arizona, USA, Oct. 14-15, 2002.
- 43- M.M. Abdel Aziz, E.M. **Aboul Zahab**, W. El-Mamlouk; "A rigorous Approach for Reduction of Harmonic Effects in Commercial Buildings"; Accepted paper for presentation at IASTED International Conf. On Power and Energy Systems, PES, 2003, Feb. 24-26, 2003, Palm Spring, USA.
- 44- M.A. Salem, M.I. Gilany, Z. Osman, E. **Aboul Zahab**; "A New Algorithm for Current Transformers Saturation Detection"; Proceedings of the 10th International Middle East Power Conference MEPCON'2005, Egypt, Dec. 13-15, 2005, pp. 413-20.
- 45- M.I. Gilany, E. **Aboul Zahab**, M.A. El Hadidy, Bahaa H. Soudy; "A New Method for Enhancement of Distance Relay Performance Against Open-Conductor Conditions"; Ibid, pp. 421-26.
- 46- M.A. Salem, M.I. Gilany, Z. Osman, E. **Aboul Zahab**; "A New Algorithm for Compensating the Secondary Current During Current Transformer Saturation"; Ibid, pp. 427-33.
- 47- M.B. Eteiba, W.I. Wahba, E. **Aboul Zahab**, M.I. Gilany; "A Combined ANN and Wavelet Transform Technique for Fault Classification in Distribution Networks"; Ibid, pp. 447-51.
- 48- M.I. Gilany, E. **Aboul Zahab**, S.M. Saleh; "Neural Network-Based Technique for Reducing CCVT Errors Under Faults Conditions"; Ibid, pp. 489-93.
- 49- El Sayed Tag Eldin, Doaa khalil Ibrahim, Essam M. **Aboul-Zahab**, and, Saber M. Saleh, "High Impedance Faults Detection in EHV Transmission Lines Using the Wavelet Transforms", Proceedings of the IEEE Power Engineering Society, General Meeting, Tampa, FL , USA, June 24-28, 2007.
- 50- Doaa khalil Ibrahim, El Sayed Tag Eldin, **Essam M Aboul-Zahab**, and Saber Mohamed Saleh, "High Impedance fault detection in EHV Transmission lines", Proceedings of 12th International Middle East Power Systems Conference (MEPCON 2008), Aswan, Egypt, March 12-15, 2008. pp 192-99.
- 51- **E. M. Aboul-Zahab**, E. Tag Eldin, Doaa khalil Ibrahim, S. M. Saleh, "High Impedance Fault Detection in Mutually Coupled Double-Ended Transmission Lines Using High Frequency Disturbances ", Proceedings of the 12th international Middle-East Power System Conference (MEPCON'2008), Aswan, Egypt, March 12-15, 2008, pp. 412-19.
- 52- El Sayed Tag Eldin, Doaa Khalil Ibrahim, **Essam Aboul-Zahab**, and Saber Mohamed Saleh , "High impedance fault detection in EHV series compensated lines using the wavelet transform", IEEE Power Engineering Society, Power Systems Conference & Exposition (PSCE), Seattle, Washington, USA, March 15-18, 2009.

- 53- S. M. Saleh, **E. M Aboul-Zahab**, E. Tag Eldin, D. K. Ibrahim, and M. I. Gilany, "Neural network-based Technique used for Recovery the CCVT primary Signal", IEEE Power & Energy Society General Meeting, PES' 09, 26 - 30 July 2009, Calgary, Alberta, Canada.
- 54- Doaa khalil Ibrahim, Ahmed Faheem Zobaa, **Essam Abo El-Zahab**, and Ghada M. Abo-Hamad, "A Hybrid Algorithm for Blocking Power Swings", Proceedings of the 7th International Conference on Electrical Engineering, (ICEENG) Conference, 25-27 May, Cairo, Egypt, 2010.
- 55- Wael Hamdy Yousef, Doaa khalil Ibrahim, and **Essam Abo El-Zahab**, "Discrimination of Internal Faults and Inrush Currents For Large Modern Power Transformer", Proceedings of 14th International Middle East Power Systems Conference (MEPCON 2010), Cairo, Egypt, December, 19-21, 2010, pp. 349-354.
- 56- Mohamed A. Metwally, Ashraf Aboshosha, Doaa khalil Ibrahim, and **Essam EL-Din Abou EL-Zahab**, "Applying Neurofuzzy Computing for Safety Improvement of Nuclear Power Reactor", Proceedings of 14th International Middle East Power Systems Conference (MEPCON 2010), Cairo, Egypt, December, 19-21, 2010, pp 559-564.
- 57- Shady S. Refaat, Haitham Abu-Rub, M. S. Saad, **E. M. Aboul-Zahab** and Atif Iqbal, "Detection, Diagnoses and Discrimination of Stator Turn to Turn Fault and Unbalanced Supply", IEEE International Conference on Power and Energy (PECON 2012), Malaysia, pp.910-915, 2-5 December 2012.
- 58- Shady S. Refaat, Haitham Abu-Rub, M. S. Saad, **E. M. Aboul-Zahab** and Atif Iqbal, "ANN-Based for Detection, Diagnosis the Bearing Fault for Three Phase Induction Motors Using Current Signal", IEEE- ICIT 2013, International Conference on Industrial Technology, Cape Town, South Africa, pp.253-258, 25-27 February-2013.
- 59- Shady S. Refaat, Haitham Abu-Rub, M. S. Saad, **E. M. Aboul-Zahab** and Atif Iqbal, "Fault Tolerance of Stator Turn Fault for Three Phase Induction Motors Star-Connected Using Artificial Neural Network", Applied Power Electronics Conference and Exposition (APEC), 2013 Twenty-Eighth Annual IEEE, California, USA, pp.2336-2342, 17-21, March-2013.
- 60- Shady S. Refaat, Haitham Abu-Rub, M. S. Saad, **E. M. Aboul-Zahab** and Atif Iqbal, "Discrimination of Stator Winding Turn Fault and Unbalanced Supply Voltage in Permanent Magnet Synchronous Motor Using ANN", IEEE-Powereng 2013, International Conference on Power Engineering, Energy and Electrical Drives, Istanbul, Turkey, pp., 13-17 May 2013.

- 61- Shady S. Refaat, Haitham Abu-Rub, M. S. Saad, **E. M. Aboul-Zahab** and Atif Iqbal, "Detection, Diagnoses and Discrimination of Stator Turn to Turn Fault and Unbalanced Supply", IEEE International Conference on Power and Energy (PECON 2012), Malaysia, 2-5 December 2012.
- 62- Shady S. Refaat, Haitham Abu-Rub, M. S. Saad, **E. M. Aboul-Zahab** and Atif Iqbal, "ANN-Based for Detection, Diagnosis the Bearing Fault for Three Phase Induction Motors Using Current Signal", IEEE- ICIT 2013, International Conference on Industrial Technology, Cape Town, South Africa, 25-27 February 2013.
- 63- Mohamed Abdul Raouf Shafei, Doaa Khalil Ibrahim, **Essam EL-Din Abo EL-Zahab**, "Transient Stability Enhancement of Egyptian National Grid Including Nuclear Power Plant in Dabaa Area", 2012 IEEE International Conference on Power and Energy (PECon), Kota Kinabalu Sabah, Malaysia, pp.445-450, 2-5 December 2012.
- 64- Ahmed Mohamed Mahmoud Hussein, Doaa Khalil Ibrahim, **Essam EL-Din Abo EL-Zahab**, "Financial Risk Assessment For Repetitive Voltage Sags", Proceedings of the 15th International Middle East Power Systems Conference, MEPCON 2012; Alexandria, Egypt, December, 23-25, 2012.
- 65- Hebatallah Mohamed Sharaf, H. H. Zeineldin, Doaa Khalil Ibrahim, **Essam EL-Din Abo EL-Zahab**, "Directional Inverse Time Overcurrent Relay for Meshed Distribution Systems with Distributed Generation with Additional Continuous Relay Settings", 12th International Conference on Developments in Power System Protection, Copenhagen, 31 March - 3 April 2014.
- 66- Doaa Khalil Ibrahim, Mohamed Essam Rezk, **Essam EL-Din Abo EL-Zahab**, "Improving distance protection performance at zone1 using new adaptive tripping time scheme", IEEE International Energy Conference (ENERGYCON), 2014, pp.528-535, Croatia, 13-16 May 2014.

Consulting Activities:

(As a member of Electrical Engineering Consulting Group)

- 1- Design and Supervision of the Electrical works for the 10th. of Ramadan Co. for Pharmaceutical, Egypt .
- 2- Design and Supervision of the electrical works for the Factory of Artificial Limbs, Egypt.
- 3- Supervision of the Electrical Works for the Plio Institute, EGYPT.
- 4- Design of power factor improvements for Helwan-Diesel Factory and Iron and Steel Company EGYPT.
- 5- Minimization of Electrical Energy Consumption for Iron and Steel Company (Helwan) and Aluminum Company (Naga Hamadi) EGYPT.
- 6- Design of Power Factor Correction and Energy Conservation of Helwan-Cement Factory EGYPT.
- 7- Design of the electrical works of Mars-Matrooh Fishing Company, EGYPT.

- 8- Design of the electrical works and illumination systems for bridges and tunnels of makka, Saudi Arabia.
- 9- Improvement of the performance of the aluminum production cells at Naga Hamdi, EGYPT.
- 10- Design of all the electrical work of North Building of Dar-El Oloom College Cairo University.
- 11- Design and Supervision on all electrical works of Zellal-El-Najhil tourist Village in El-Arish.
- 12- Design of all electrical works of Mahmoud-Shaker Building-Heliopolis.
- 13- Design of all electrical works of Omer-Afandi Company in El-Minia.
- 14- Supervision on all the electrical works of Omer-Afandi Company in Aswan.
- 15- Design of all the electrical works of Cairo-2000 project, (32 floors 1200 m² – Nile – Nawal Street).
- 16- Supervision on all the electrical works of Cairo 2000 Project ,
- 17- Design of the electrical works of Sohag-drainage station.
- 18- Supervision on all the electrical works and illumination for old agriculture museum in Dokki.
- 19- Design and supervision on all the electrical works of Arabic-College, El-Azhar Univ., Shibin-El-Kome.
- 20- Design and supervision on all the electrical works of Arabic-College, El-Azhar Univ., Eitai-El-Barodi.
- 21- Supervision on all electrical works of Civil Eng. Building-Faculty of Eng., Fayum Univ.
- 22- Supervision on all the electrical works of students building Fayum Univ.
- 23- Electrical planning of the network of the New Cities.
- 24- Re-planning and developments of Port-Said, Esmailia, Suez, El-Sharkia and South and North Sainie governorates.
- 25- Planning of the Electrical Network of Kafr El-Dawar City.
- 26- Minimization of the energy required for bricks industry.
- 27- Study of the characteristics of SF₆ gas which is used in Electrical substations in Egypt.
- 28- Study of the different methods for oil leak location of oil-filled Cables.
- 29- Standardization of switchgear system in Upper Egypt Networks.
- 30- Improvement of Transmitted Power from High-Dam T.L.
- 31- Design of voltage stabilizer for one of the electrical companies in Egypt.

- 32- Study of the reasons of lifts failure of the tower of Cairo University staff member in Dokki.
- 33- Design of the optimum thermal design of Cairo Electrical Distribution Company.
- 34- Determination of the reasons of electrical fire in El-Ahram Factory in Kalub.
- 35- Study of the electrical works of Dar El-Deiafa of Cairo University with the required modifications.
- 36- Taking part in preparing the standard specifications of C.B-Cables etc, ministry of Industry.
- 37- Study of the reasons of standby generator failure of Egyptian Chicken Company.
- 38- Calibration of Energy meter for the ministry of Electricity.
- 39- Preparation and supervision of training courses for the Engineers of different companies.
- 40- Study of Shipper Hotel distribution board with the required testing
- 41- Training courses for Arab Contractors Company engineers.
- 42- Design and supervision of the electrical works of the Engineering Club for the 10th of Ramadan City (including illumination of all Types of sports field).
- 43- Design and supervision of low voltage distribution boards for Sadat Academy of Management Sciences in El-Maadi and Ramsis.
- 44- Planning and Redesign of the electrical distribution network of El-Mansoura and Talkha Cities.
- 45- Design and supervision of all the electrical works of El-Ehlam College, Cairo university.
- 46- Planning and design of distribution systems for New-Fayum City.
- 47- Planning and design of Diesel Generating stations and distribution systems for Gazal Tourist Group, 139-147 km North-Coast including (seven Tourist Villages, Hotels, Environmental village, village for workers, and different playground ... etc).
- 48- Analysis of tenders of lighting system for Operation Rooms of Accidents Hospital in old Kasr El-Aini Hospital.
- 49- Analysis of tenders of lighting system for Operation Rooms of the Fourth-Floor of old Kasr El-Aini Hospital.
- 50- Planning and design of the distribution systems for New Assuit City.
- 51- Planning and design of the distribution systems of the Central axis part of El-America.
- 52- Design and supervision on the replacement of the distribution network of Sadat Academy of Management Sciences in Ramsis.

- 53- Design and supervision of the replacement of the Electrical works of painting factory in 6th of October City.
- 54- Design and supervision of Medical Supplies Factory in 10th of Ramadan City.
- 55- Design and supervision of Illumination System for Omer Affandi Stores.
- 56- Design and supervision of electrical works for Segarittes Eastern Company Factory and stores in Omrania, Egypt.
- 57- Design and supervision of electrical works for Nahdat Misr printing plant, 6 of October City.
- 58- Redesign and supervision for all the factories of Eastern Company at Giza, Monouf, and Alexandria.
- 59- Redesign and Supervision of the electrical work for street lighting of University Student City, Cairo University.
- 60- Redesign and Supervision of the electrical work for Examination Complex, Cairo University.
- 61- Redesign and Supervision of the electrical work for Electronics Engineering Lab., Faculty of Eng., Cairo Univ.
- 62- Redesign and Supervision of the electrical work for electrical lifts of Faculty of Arts, Cairo Univ.
- 63- Redesign and Supervision of the electrical work for student Library, Faculty of Commerce, Cairo Univ.