

## Curriculum Vitae

Maryam Sadat Akhavan Hejazi, Ph.D.



Assistant Professor  
Electrical and Computer Engineering Department  
University of Kashan  
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### Short Biography

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I have been an academic member in the department of power engineering, Faculty of Electrical and Computer Engineering in the University of Kashan, since September 2011. I received my Ph.D., M.Sc. and B.Sc. in Electrical Engineering from the Amir-Kabir University of Technology in 2011, 2006 and 2003, respectively, graduating all with First Class Honors.

### Research Interests

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- Smart Grid
- Reliability
- Monitoring
- Power Transformers
- Distributed Resources

### Education

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**Doctor of Philosophy in Electrical Engineering (with Outstanding Student Honor)**

*Electrical Engineering Department,  
Amir-Kabir University of Technology (Tehran Polytechnic), Tehran, Iran.  
Majoring in Power Engineering.*

GPA: 18.5/20.00

**Thesis:**

*On-line Monitoring of Transformer Winding Mechanical Damage Using*

*Electromagnetic Waves*

Supervisor: Dr. G. B. Gharehpetian

September 2011



**Master of Science in Electrical Engineering (with Outstanding Student Honor)**

*Electrical Engineering Department,  
Amir-Kabir University of Technology (Tehran Polytechnic), Tehran, Iran.*

Majoring in Power Engineering.

GPA: 17.5/20.00

**Thesis:**

*Detection of Transformer Winding Displacement & Deformation Using  
Electromagnetic Waves(In Persian)*

Supervisor: Dr. G. B. Gharehpetian

September 2006



**Bachelor of Science in Electrical Engineering (Major: Communication)**

*Electrical Engineering Department,  
Amir-Kabir University of Technology (Tehran Polytechnic), Tehran, Iran.*

GPA: 16.6/20.00

**Thesis:**

*Modeling & Simulation of Jammers in Radar System(In Persian)*

Supervisor: Dr. A. Ghorbani

September 2003

***Industry Founded Projects***

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1. Feasibility Study of On-line Measurement of Transformer Winding Displacement Using UHF wave, Iranian Research Organization for Science and Technology, Ministry of Higher Education, Iran, 2005, (Executive manager).
2. Measurement of Radial Deformation and Axial Displacement of Transformer Winding On Prototype Using Electromagnetic Waves, Tehran Regional Electric Company (TREC), Energy Ministry, Iran, 2009-2011, (Executive manager).
3. Modification of the Grounding Systems of University of Kashan, University of Kashan, 2016
4. Intelligent Building Management Solutions (IBMS) for the Department of Electrical Engineering, University of Kashan, University of Kashan, 2014
5. Power Quality Assessment and Optimization for Taghtiran Company, Taghtiran Kashan Company (TKC), 2014
6. Application of Electromagnetic Theory in The Analysis of Electric DC motors produced by Iskra- Autoelectric Iran, Iskra Iran company, 2017

## **Teaching**

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### **Undergraduate Courses:**

High Voltage Engineering, Electrical Installations, Power System Analysis I, Relay And Protection

### **Graduate Courses:**

Distributed Generation, Energy Storage Systems, Reliability and Power System Transients

## **Patents**

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1. Sinusoidal Sending Wave Step by Step Procedure in Hyperboloid Method for Detecting Power Transformer HV Winding Radial Defects, Registers under No. 95224 in Iran, March 5, 2018
2. Dielectric Window for Transformer Winding Radar Imaging, Registers under No. 95040 in Iran, Feb. 17, 2018
3. Transformers Winding Earth Fault Detection Based on Magnetic Field Measurement, Registered under No. 95021 in Iran, Feb. 17, 2018
4. Detection of Radial Deformations of Transformers, Registered under No. US 2017-0356733 A1, USPTO, in USA, Dec. 14, 2017
5. Sinusoidal Sending Wave Step by Step Variations Procedure for Detection of Power Transformer HV Winding Convex and Concave Mechanical Defects, Registered under No. 91648 in Iran, March 15, 2017
6. Hardware System for Reduction of Power Transformer Winding Axial Displacement Wrong Detection Due to PD During Radar Imaging, Registered under No. 90943 in Iran, Jan. 10, 2017
7. Sensor with Mach–Zehnder Interferometer Fiber Optic Interferometer for Axial Displacement Measurement of Power Transformers, Registered under No. 83503 in Iran, Aug. 6, 2014
8. Software and Hardware Setup to Measure Axial Displacement of Transformer Winding using UWB Waves in Time Domain, Registered under No. 76808 in Iran, Sep. 18, 2012
9. Transformer Winding Radial Deformation Estimation System based on Scattering Parameters Measurements, Registered under No. 76668 in Iran, Sep. 9, 2012
10. Mechanical Defects Allocation in Transformer Windings Using Radar Imagining, Registered under No. 390090380 in Iran, Jan. 31, 2012

## **Executive Positions**

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1. **University of Kashan Representative in Iranian Society of Smart Grid** , July 2012- Present
2. **Member of Publications and Conferences in Iranian Society of Smart Grid** , January 2013-Present
3. **Responsible for the Development of Center for Smart Grid Research and Technology Development in University of Kashan** , March 2016 -Present
4. **Member of Welfare Committee in University of Kashan** , December 2015- Present
5. **Representative of University of Kashan in MOU with NRI**, 2015-Present
6. **Member of the Energy Research Institute of the University of Kashan**, 2015-Present
7. **Executive Manager of Grand National Project `Design and manufacturing a 200kW gas turbine with CHP system for distributed power generation and energy storage** , 2013-Present
8. **Faculty Member of Power Engineering Group, Electrical and Computer Engineering Department, University of Kashan**, 2011-Present
9. **Vice President for Women Branch of University of Kashan** , 2012-2013

## **Graduate Students**

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1. Mehdi Aslinejad(Ph.D Student)
2. Hamidreza Tabarsa (Ph.D. Student)
3. Ali Mohammad Hariri (Ph.D. Student)
4. Mahmood Mohammad Hasan(Ph.D. Student)
5. Ahmad Aziznia(Ph.D. Student)
6. Mohammad Ghasemlo (Ph.D. Student)
7. Hamed Tikani (Msc. Student)
8. Keyvan Safarlo (Msc. Student)
9. Rasoul Ameri (Msc. Student)
10. Kamran Mohammadi (Msc. Student)
11. Kave Asadi Hajivand (Msc. Student)
12. Soroush Golilarz (Msc. Student)
13. Reza Pirniya (Msc. Student)
14. Mohammad Reza Golriz (Msc. Student)
15. Ali Vafadar (Msc. Student)

## Alumni

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1. Shahed Mortazavian (M.Sc. Graduate – 2013)  
*"Detection And Determination Of Transformer Winding Mechanical Deformation Using UWB Transceiver"*
2. Hesam Rahbari-Magham (M.Sc. Graduate – 2013)  
*"Exact Determination of the Transformer Winding Radial Deformation Location Using Ultrawideband Antenna and Time Domain Analysis"*
3. Vahid Separi (M.Sc. Graduate – 2013)  
*Design of a microgrid for the application in Smart Grid Laboratory"*
4. Shahabodin Mazidi Sharaf Abadi (M.Sc. Graduate – 2013)  
*"Sizing of Energy Storage for Micro grids by Using Mixed Integer Linear Programming Considering Probability Parameters"*
5. Ali Khorami (M.Sc. Graduate – 2013)  
*" Optimal Sizing of Combined PV-Energy Storage for Grid-Connected Residential Buildings"*
6. Abbas Khorshidi (M.Sc. Graduate – 2014)  
*"Modeling and Stability Analysis of A MTG Connected to A Local Network at Different Disturbances"*
7. Esmail Zarei (M.Sc. Graduate – 2014)  
*"Smart Energy Management System For Optimal Micro-grid Economic Operation Using Particle Swarm Optimization"*
8. Mojtaba Rowhani (M.Sc. Graduate – 2014)  
*"Optimal DG Sizing in Smart Distribution Network in order to Minimize Active Power Losses and Using Evolutionary Algorithms"*
9. Mohsen Fazli (M.Sc. Graduate – 2014)  
*"Control and real-time simulation of non linear micro grids using robust controllers"*
10. Hosein Habibi (Msc. Graduate-2014)  
*"Distributed generation penetration level determination considering reliability and voltage stability"*
11. Monir Kamali (M.Sc. Graduate – 2015)  
*"The effect of real time pricing on stochastic scheduling of residential loads"*
12. Reza Gelardi (Msc. Graduate – 2015)  
*"Reliability Evaluation Of Distribution Networks Containing Distributed Generations Using Entropy Index"*
13. Mohammad Reza Iranpur (Msc. Graduate – 2015)  
*"On-line Monitoring Of Microgrids Reliability Using Cross-entropy and Graph Entropy"*
14. Maryam Sabaghpur (Msc. Graduate-2016)  
*"Optimizing of the number and location of measurement point of voltage and current for fault detection in DC side of photovoltaic array"*
15. Nasrin Baghai (Msc. Graduate-2016)  
*"Optimal Placement of SVC and TCSC for Static Voltage Stability Using RDPSO Considering Technical and Economical Approach"*
16. Vahid Shabani (Msc. Graduate-2016)  
*"Energy Management of a Smart Residential Microgrid in the presence of Micro-CCHP and Photovoltaic Systems"*
17. Hosein Dehghan (Msc. Student-2016)  
*"Improvement Of Voltage And Frequency Stability In Stand Alone Microgrids With Microturbine Using Energy Storage System"*
18. Masome Mahmoodi (Msc. Graduate-2016)

- "Designing and Construction of Dielectric Window for Radar Imaging of Transformer Winding"*
19. Abolfazl Hoseini (Msc. Student co-advised with Dr. Golabi-2017)  
*"Optimum design and construction of the Savonius wind Microturbine"*
  20. Ali Akbar Amiri (Msc. Student-2018)  
*"Design for Reliability of a Stand-Alone Photovoltaic Microgrid for DC Load Supplying and Implementation"*
  21. Hosein Karami (Ph.D Student, co-advised with Dr. Gharehpetian-2018)  
*"Implementation of Simultaneous Detection and Localization of Partial Discharge and Mechanical Defects in power Transformers Using Electromagnetic Waves"*
  22. Fatimah Yaseen Abdullah (Msc. Student-2018)  
*"Design and simulation for smart earthing gird in Electrical power substation"*
  23. Maythem Albaqer (Msc. Student-2018)  
*"Study and evaluating the growth of the loads and their effects on the electrical grid in holly Najaf city using forecasting methods"*
  24. Rasoul Raeyat (Msc. Student-2018)  
*"Renewable-Based CHP Energy Management Scheme for Building by Using Energy Hub Concept"*
  25. Iman Talebnia (Msc. Student-2018)  
*"Multi-level Energy Management of Microgrid Including Distributed Generations and Storage Systems"*
  26. Mohsen Ghorat (Ph.D Student, co-advised with Dr. Gharehpetian-2018)  
*"Detection and Localization of Partial Discharge Using Fiber Optic Sensor"*

## **Publications**

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### **Journal Papers**

1. G. Mokhtari, G. B. Gharehpetian, R. Faraji-dana, M. A. Hejazi, *"On-line Monitoring of Transformer Winding Axial Displacement Using UWB Sensors and Neural Network"*, International Review of Electrical Engineering (IREE), Vol. 5, No. 5, October 2010 (ISI-ranked)
2. M. A. Hejazi, G. B. Gharehpetian, G. R. Moradi, M. Mohammadi and H. A. Alehoseini, *"Application of classifiers for On-line Monitoring of Transformer Winding Axial Displacement by Electromagnetic NDT"*, Electric Power Components and Systems, Vol. 39, Issue 4, April 2011, 387 (ISI-ranked)
3. M. A. Hejazi, G. B. Gharahpetian, R. Farajidana, G. R. Moradi, M. Mohammadi and H. A. Alehoseini, *"A New On-line Monitoring Method of Transformer Winding Axial Displacement Based on Measurement of Scattering Parameters and Decision Tree"*, Elsevier Journal of Expert Systems With Applications, Vol. 38, Issue 7, July 2011, pp. 8886-8893 (ISI-ranked)
4. M. A. Hejazi, G. B. Gharehpetian, G. Moradi, H. A. Alehosseini, M. Mohammad, *"On-line Monitoring of Transformer Winding Axial Displacement and its Extent Using Scattering Parameters and k-Nearest Neighbor Method"*, IET Generation, Transmission & Distribution, Vol.5, Issue 8, Oct. 2011, pp. 824-832
5. M. A. Hejazi, J. Ebrahimi, G. B. Gharehpetian, M. Mohammadi, R. Faraji-Dana, G. Moradi, *"Application of Ultra-Wideband Sensors for On-line Monitoring of Transformer Winding Radial Deformations – A Feasibility Study"*, IEEE Sensors Journal, Vol. 12, No. 6, pp. 1649-1659, June 2012 (ISI-ranked)
6. M. S. Golsorkhi, M. A. Hejazi, G. B. Gharepetian, M. Dehmollaian, *"A Feasibility Study on Application of Radar Imaging for Detection of Transformer Winding Radial Deformation"*, IEEE Transactions on Power Delivery, Vol. 27, No. 4, pp. 2113-2121, (ISI-ranked)
7. Raziye Mosayebi, H. Sheikhzadeh, M. S. Golsorkhi, M. A. Hejazi, G. B. Gharehpetian, *"Detection of Winding Radial Deformation in Power Transformers by Confocal Microwave Imaging"*, Electric Power Components and Systems, Vol. 42, Issue 6, April 2014, pp. 605-611 (ISI-ranked)

8. Abbas Khorshidi, Mahdi Zolfaghari, Maryam Akhavan Hejazi " *Dynamic Modeling and Simulation of Microturbine Generating System for Stability Analysis in Microgrid Networks*" International Journal of Basic Sciences & Applied Research. Vol., 3 (9), 663-670, 2014
9. H. Rahbarimagham, H. Karami, M. A. Hejazi, M. S. Naderi and G. B. Gharehpetian, "*Determination of Transformer Winding Radial Deformation Using UWB System and Hyperboloid Method*", IEEE Sensors Journal, Vol. 15, No. 8, Aug. 2015, pp. 4194-4202
10. A. Alehosseini, M. A. Hejazi, G. Mokhtari, G. B. Gharehpetian, M. Mohammadi, "*Detection and Classification of Transformer Winding Mechanical Faults Using UWB Sensors and Bayesian Classifier*", International Journal of Emerging Electric Power Systems, Vol. 16, Issue 3, May-June 2015, pp. 207-215
11. M. A. Hejazi, "*Voltage Control and Unbalance Compensation Operation Modes of DGs*", Research Journal of Applied Sciences, Vol. 11, Issue 5, 2016, pp. 171-182.
12. H. Karami, G. B. Gharehpetian, Y. Norouzi, M. A. Hejazi, "*GLRT-Based Mitigation of Partial Discharge Effect on Detection of Radial Deformation of Transformer HV Winding Using SAR Imaging Method* ", IEEE Sensors Journal, Vol. 16, No. 19, Oct. 2016, pp. 7234-7241
13. M. Sabbaghpur Arani, M. A. Hejazi, "The Comprehensive Study of Electrical Faults in PV Arrays", Journal of Electrical and Computer Engineering, Hindawi Publishing Corporation, Volume 2016, Article ID 8712960, <http://dx.doi.org/10.1155/2016/8712960>, 1 oct 2016, pp. 15-24.
14. A. Rahiminejad, B. Vahidi, M.A. Hejazi, S. Shahrooyan, "*Optimal scheduling of dispatchable distributed generation in smart environment with the aim of energy loss minimization*", Energy, Vol. 116, No. 1, 1 December 2016, Pages 190-201
15. A.A. Khodadoost Arani, H. Karami, G.B. Gharehpetian, M.S.A. Hejazi, "*Review of Flywheel Energy Storage Systems structures and applications in power systems and microgrids*", Renewable and Sustainable Energy Reviews, Volume 69, 16 November 2016, Pages 9-18
16. M.A Hejazi, Ali Khorrami, Gevork B. Gharehpetian, "*Operation and Maintenance Cost Effect on Optimal Sizing of PV Array and Battery for a Grid-Connected House*", International Conference on Renewable Energies and Power Quality (ICREPQ'17), ISSN 2172-038 X, No.15, 5 December 2016
17. Yaser Toghiani Holari, Maryam Akhavan Hejazi, Mehran Gharib Nowkandeh, "*Modeling of Generator Units Scheduled And Unscheduled Outage to Optimizing Units Maintenance Scheduling Based on Risk Index*" ,IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE), 2016-09-20
18. M. Fazli, M. A. Hejazi, "*Novel Hierarchical Control of VSI-based Microgrids Against Large-Signal Disturbances*", To Be Appeared In Iranian Association of Electrical & Electronics Engineers
19. M. A. Hejazi, J. Ebrahimi, M. Sabbaghpur Arani, G. Gharehpatian, "*On Line Detection of Transformer Winding Mechanical Faults Using Estimation of the Transfer Function of the UWB Wave Propagation Channel*", Journal of Electrical Engineering, University of Tabriz, Accepted January 21, 2017
20. Hamed Hashemi-Dezaki, Hossein Askarian-Abyaneh, Amirhasan Shams-Ansari, Mohammad DehghaniSanij, Maryam A. Hejazi, "Direct cyber-power interdependencies-based reliability evaluation of smart grids including wind/solar/diesel distributed generations and plug-in hybrid electrical vehicles", Electrical Power and Energy Systems, Volume 93, Issue In Progress, December 2017, Pages 1-14, <https://doi.org/10.1016/j.ijepes.2017.05.018>
21. M. A. Hejazi, A.M. Hariri, R. Gelardi, " Reliability Evaluation of Distribution Networks Containing Distributed Generations Using Entropy Index", To Be Appeared In Iranian Association of Electrical & Electronics Engineers Accepted Dec 23, 2017
22. Mohsen Ghorat, Gevork Gharehpetian, Hamid Latifi, Maryam A. Hejazi, Azam Layeghi, "Partial Discharge Acoustic Emission Detector Using Mandrel Connected Fiber Bragg Grating Sensor", Optical Engineering, Vol. 57, No. 7, PP. 1 - 10, 01 July 2018
23. Mehdi Aslinezhad , Maryam Akhavan Hejazi, "New indices for Detection of Turbine blade Tip Deformation and Estimation of Clearance Extent Using Scattering Parameter", To Be Appeared In Iranian Association of Electrical & Electronics Engineers Accepted August 20, 2018
24. Esam A. Hashim Alkaldy, Maythem A. Albaqir, Maryam Sadat Akhavan Hejazi, "A New load forecasting model considering planned load shedding effect", To Be Appeared In International Journal of Energy Sector Management Accepted Sep, 01, 2018
25. H. R. Tabarsa, M. S. A. Hejazi, "Detection of HV Winding Radial Deformation and PD in Power Transformer Using Stepped-Frequency Hyperboloid Method", To Be Appeared In IEEE Transactions on Instrumentation & Measurement Accepted August 17, 2018

26. Mohsen Ghorat, Gevork Gharehpetian, Hamid Latifi, Maryam A. Hejazi, "A New Partial Discharge Signal Denoising Algorithm Based on Adaptive Dual-Tree Complex Wavelet Transform", IEEE Transactions On Instrumentation And Measurement, Vol. 67, No. 10, October 2018

### **Invited Key Notes**

1. H. Karami Porzani, G. B. Gharehpetian, Y. Norouzi, M. S. Akhavan Hejazi, "*Feasibility Study on On-line and Simultaneous Transformer Winding Radial Deformation and PD Localization Using Electromagnetic Waves*", Invited paper, 2nd International Transformer Conference and Exhibition, ITCE 2015, Tehran, Iran, 1-2 Sep., 2015 (in Persian)
2. M. A. Hejazi and G. B. Gharehpetian, "*A Review on Power Transformer Winding Monitoring for Detection of Axial Displacement and Radial Deformation Using Electromagnetic Waves*", 1st International Transformer Conference and Exhibition, Tehran, Iran, 16-17 Sep. 2014 (in Persian)

### **Conference Papers**

1. M.A. Hejazi, G.B. Gharehpetian, A. Mohammadi "*A New Monitoring Method for Transformer Winding Axial Displacement Using Electromagnetic Waves*", 21-th International Power System Conference, Nov. 13-15, 2006, Tehran, Iran (in Persian)
2. M.A. Hejazi, G.B. Gharehpetian, A. Mohammadi, "*The Oil Effect On The Transformer Winding Monitoring Using Electromagnetic Waves*", 21-th International Power System Conference, Nov. 13-15, 2006, Tehran, Iran (in Persian)
3. M. Sadabadi, Mehdi Karrari, M. A. Hejazi, "*Non-linear Modeling of Synchronous Generator Using Hammerstein Method*", 21-th International Power System Conference, Nov. 13-15, 2006, Tehran, Iran (in Persian)
4. M. Hejazi, G. B. Gharehpetian and A. Mohammadi, "*Characterization of On-line Monitoring of Transformer Winding Axial Displacement Using Electromagnetic Waves*", 15th International Symposium on High Voltage Engineering, ISH 2007, Aug. 27-31, 2007, Ljubljana, Slovenia
5. M. Hejazi, G. B. Gharehpetian and A. Mohammadi, "*On-line Monitoring of the Radial Deformation of Transformer Winding using Radar Cross Section*", 15th International Symposium on High Voltage Engineering, ISH 2007, Aug. 27-31, 2007, Ljubljana, Slovenia
6. H. Yazdanpanahi, M. A. Hejazi and G.B. Gharehpetian "*Non-linear Modeling of Transformer Using Hammerstein Method*", 22-th International Power System Conference, Nov. 19-21, 2007, Tehran, Iran (in Persian)
7. M. Choopani, M.A. Hejazi, G. B. Gharehpetian, G. Moradi, "*Antenna Placement On The Transformer For The Detection Of Low Voltage Windig Axial Displacement Using Electromagnetic Waves*", 22-th International Power System Conference, Nov. 19-21, 2007, Tehran, Iran (in Persian)
8. M.Choopani, M.A.Hejazi, G.B. Gharehpetian, S.H.Sadeghi "*Non-Destructive Test Modeling of Transformer Winding Using Simplified Model of Three-Phase Transformer, The 2nd International Conference on Technical Inspection and NDT (TINDT2008)- October 2008 - Tehran, Iran (in Persian)*
9. H. Hashemi Dezaki, M. A. Hejazi and G.B. Gharehpetian, "*Determination of Antenna Excitation Installed on Transformer Tank to Detect Axial Displacements*", 23-th International Power System Conference, 30 Nov. - 2 Dec., 2008, Tehran, Iran (in Persian)
10. H. Yazdanpanahi, M.A. Hejazi, G.B. Gharehpetian and M. Karrari, "*Non-linear Modeling of Transformer using Hammerstein Model*", 2nd IEEE International Conference on Power and Energy 2008 (PECon 2008), 1-3 December 2008, Johor Bahru, Malaysia.
11. M.A. Hejazi , M. Choopani, M. Dabir and G.B. Gharehpetian , "*Effect of Antenna Position of Transformer Winding Axial Displacement Measurement Using Electromagnetic Waves* ", 2nd IEEE International Conference on Power and Energy 2008 (PECon 2008), 1-3 December 2008, Johor Bahru, Malaysia.



12. M. A. Hejazi, J. Ebrahimi, G. B. Gharehpetian, R. Faraji-Dana and M. Dabir, "*Feasibility Studies on On-line Monitoring of Transformer Winding Mechanical Damage Using UWB Sensors*", *XIX International Conference on Electrical Machines, ICEM 2010, September 6-8, 2010, Rome, Italy*
13. G. Mokhtari, M. A. Hejazi and G. B. Gharehpetian, "*Simulation of On-line Monitoring of Transformer Winding Axial Displacement Using UWB Waves*", *XIX International Conference on Electrical Machines, ICEM 2010, September 6-8, 2010, Rome, Italy*
14. G. Mokhtari, G. B. Gharehpetian, R. Faraji Dana, H. A. Ale Hosseini and M.A. Hejazi "*Modeling and Detection of Axial Displacement of Transformer Winding Using UWB Sensors and Determination of Displacement Extent Using ANN*", *25-th International Power System Conference, 8-10 Nov. 2010, Tehran, Iran (in Persian)*
15. J. Ebrahimi, G. B. Gharehpetian, H. R. Amindavar and M. A. Hejazi "*Application of DWT for on-line Detection of Transformer Winding Radial Deformation Based on Measurements Using UWB Sensors*", *25-th International Power System Conference, 8-10 Nov. 2010, Tehran, Iran (in Persian)*
16. M. A. Hejazi, H. A. Ale Hosseini, G. B. Gharehpetian, "*Index Suggestion for Transformer Winding Axial Displacement by Using Scattering Parameters*", *25-th International Power System Conference, 8-10 Nov. 2010, Tehran, Iran (in Persian)*
17. M. A. Hejazi, H. A. Alehoseini and G. B. Gharehpetian, "*Detection of Transformer Winding Axial Displacement Using Scattering Parameter and ANN*", *3rd International Power and Energy Conference (PECon), Nov. 29- Dec. 1, 2010, Kuala lumpur, Malaysia*
18. J. Ebrahimi, G. B. Gharehpetian, H. Amindavar and M. A. Hejazi, "*Antennas Positioning for On-line Monitoring of Transformer Winding Radial Deformation Using UWB Sensors*", *3rd International Power and Energy Conference (PECon), Nov. 29- Dec. 1, 2010, Kuala lumpur, Malaysia*
19. J. Ebrahimi, G. B. Gharehpetian, H. Amindavar and M. A. Hejazi, "*Detection of Transformer Winding Radial Deformations by Using UWB Pulses and DWT*", *3rd International Power and Energy Conference (PECon), Nov. 29- Dec. 1, 2010, Kuala lumpur, Malaysia*
20. H. A. Alehoseini, M. A. Hejazi and G. B. Gharehpetian, "*Transformer Winding Radial Deformation Detection Using Scattering Parameters*", *3rd International Power and Energy Conference (PECon), Nov. 29- Dec. 1, 2010, Kuala lumpur, Malaysia*
21. G. Mokhtari, G. B. Gharehpetian, R. Faraji-Dana and M. A. Hejazi, "*Modelling of On-line Monitoring of Transformer Winding Radial Deformation Using UWB Sensors*", *3rd International Power and Energy Conference (PECon), Nov. 29- Dec. 1, 2010, Kuala lumpur, Malaysia*
22. H. A. Hejazi , M. A. Hejazi, G. B. Gharehpetian and M. Abedi, "*Distributed Generation Site and Size Allocation Through a Techno Economical Multi-objective Differential Evolution Algorithm*", *3rd International Power and Energy Conference (PECon), Nov. 29- Dec. 1, 2010, Kuala lumpur, Malaysia*
23. G. Mokhtari, G. B. Gharehpetian, R. Faraji-Dana and M. A. Hejazi, "*Modelling of Tank Effect in Transformer Winding Radial Deformation Monitoring Using UWB Sensors*", *19th Iranian Conference on Electrical Engineering, Tehran, Iran, 17-19 May 2011*
24. M. S. Golsorkhi Esfahani, M. A. Hejazi and G.B. Gharehpetian, "*Determination of Radial Deformation Extent of Power Transformer Winding Using Radar Imaging*", *26-th International Power System Conference, 31 Oct.-2 Nov. 2011, Tehran, Iran (in Persian)*
25. M.A. Hejazi, J. Ebrahimi and G.B. Gharehpetian, "*Determination of Radial Deformation Location in Power Transformer Winding Using UWB Antennas and Hyperbolic Method*", *26-th International Power System Conference, 31 Oct.-2 Nov. 2011, Tehran, Iran (in Persian)*
26. Mehdi Zolfaghari, M.A. Hejazi, "*Design and Simulation of Grouding Alashtar Subtransmission Substation Using finite element method and optimization IEEE Std 80- 2000*", *4th Iranian Conference on Electrical and Electronic Engineering, Gonabad Azad University, 28-30/August/2012, Gonabad, Iran (in Persian)*
27. Hesam Rahbari Magham M.A. Hejazi M. S. Naderi and G.B. Gharehpetian, "*Radial Deformation Location Determination in Axial Direction of Power Transformer Winding using UWB Static Antennas and Hyperbolic Method*", *27-th International Power System Conference, Nov. 12-14, 2012, Tehran, Iran (in Persian)*
28. Hossein Karami Parzani, M.A. Hejazi, M.S. Naderi and G.B. Gharehpetian, "*3D Simulation for PD Allocation in Power Transformer based on Received Signals of UWB Antennas*", *27-th International Power System Conference, Nov. 12-14, 2012, Tehran, Iran (in Persian)*
29. S. Mortazavian, G. B. Gharehpetian, M. Akhavan Hejazi, M. S. Golsorkhi, and H. Karami, "*A Simultaneous Method for Detection of Radial Deformation and Axial Displacement in Transformer Winding Using UWB SAR Imaging*", *4th Conference on Thermal Power Plants (Gas, Combined Cycle, and Steam), Dec. 18-19, 2012, Tehran, Iran*
30. H. Rahbari Magham, M.S. Naderi, G.B. Gharehpetian, M.A. Hejazi and H. Karami Porzani, "*A Novel Method for Exact Determination to Localize Radial Deformation along the Transformer Winding Height*",

- 4th Conference on Thermal Power Plants (Gas, Combined Cycle, and Steam), Dec. 18-19, 2012, Tehran, Iran
31. H. Karami, M.S.A. Hejazi, M.S. Naderi, G.B. Gharehpetian, S. Mortazavian, "Three-dimensional Simulation of PD Source Allocation Through TDOA Method", 4th Conference on Thermal Power Plants (Gas, Combined Cycle, and Steam), Dec. 18-19, 2012, Tehran, Iran
  32. H. Karami, M. S. A. Hejazi, G. B. Gharehpetian, "Simulation of Transformer Oil Effect on PD Source Allocation", 4th Conference on Partial Discharge in Electrical Apparatus (PDC'13), 26-27 Feb. 2013, Tehran, Iran
  33. H. Rahbari Magham, M. A. Hejazi, H. Karami Porzani, M. S. Naderi and G. B. Gharehpetian, "Exact Determination of a Winding Disk Radial Deformation Location Considering Tank Effect Using an Analytical Method", 21st Iranian Conference on Electrical Engineering, Mashhad, Iran, 14-16 May 2013
  34. M. A. Hejazi, Wahid separi, Mehdi Zolfaghari "Assessment and simulate of a Micro-CHP system implemented in Denmark", Iranian Conference on Combined Cooling, Heating and Power Generation and Hybrid Systems (CCHP2013), Energy Research Institute, Kashan University, 28-29 August 2013, Kashan , Iran (in Persian)
  35. M. Nazifi Fard, M. A. Hejazi, "Assessment of the Night Vision of the main Kashan Passages for Decreasing Energy Consumption and illumination Quality improvement", Iran lighting Design Conference, 16-18/December/2013, Civilica, Shiraz , Iran (in Persian)
  36. H. Karami, M. A. Hejazi, H. Rahbari Magham, M. J. Sanjari and G. B. Gharehpetian, "Power Transformers Reliability Enhancment in Power Grid Using UWB Antennas", 3rd International Reliability Engineering Conference, Tehran, Iran, Feb 4-5, 2014 (in Persian)
  37. H. Rahbari Magham, M. A. Hejazi, H. Karami, , M.S. Naderi and G. B. Gharehpetian, "Reliability Enhancement with Radial Deformation Localization in Power Transformer Winding Using Electromagnetic Waves and based on matched Filters", 3rd International Reliability Engineering Conference, Tehran, Iran, Feb 4-5, 2014 (in Persian)
  38. H. Karami, M.J. Sanjari, A. Tavakoli, G.B. Gharehpetian, M.S.A. Hejazi, " HSA-Based Optimal Allocation and Sizing of Shunt Compensators Considering Cable Aging Constraint and Load Variations ", International Conference on Renewable Energies and Power Quality, ICREPQ'14, Cordoba, Spain, 8-10 April, 2014
  39. Mohsen Fazli, M.A. Hejazi, G. B. Gharehpetian and H. R. Baghaee, "New Hierarchical Control in Microgrids with VSI-based DGs", 19-th Electric Power Distribution Conference, EPDC 2014, Tehran, Iran, May 6-7, 2014 (in Persian)
  40. M. A. Hejazi and G. B. Gharehpetian, "A Review on Power Transformer Winding Monitoring for Detection of Axial Displacement and Radial Deformation Using Electromagnetic Waves", 1st International Transformer Conference and Exhibition, Tehran, Iran, 16-17 Sep. 2014 (in Persian)
  41. H. Ale Hosseini, G. B. Gharehpetian, M. A. Hejazi and M. Sabaghpour Arani, "Pattern Recognition Methods Comparison for Interpretation of Measurements Results of Power Transformer Winding Model to Detect Radial and Axial Defects", 29-th International Power System Conference, Oct. 27-29, 2014, Tehran, Iran (in Persian)
  42. M. A. Hejazi, M. Sabaghpour Arani, G. Mokhtari and G. B. Gharehpetian, "Measurement of Tank Effect on Transformer Winding Radial Deformation Detection Method Using Electromagnetic Waves", 29-th International Power System Conference, Oct. 27-29, 2014, Tehran, Iran (in Persian)
  43. M.Rowhani, M.A.Hejazi, A. Rahiminezhad, " Optimal scheduling of Micro turbines generation in Smart Grid with the Aim of Energy Loss Minimization ", 29-th International Power System Conference, Oct. 27-29, 2014, Tehran, Iran (in Persian)
  44. M. Asli Nejad, A. Safari, M.A.Hejazi, H. Moein Poor, "Design and implementation of the continuous MMIC phase shifter in band C", University of Science and Technology of Shahid Satari, the Seventh National Conference of Iranian electronic warfare, 21,22/January/2015, Tehran, Iran
  45. Mohammad Karabi, Hamed Amiri, M.A.Hejazi, "Assessment of the impacts solar power plant of high penetration connected to distribution network ", 2nd International Conference and Exhibition on Solar Energy, 30,31/August/2015,Tehran University, Tehran, Iran (in Persian)
  46. Mohammad Karabi, Hamed Amiri, M. Akhavan Hejazi, "Assessment of the cloud shadowing Penetrated Photovoltaic System", The international conference on applied Research in Electrical Engineering and Computer Science, institution of higher education Nikan, 9/September/2015, Tehran, Iran (in Persian)
  47. H. Karami, G. B. Gharehpetian, Y. Noroozi, M. A. Hejazi, "Application of GLRT Method for On-line and Simultaneous Detection of Radial Deformation and Localization of PD in Transformer Winding Using Electromagnetic Waves", 30-th International Power System Conference, Nov. 23-25, 2015, Tehran, Iran (in Persian)
  48. Mohammad Hossein Karimi Nejad, M. A. Hejazi, Hamid Reza Mohammadi, Mohammad Rasoul Raeyat, Mohammad Reza Karimi Nejad, "Economic Assessment of building management system in one of the

- University buildings*", 30rd International Power System Conference, Power Research Institute, 2-4/November/2015, Tehran, Iran (in Persian)
49. M. Ghorat, A. Layeghi, M. Ghafari, M. S. A. Hejazi, G.B. Gharehpetian, H. Latifi, "*Denosing of Partial Discharge Acoustic Signal Using Dual-Tree Complex Wavelet Transformation*", 6-th Conference on Thermal Power Plants, CTPP2016 (Gas, Combined-Cycle, Steam), 19-20 January 2016, Tehran Iran (in Persian)
  50. H. Karami, G. B. Gharehpetian, Y. Noroozi, M. S. A. Hejazi, "*Study on Being Simultaneous and On-line for Axial Displacement and Partial Discharge Detection in Power Transformer Windings Using Electromagnetic Waves*", 6-th Conference on Thermal Power Plants, CTPP2016 (Gas, Combined-Cycle, Steam), 19-20 January 2016, Tehran Iran (in Persian)
  51. H. Karami, M. Ghorat, G. B. Gharehpetian, M. S. A. Hejazi, Y. Noroozi and A. Rajoli, "*Implementation of Radar Imaging Using Electromagnetic Waves to Detect Radial Deformation in 30MVA Repaired Transformer*", 6-th Conference on Thermal Power Plants, CTPP2016 (Gas, Combined-Cycle, Steam), 19-20 January 2016, Tehran, Iran (in Persian)
  52. H. Karami, G. B. Gharehpetian, Y. Noroozi, M. A. Hejazi, "*Noise Effect in Using GLRT for On-line and Simultaneous Detection of Radial deformation and PD in Transformer Winding Using Electromagnetic Waves*", Electric Power Generation Conference, EPGC 2016, 16-17 Feb., 2016, Tehran, Iran (in Persian)
  53. M. Ghasemlo, A. R. Raeisi, A. Ketabi, M. A. Hejazi, "*Maximum Power Point Tracking of Photovoltaic System based on Perturbation and Observation*", 21st Electrical Power Distribution National Conference, Islamic Azad university, 26&27 April 2016, Karaj, Iran (in Persian)
  54. H. Karami, G. B. Gharehpetian, Y. Noroozi, M. A. Hejazi, "*GLRT-Based Mitigation of Partial Discharge Effect on Detection of Radial Deformation of Transformer HV Winding Using SAR Imaging Method*", Thirty-first International Conference on Electricity, 2016, Tehran, Iran (in Persian)
  55. M.A Hejazi, Ali Khorrami, Gevork B. Gharehpetian, "*Operation and Maintenance Cost Effect on Optimal Sizing of PV Array and Battery for a Grid-Connected House*", International Conference on Renewable Energies and Power Quality (ICREPQ'17), ISSN 2172-038 X, No.15, 5 December 2016
  56. H. R. Tabarsa, M. S. A. Hejazi, H. Karami and G. B. Gharehpetian, "*Radial Deformation Defect Detection Using Frequency Response Analysis Methods and Radar Imaging with Electromagnetic Waves Along with Test on 30MVA Repaired Transformer*", 31-st International Power System Conference, Oct. 24-26, 2016, Tehran, Iran (in Persian)
  57. Hossein Karami, G. B. Gharehpetian, M. A. Hejazi, Yaser Norouzi, "*Experimental Study on Elimination of Partial Discharge Effect on Detection of Radial Deformation of High Voltage Transformer Winding Using Electromagnetic Waves*", 18th IEEE International Conference on Environment and Electrical Engineering, IEEE EEEIC18, Palermo, Italy, 12-15 June 2018

### **Invited Speakers**

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1. Dr. Ghavameddin Nourbakhsh, academic staff, Queensland University of Technology

**Title : Aging Equipment Replacement in Power Systems, Using Reliability and Cost Considerations**

Date: January 17, 2015

2. Dr. Ghassem Mokhtari, Researcher at Australian E-Health Research Centre (AHRC)

**Title : Digital Health System in Smart Home Platform**

Date: January 18, 2015

3. Dr. Amir Hossein Ranjbar, Design and Release Engineer at FCA Fiat Chrysler Automobiles

Title: **Reliability Analysis Of Modern Hybrid Micro-Grids**

Date: February 7, 2015

4. Prof. Mohammad Shahidehpour, Director of Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology (IIT), IEEE FELLOW

Title: **Evolution of Microgrids in Smart Cities**

Date: May 13, 2015

5. Prof. Mohammad Shahidehpour, Director of Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology (IIT), IEEE FELLOW

Title: **Evolution of Smart Grid in Large Cities**

Date: December 28, 2015

6. Dr. ing stephan volker, Head of the Technical Lighting Institute, Berlin University of technology (TU berlin)

Title: **LED Lighting Technology**

Date: February 21, 2016

7. Prof. Mohammad Shahidehpour, Director of Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology (IIT), IEEE FELLOW

Title: **Microgrid Design and Operation in Electric Power Systems**

Date: 23-24 May 2016

## **Services**

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### **Technical Program Committee (TPC) Member:**

- Iranian Conference on Combined Cooling, Heating & Power Generation and Hybrid Systems (CCHP2013)
- Smart Grid Conference 2014

### **Technical Reviewer:**

- Iranian Conference on Combined Cooling, Heating & Power Generation and Hybrid Systems (CCHP2013)
- Smart Grid Conference 2014

- Electric Power Components and Systems Journal
- Journal of Energy Engineering Management
- International Power System Conference (PSC)
- IEEE Sensor Journal

## **MOUs**

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I was a starter for signing MOUs between University of Kashan and following centers:

1. Illinois Institute of Technology
2. Niroo Research Institute
3. Iran Energy Efficiency Organization (IEEO-SABA)