



University of Kashan

RESUME



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Senior Member, IEEE

Associate Professor

Major: Power Engineering
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Educational Qualifications:

1. **Ph.D. (2002~2008):** from Iran University of Science & Technology, Tehran, Iran, June 2008.
Specialized in Power electronics and Motor Drives,
Topic of Research: *“Design and Implementation of a High Performance Sensorless Brushless DC Motor Drive for Hybrid Electric Vehicle”*,
Advisor: *Prof. Abolfazl Vahedi*.
2. **M. SE (1998~2000):** from University of Tehran, Tehran, Iran, July 2000.
Specialized in Control and Artificial Intelligence in Electric Vehicle,
Topic of Research: *“Stabilization and Torque Control of an Electric Vehicle equipped with Two Electric Motor Drives”*
Advisors: Prof. Shahrokh Farhangi, Prof. Reza Kazemi
3. **B.SE (1994~1998):** from Isfahan University of Technology, Isfahan, Iran, 1997.
Major: Control Engineering

EMPLOYMENT HISTORY

INDUSTRIAL:

From February 2000 to June 2004: Supervisor of Electrical, Automation and Instrumentation departments of Amirkabir Steel Company, Kashan, Iran.
From May 2008 – now: Designer and Supervisor Engineer of Iranian Construction Engineering Organization.

ACADEMIC:

From October 2004 to September 2008: Lecturer in Electrical Engineering Department at University of Kashan, Kashan, Iran.
From September 2008 to Now: Assistant/Associate Professor at Electrical and Computer Engineering Department at University of Kashan, Kashan, Iran.

RESEARCH INTERESTS

1. Design, analysis, and control issues of brushless dc (BLDC) motor drives
2. Design, analysis, and control issues of hysteresis motors
3. Design, analysis, and control issues of high speed permanent magnet synchronous motors
4. Development of control issues of Brushless DC generators for automotive applications
5. Sensorless control of electrical machine drives
6. Power converter and inverter circuits
7. Development of power electronic and control issues of photovoltaic systems
8. Development of control issues of electric and hybrid electric vehicles (EV/HEVs)
9. Digital control of industrial control systems
10. Industrial automation based on programmable logic controllers (PLCs)

TEACHING EXPERIENCES

UNDERGRADUATE

1. Electrical machinery (I,II,III)
2. Linear control systems
3. Electrical measurement and instrumentation
4. Electrical motor control
5. Industrial control systems
6. The basics of electrical engineering (I,II)

POSTGRADUATE & Ph.D

1. Electrical drives (Basic & Advanced)
2. Power electronics
3. Generalized theory of electrical machines
4. Modern control

ADMINISTRATIVE FUNCTIONS (ACADEMICS)

1. Dean of Electrical and Computer Engineering Department at University of Kashan, Since 2018 to now.
2. Head of information technology (IT) center at University of Kashan, Iran, 2008-2017.
3. Served as a member of the Energy Research Center, at University of Kashan, Iran, 2011-2021.

RESEARCH and SUPERVISING PROJECTS

Research Projects in Industry

1. Modeling and simulation of high-speed hysteresis motor by finite element method
Finished in 2008.
2. Evaluation and optimization of the electricity power quality of by Taghtiran Industries Company
Finished in 2014.
3. Speed control system of non-sinusoidal PMSM with minimal torque ripple and sensorless capabilities
Finished in 2015.
4. Modeling, dynamic analysis and assessment of transient state behavior of hysteresis motor
Finished in 2015.
5. Design of speed control system for axial-flux hysteresis motor based on vector control strategy
Finished in 2014.
6. Design of speed control system for axial-flux hysteresis motor based on direct torque control strategy
Finished in 2016.
7. Design of Sensorless speed control system for radial-flux hysteresis motor based on direct torque control strategy

- Finished in 2016.
8. Design and implementation of 400 Hz frequency inverter with variable input dc voltage
Finished in 2017.
 9. Design of wind turbine-generator simulator with full converter for smart grid laboratory
Finished in 2020.
 10. Optimal, robust and sensorless control of permanent magnet synchronous motor (PMSM) drive in the presence of uncertainties by model predictive control (MPC) method
....
 11. Designing and implementing a modular twelve-phase PMSM with double winding drive fed with single-phase H-bridge inverters with torque ripple reduction and fault tolerant control
....
 12. Optimal model predictive control (MPC) of asymmetric six-phase permanent magnet synchronous motor (PMSM) drive fed with diode-clamped three-level inverters
....
 13. Torque ripple reduction of PMSM supplied with reduced dc-link capacitor electrical drives
....
 14. Design and simulation of vector-controlled drive of double-star, three-phase permanent magnet synchronous motor
....
 15. Design and simulation of double three-phase (DTP) permanent magnet brushless (PMBL) motor drive based on torque ripple reduction and fault-tolerant capability
....
 16. Design of speed-control drive of permanent magnet synchronous motor (PMSM) fed by z-source inverter for above base-speed region
....
 17. Design and simulation of vector-controlled drive of dual-rotor, counter-rotating permanent magnet synchronous motor (DRCR-PMSM)
....
 18. Control of three-phase permanent magnet synchronous motor (PMSM) fed by independent single-phase, h-bridge inverters using harmonic current injection strategy and proportional-resonant (PR) controllers for torque ripple reduction
....
 19. Robust model-free predictive control of PMSM with field-weakening capability in constant power region for electric vehicle application
....

Supervising on Research Projects in Industry

20. Supervision of the pilot project of designing and prototyping of BLDC electric motors for evaporative air-conditioner

- Finished in 2017.
21. Supervision of technology development project, design and prototyping of permanent magnet synchronous motor drive for gearless elevators
Finished in 2021.
 22. Supervising the developing of the Iranian national standard for test methods and classification of electric motor drives based on energy consumption efficiency indicators
....
 23. Supervising the design and prototyping project of the linear electric motor of the elevator door
....
 24. Supervision of the high frequency model extraction project of synchronous reluctance motors
....
 25. Supervising the project of design and prototyping line-starting reluctance synchronous motors
....
 26. Supervising the project of design and prototyping reluctance synchronous motors with assisted permanent magnet.
....

Research Projects at University

27. Design and manufacturing of SHAHEB2 hybrid electric vehicle at University of Kashan based on Pride ICE vehicle platform (with SAIPA Kashan Company)
Finished in 2012.
28. Design and modeling of power electronic equipment for regenerative braking of propulsion system for Metro of Isfahan
Finished in 2016.
29. Fault Diagnosis of Induction Motors using Motor Current Analysis and Kalman Filter
Finished in 2016.
30. Design of Position and Speed Servo System at Very Low Speeds based on Brushless DC Motor
Finished in 2018.
31. Design and manufacturing of high-speed motor drive
Finished in 2019.

PROFESSIONAL SOCIETY INVOLVEMENTS

PROFESSIONAL SOCIETY MEMBERSHIPS:

1. Senior Member of IEEE (S'02, M'06, SM'14)
2. Member of Power Electronics, Industrial Electronics, and Transportation Electrification Societies of IEEE
3. Member of Power Electronics Society of Iran
4. Member of Energy Society of Iran
5. Member of Energy Research Center at University of Kashan

Reviewer of Journals

1. IEEE Transactions on Journal of Emerging and Selected Topics in Power Electronics
2. IEEE Transactions on Power Electronics
3. IEEE Transactions on Energy Conversion
4. IEEE Transactions on Magnetics
5. IEEE Transactions on Neural Networks and Learning Systems
6. IET Electric Power Applications
7. IET Power Electronics
8. Korean journal of power electronics (JPE)
9. The International Journal for Computation and Mathematics in Electrical and Electronic Engineering (COMPEL)
10. Journal of the Franklin Institute (Elsevier)
11. Journal of Automobile Engineering (Proceedings of the Institution of Mechanical Engineers, Part D)
12. International Journal of Power Electronics and Drive Systems
13. Journal of Electromagnetic Waves and Applications
14. Journal of Energy Engineering Management (Iran)
15. Computational Intelligence in Electrical Engineering journal (Iran)
16. Soft Computing Journal (Iran)
17. Iranian Journal of Electrical & Electronic Engineering (IJEED) (Iran)
18. Iranian Journal of Science and Technology (Iran)
19. Modares Journal of Electrical Engineering (Iran)
20. Iranian Journal of Electrical and Computer Engineering (Iran)
21. Journal of Electrical Engineering (Tabriz, Iran)

Reviewer of Conferences

1. International Power Electronics Drive Systems and Technologies Conference (PEDSTC).
2. Iranian Conference on electrical Engineering (ICEE).
3. International Conference on electrical machines and drives (ICEMD).
4. International Conference on Control, Instrumentation, and Automation (ICCIA 2024)
5. International Power System Conference (PSC)
6. IEEE-IECON.
7. IEEE-PESC.
8. IEEE-ICEM.
9. IEEE-ICIEA.
10. IEEE- ECCE.
11. IEEE- ISIE.

STUDENTS UNDER SUPERVISION

1. Ph.D. (14 students)
 2. M.S. (more than 72 postgraduate students)
 3. B.S. (more than 98 undergraduate students)
- (The titles of the projects/dissertation are available on the personal webpage.)

PATENTS

1. Abolfazl Halvaei Niasar, "*Implementation of Sensorless Reduced-Switch Brushless DC Motor Drive*", Certified by: Iranian Research Organization for Science and Technology, Certificate No. 54007, date: 22 October 2008.

2. Ehsan Bolor Kashani, Abolfazl Halvaei Niasar, “control of Brushless DC Motor Drive based on One Cycle Control Strategy”, Certified by: Iranian Office of Industrial Property, No. 81454, date: 17 December 2013.
3. Mohammad Kebriaei, Abbas Ketabi, Abolfazl Halvaei Niasar, "Modular Hybrid Solid State Pulsed Power Generator", Certified by: Iranian Office of Industrial Property, No. 89965, date: 27 September 2016.

JOURNAL PAPERS (67)

1. Mohammad Reza Yaghoubi Nia, Hamed Hashemi Dezaki, Abolfazl Halvaei Niasar, “*Optimized Allocation of Microgrids’ Distributed Generations and Electric Vehicle Charging Stations Considering System Uncertainties by Clustering Algorithms*”, IET Renewable Power Generation, Vol. 11, No. 18, pp. 1798–1818, 2024.
2. Zahra Zahedi pour, Mohammad Ali Shamsi Nejad, Abolfazl Halvaei Niasar, Hussein Eliasi, “*Short circuit fault detection in permanent magnet synchronous motor based-on Group Model of Data Handling deep neural network*”, Jordan Journal of Electrical Engineering, Vol. 10, No. 2, pp. 169-184, 2024.
3. Yahya Abollahi, Mohsen Rahimi, Abolfazl Halvaei Niasar, “*Control and performance assessment of grid-connected PMSG-based wind turbine equipped with diode bridge rectifier and boost converter using three different control strategies*”, Journal of Scientia Iranica, Transactions D: on Computer Science & Engineering and Electrical Engineering, Vol. 31, No. 14, pp. 1206-1221, 2024.
4. Yaser Nabati, Abolfazl Halvaei Niasar, Hamid Reza Mohammadi, “*A New L-C-D Cell Based Non-Isolated Single Switch High Step-Up DC-DC Converter for Photovoltaic Applications*”, Journal of Solar Energy Research (JSER), University of Tehran, Vol. 7, No. 2, pp. 1027-1036, 2022.
5. Ehsan Bolor Kashani, Abolfazl Halvaei Niasar, “*Torque Ripple Reduction of Electrolytic Capacitor-less BLDC Motor Drive using Simultaneous Speed and Torque Control*”, (in Persian), Journal of Iranian Association of Electrical and Electronics Engineers, Vol. 19, No. 4, pp. 117-125, 2022.
6. Vahid Soori, Abolfazl Halvaei Niasar, Abbas Ketabi, “*Control of Buck-Type Dynamic Capacitor (DCAP) Using Model Predictive Control Method with PSO optimization algorithm for Dynamic Var and Harmonic Compensation*”, (in Persian), Journal of Computational Intelligence in Electrical Engineering, Vol. 13, No. 1, pp. 55-70, 2022.

7. Mohammad Reza Yaghoubi Nia, Hamed Hashemi Dezaki, Abolfazl Halvaei Niasar, *“Optimal Stochastic Scenario-based Allocation of Smart Grids’ Renewable and Nonrenewable Distributed Generation Units and Protective Devices”*, Sustainable Energy Technologies and Assessments, Vol. 44, No. 1, pp. 1-13, 2021.
8. Ehsan Bolor Kashani, Abolfazl Halvaei Niasar, *“Reduction of Torque Ripple in an Electrolytic Capacitor-less BLDC Motor Drive by Simultaneous Speed and Torque Control Method”*, Ain Shams Engineering Journal, Vol. 12, No. 4, pp. 3703-3709, 2021.
9. Vahid Soori, Abolfazl Halvaei Niasar, Abbas Ketabi, *“Control of Three-Phase Buck-Type Dynamic Capacitor Using the Model Predictive Control Method for Dynamic Compensation of the Reactive Power and Load Current Harmonics”*, Journal of Solar Energy Research (JSER), University of Tehran, Vol. 4, No. 6, pp. 898-913, 2021.
10. Abolfazl Halvaei Niasar, Yahya Abdollahi Asadabadi, *“Torque Ripple Reduction of Non-Ideal Permanent Magnet Brushless Motor based on Selective Torque Harmonic Elimination Using One Cycle Control Strategy”*, Electromechanical Energy Conversion Systems, Vol. 1, No. 1, pp. 28-37, 2021.
11. Mohammad Kebriaei, Abolfazl Halvaei Niasar, Abbas Ketabi, *“Combination of Marx and Capacitor Diode Voltage Multiplier for Pulsed Power Applications”*, Journal of Scientia Iranica, Transactions D: on Computer Science & Engineering and Electrical Engineering, Vol. 27, No. 3, pp. 1506-1514, 2020.
12. Mostafa Rahideh, Abbas Ketabi, Abolfazl Halvaei Niasar, Iman Zamani, *“Linear Quadratic Integral optimal control of photovoltaic systems”*, AUT Journal of Electrical Engineering, Vol. 52, No. 2, pp. 231-242, 2020.
13. Abolfazl Halvaei Niasar, Hossein NikKhah, Fariborz EshratAbadi, *“Technical and Economic Considerations for using of Permanent Magnet Brushless Motors in Evaporative Water Coolers”*, Journal of Scientia Iranica, Transactions D: on Computer Science & Engineering and Electrical Engineering, Vol. 27, No. 6, pp. 3204-3217, 2020.
14. Mostafa Rahideh, Abbas Ketabi, Abolfazl Halvaei Niasar, *“Maximum Power Point Tracking Using State-dependent Riccati equation based Model Reference Adaptive Control”*, International Journal of Industrial Electronics, Control and Optimization, Vol. 3, No. 2, pp. 115-124, 2020.
15. Abolfazl Halvaei Niasar, Hossein NikKhah, *“Performance Enhancement of Evaporative Water Cooler Equipped with Permanent Magnet Brushless Motor Drive Based on Power Control Strategy”*, IEEE Journal of Emerging and Selected Topics in Power Electronics (JESTPE), Vol. 8, No. 2, pp. 1268-1275, 2019.
16. Amir Movahedi, Abolfazl Halvaei Niasar, G. B. Gharehpetian, *“LVRT improvement and transient stability enhancement of power systems based on renewable energy resources using coordination of SSSC and PSSs controllers”*, IET Renewable Power Generation (RPG), Vol. 13, No. 11, pp. 1849-1860, 2019.

17. Mostafa Rahideh, Abbas Ketabi, Abolfazl Halvaei Niasar, "State-dependent Riccati equation and fuzzy sliding mode control for maximum power point tracking in partially shaded conditions in PV systems", International Transactions on Electrical Energy Systems (ETEP), Vol. 30, No. 2, pp. 1-16, 2019.
18. Amir Movahedi, Abolfazl Halvaei Niasar, G.B. Gharehpetian, "Designing of SSSC, TCSC and STATCOM controllers with using AVURPSO, GSA and GA for transient stability improvement of multi-machine power system with PV and wind farms", International Journal of Electrical Power and Energy Systems (IJEPE), Vol. 106, pp. 455-466, 2019.
19. Saeed Paksaz, Abolfazl Halvaei Niasar, Yahya Abdollahi, "Design, Simulation and Implementation of Brushless DC Motor Drive supplied from Current Source Inverter based on Space Vector Modulation Strategy", Journal of Electrical and Electronics Engineering (JEEE), Vol. 12, No. 1, pp. 33-38, 2019.
20. Abolfazl Halvaei Niasar, Hossein NikKhah, Fariborz EshratAbadi, "Performance Improvement of Evaporative Cooler Equipped with a Permanent Magnet Brushless Motor Using Power Control Method", (in Persian), Journal of Energy Engineering and Management, Vol. 10, No. 1, pp. 32-45, 2020.
21. Saeid Paksaz, Abolfazl Halvaei Niasar, "Design and Implementation of Brushless DC Motor Drive Using Current Source Inverter Based on Space Vector Modulation Strategy", (in Persian), Iranian Journal of Electrical and Computer Engineering (IJECE), Vol. 17, No. 1, pp. 51-59, 2019.
22. Abolfazl Halvaei Niasar, Fariborz EshratAbadi, "Energy Saving in Evaporative Coolers using Permanent Magnet Brushless Motors", (in Persian), Iranian Journal of Energy, Vol. 21, No. 4, pp. 27-52, 2019.
23. Saman Amini, Abolfazl Halvaei Niasar, Keyvan Amini, "Improved Direct Torque Control of Axial-Flux Hysteresis Motor", Majlesi Journal of Telecommunication Devices, Vol. 7, No. 3, pp. 103-109, 2018.
24. Samane Sadooghi, Abolfazl Halvaei Niasar, "Sensorless control of non-Ideal back-EMF Permanent Magnet Synchronous Motor Based on State Space Control and Sliding Mode Observer", Journal of Innovative Research in Engineering Sciences, Vol. 4, No. 1, pp. 1-8, 2018.
25. Mohammad Kebriaei, Abbas Ketabi, Abolfazl Halvaei Niasar, "Modular Hybrid Solid State Pulsed Power Generator", IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 24, No. 4, pp. 2234-2240, 2017.
26. Abolfazl Halvaei Niasar, and AmirHossein Sabbaghean; "Design and Implementation of a Low-Cost Maximization Power Conversion System for Brushless DC Generator", Elsevier Ain Shams Engineering Journal, Vol. 8, No. 4, pp. 571-580, 2017.
27. Abolfazl Halvaei Niasar, "A Novel Time Varying Dynamic Modeling for Hysteresis Motor", Journal of Scientia Iranica, Transactions D: on Computer Science & Engineering and Electrical Engineering, Vol. 24, No. 3, pp. 1395-1409, June 2017.

28. Abolfazl Halvaei Niasar, Majid Moazzemi, "Design and Implementation of Direct Power Control System for Brushless DC Generator in Standalone DC Applications", *Electric Power Components and Systems journal*, TAYLOR & FRANCIS, Vol. 45, No. 7, pp. 252-262, 2017.
29. Mohammad Kebriaei, Abbas Ketabi, Abolfazl Halvaei Niasar, "Modular Hybrid Solid State Pulsed Power Generator", *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 4, No. 4, pp. 2234-2240, August 2017.
30. Sayyed Hossein Edjtahed, AmirHossein PirZadeh, Abolfazl Halvaei Niasar, "Dynamic Modeling and Simulation of Short-Duration Over-excitation Phenomenon in Hysteresis Motor", *International Journal of Power Electronics and Drive System (IJPEDS)*, Vol. 8, No. 2, pp. 31- 47, June 2017.
31. Abolfazl Halvaei Niasar, Alireza Faraji, "Sensorless Selective Torque Harmonic Elimination Control for a Non-Sinusoidal Permanent Magnet Brushless Motor Using a Full-Order Sliding Mode Observer", (in Persian), *Tabriz Journal of Electrical Engineering*, Vol. 47, No. 1, pp. 55-68, Spring 2017.
32. Saeed Khoobi Arani, Sayyed Hossein Edjtahed, Abolfazl Halvaei Niasar, "Energy Management of a Solar Powered Electric Vehicle with Multiple-Energy Storage via Optimized Fuzzy Controller", (in Persian), *Journal of Control & Instrumentation*, Vol. 7, No. 3, pp. 1-11, 2016.
33. Abolfazl Halvaei Niasar, "Torque Ripple Minimization of the Non-Ideal Permanent Magnet Brushless Motors", (in Persian), *Journal of Electrical Machines*, Niroo Research Institute, Vol. 2, No. 4, pp. 59-72, Summer 2017.
34. Mohsen Teimoori, Sayyed Hossein Edjtahed, Abolfazl Halvaei Niasar, "Design and Simulation of Z-Source Inverter Fed Brushless DC Motor Drive Supplied with Fuel Cell for Automotive Applications", *Journal of Power Electronics & Power Systems*, Vol. 6, No. 3, pp. 1-11, 2016
35. Abolfazl Halvaei Niasar, Marzieh Ahmadi, Sayyed Hossein Edjtahed, "Sensorless Control of Non-Sinusoidal Permanent Magnet Brushless Motor Using Selective Torque Harmonic Elimination Control Method Based on Full-Order Sliding Mode Observer", *Advances in Power Electronics Journal*, Vol. 2016, Article ID 9358604, pp. 1-13, December 2016.
36. Abolfazl Halvaei Niasar, Amir Naderi Darbaghshahi, Mohsen Shirani, "Speed Estimation of High-Speed Hysteresis Motor Based on Extended Kalman Filter", *Journal of Power Electronics & Power Systems*, Vol. 6, No. 1, pp. 34-44, January 2016.
37. Sayyed Hossein Edjtahed, Saeid Khoobi Arani, Abolfazl Halvaei Niasar, Amin HajiZadeh, "Optimal Power Management of an Electric Vehicle with Dual-Energy Sources via Optimized Fuzzy Controller using Genetic Algorithm", (in Persian), *Journal of Energy Engineering Management*, Vol. 6, No. 3, pp. 34-45, Fall 2016.
38. Mohammad Kebriaei, Abbas Ketabi, and Abolfazl Halvaei Niasar, "Pulsed Corona Discharge, a New and Effective Technique for Water and Air Treatment", *International Journal on Biological Forum*, Vol. 7, No. 1, pp. 1686-1692, 2015.

39. Abolfazl Halvaei Niasar, Seyed Ali Seyedi Seadati, "Optimal Design and Finite Element Analysis of a High Speed, Axial-Flux Permanent Magnet Synchronous Motor", (in Persian), Iranian Journal of Electrical and Computer Engineering (IJECE), Vol. 14, No. 4-a, pp. 289-297, Winter 2017.
40. Sayyed Hossein Edjtahed, Abolfazl Halvaei Niasar, "Control of Brushless DC Motor Drives", (in Persian), Iranian Journal of Energy, Vol. 39, No. 3, pp. 145-166, Winter 2017.
41. Abolfazl Halvaei Niasar, Saber Jamshidi far, Ali Reza Faraji, "Position Sensorless Direct Power Control of Brushless DC Motor Drive using Unknown Input Speed Observer", Journal of Control & Instrumentation, Vol. 6, No. 3, pp. 1-11, 2015.
42. Abolfazl Halvaei Niasar, Saeid Golabi, "Design and Manufacturing of Hybrid Electric Vehicle Pride at University of Kashan", (in Persian), Iranian Journal of Energy, Vol. 18, No. 4, pp. 95-114, Spring 2016.
43. Abolfazl Halvaei Niasar, "Review on Analysis, Control, Implementation, and Assessment of Brushless DC Motor Drives", (in Persian), Journal of Energy Engineering Management, Vol. 5, No. 2, pp. 42-51, Summer 2015.
44. Abolfazl Halvaei Niasar, and Behzad Habibzadeh Khoei; "Design and Implementation of Single-Phase, Three-Level, Sub-Harmonic PWM Inverter with Short-Circuit Fault Detection", Journal of Instrumentation Technology & Innovations, Vol. 5, No. 2, pp. 5-13, 2015.
45. Abolfazl Halvaei Niasar, and Hossein Rahimi Khoei; "Sensorless Direct Power Control of Induction Motor Drive using Artificial Neural Network", Journal of Advances in Artificial Neural Systems, Volume 2015, Article ID 318589, 2015.
46. Abolfazl Halvaei Niasar, H. Rahimi Khoei, M. Zolfaghari and H. Moghbeli, "Artificial Neural Network based Sensorless Vector Control of Induction Motor Drive", Applied Mechanics and Materials Journal, Vol. 704, pp. 325-328, doi:10.4028/www.scientific.net/AMM.704.325, 2015.
47. M. Ahmadi, A. Halvaei Niasar, A. Faraji and H. Moghbeli, "Design of Robust Nonlinear Optimal Controller for Underwater Vehicle to Move in Depth Channel using Gradient Descent Method with Systematic Step Selection", Applied Mechanics and Materials Journal, Vol. 704, pp. 320-324, doi:10.4028/www.scientific.net/AMM.704.320, 2015.
48. H. Moghbelli, A. Halvaei Niasar, E. Bolor Kashani, "Acoustic Noise Reduction of BLDC Motor Drive using One-Cycle Current Control Strategy", Applied Mechanics and Materials Journal, Vol. 704, pp. 385-389, doi:10.4028/www.scientific.net/AMM.704.385, 2015.
49. Abolfazl Halvaei Niasar, Dariush Zamani, "Power System Stabilizer Design based on Honey-Bee Mating Optimization Algorithm", Trends in Electrical Engineering Journal, Vol. 4, No. 3, pp. 18-25, 2014.
50. M. Ahmadi, A. Faraji A. Halvaei Niasar, "Design of Nonlinear Optimal Controller for Underwater Vehicle to Move in Depth Channel using Gradient Descent Method", (in Persian), Journal of Control, Vol. 8, No. 2, pp. 35-46, Summer 2014.

51. A. Halvaei Niasar, M. Behzadi Shahrabak, "Direct Power Control of Brushless DC Motor Drive", STM Journal of Power Electronics & Power Systems, Vol. 4, No. 1, pp. 1-12, January 2014.
52. A. Halvaei Niasar, E. Bolor Kashani, "Implementation of a Novel Brushless DC Motor Drive based on One-Cycle Control Strategy", Iranian Journal of Electrical and Electronic Engineering, Vol. 10, No. 3, pp. 244-249, September 2014.
53. N. Fallahi, A. Halvaei Niasar, "Intelligent Energy Management Strategy for a Separated-Axle Parallel Hybrid Electric Vehicle", Intelligence Systems in Electrical Engineering Journal, University of Isfahan, Isfahan, Vol. 4, No. 4, pp. 51-62, Winter 2014.
54. A. Halvaei Niasar, E. Bolor Kashani, "XMEGA-Based Implementation of Four-Switch, Three-Phase Voltage Source Inverter-Fed Induction Motor Drive", International Journal of Power Electronics and Drive Systems (IJPEDS), Vol. 3, No. 2, pp. 218-227, June 2013.
55. Abolfazl Halvaei Niasar, Saber Falahati, "Control of BLDC Motor by using of FOPID Controller Optimized by Imperialist Competitive Algorithm ICA", (in Persian), Soft Computing Journal, Vol. 2, No. 1, pp. 1-11, Spring 2013.
56. A. Halvaei Niasar, H. Moghbelli, "Conversion of Gasoline Vehicles to CNG Hybrid Vehicles (CNG-Electric Vehicles)", Research Journal of Applied Sciences, Engineering and Technology, Vol. 16, No. 13, pp. 2332-2338, August 2013.
57. A. Halvaei Niasar, R. Vartanian, H. Moghbelli "Implementation of Solar Cells and Natural Gas Fuel Cells as a Green Hybrid Power Plant", STM Journal of Alternate Energy Sources & Technologies, Vol. 4, No. 1, pp. 19-26, January 2013.
58. A. Halvaei Niasar, M. Zare, H. Moghbelli, "Dynamic Modeling and Simulation of a Super-High-Speed Circumferential-Flux Hysteresis Motor", Journal of Engineering, Vol. 2013, Article ID 898634, pp. 1-7, 2013.
59. M. Zare, A. Halvaei Niasar, "A Novel Sensorless Vector Control of High-speed Hysteresis Motor Drive", STM Journal of Power Electronics & Power Systems, Vol. 2, No. 3, pp. 1-7, December 2012.
60. S.M. Seyedi, A. Halvaei Niasar, H. Moghbelli, "Position Sensorless Direct Torque Control of Brushless DC Motor Drive Using Four-Switch, Three Phase Inverter", International Review on Modelling and Simulations (I.RE.MO.S.), Vol. 5, No. 5, pp. 2036-2041, October 2012.
61. S. Taravat, A. Halvaei Niasar, A. Rabiee, "Sensorless Vector Control of Single Phase Line Start Permanent Magnet Motors (LSPMs)", International Journal of Science and Advanced Technology, Vol. 2, No. 4, pp. 126-131, April 2012.
62. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "Low Cost Sensorless Control of Four-Switch, Brushless DC Motor Drive with Direct Back EMF Detection", Journal of Zhejiang University, Science-A (JZUS), Vol. 10, No. 2, pp. 201-208, October 2009.

63. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "*Design and Implementation of Sensorless Control for Four-Switch, Three-Phase Brushless DC Motor Drive based on DSP Technology*", Iranian Journal of Electrical and Computer Engineering (IJECE), Vol. 8, No. 1, pp. 1-8, Winter-Spring 2009.
64. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "*Sensorless Control of Four-Switch, Brushless DC Motor Drive without Phase Shifter*", IEEE Transaction on Power Electronics, Vol. 23, No. 6, pp. 3079-3087, November 2008.
65. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "*A Novel Method for Commutation Torque Ripple Reduction of Four-Switch, Three-Phase Brushless DC Motor Drive*", Iranian Journal of Electrical and Electronics Engineering (IJEED), Vol. 3, No. 3&4, pp.83-97, July 2007.
66. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "*High Performance Torque Control of Brushless DC Motor Drive based on TMS320LF2407 DSP Controller*", International Review of Electrical Engineering Journal (IREE), Vol. 2, No. 3, pp. 438-447, May-June 2007.
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CONFERENCE PAPERS (83)

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