

RESUME

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Personal Information:

Date of Birth: 20 May, 1974

Marital Status: Married

Nationality: Iranian

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.
Specialized in Electrical and 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, 2018-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, 2011-2017.

RESEARCH EXPERIENCES & PROJECTS

1. Design and manufacturing of SHAHEB2 hybrid electric vehicle at University of Kashan based on Pride ICE vehicle platform (2012)
2. Finite-element analysis of high speed hysteresis motor (2009)
3. Analytical modeling of hysteresis motor (2016)
4. Design and modeling of power electronic equipment for regenerative braking of propulsion system for Metro of Isfahan (2016)
5. Optimization and assessment of power quality of Taghtiran factory (2014)
6. Design of speed control system for axial-flux hysteresis motor based on vector control strategy (2016)
7. Design of Sensorless speed control system for radial-flux hysteresis motor based on direct torque control strategy (2016)
8. Design of speed control system for axial-flux hysteresis motor based on direct torque control strategy (2016)
9. Fault Diagnosis of Induction Motors using Motor Current Analysis and Kalman Filter (2016)
10. Design of Sensorless speed control system of a non-sinusoidal permanent magnet synchronous motor with minimum torque ripple (2015)
11. Design and implementation of a 400 Hz frequency inverter with variable dc voltage (2018)
12. Assessment on design and fabrication of Brushless DC motor for evaporative air-conditioner (2018)
13. Design and implementation of wind turbine-generator simulator for smart grid laboratory (2018)

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

I have acted as a reviewer of papers for many journals that the mains are as following:

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. The International Journal for Computation and Mathematics in Electrical and Electronic Engineering (COMPEL)
7. Journal of the Franklin Institute (Elsevier)
8. IET Electric Power Applications journal
9. Korean journal of power electronics (JPE)
10. Journal of Automobile Engineering (Proceedings of the Institution of Mechanical Engineers, Part D)
11. International Journal of Power Electronics and Drive Systems
12. Journal of Electromagnetic Waves and Applications
13. Journal of Energy Engineering Management (Iran)
14. Computational Intelligence in Electrical Engineering journal (Iran)
15. Soft Computing Journal (Iran)
16. Iranian Journal of Electrical & Electronic Engineering (IJEED) (Iran)
17. Iranian Journal of Science and Technology (Iran)
18. The Modares Journal of Electrical Engineering (Iran)

19. Iranian Journal of Electrical and Computer Engineering (Iran)
20. Journal of Electrical Engineering (Tabriz, Iran)

Also, I have also acted as a reviewer of many international and local conferences such as:

1. The International Power Electronics Drive Systems and Technologies Conference (PEDSTC).
2. Iranian Conference on electrical Engineering (ICEE).
3. International Power System Conference (PSC)
4. IEEE-IECON.
5. IEEE-PESC.
6. IEEE-ICEM.
7. IEEE-ICIEA.
8. IEEE- ECCE.
9. IEEE- ISIE.

STUDENTS UNDER SUPERVISION

1. Ph.D; (10 students under supervision)
2. M.S. (more than 50 postgraduate students)
3. B.S. (more than 80 undergraduate students)

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

1. 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, March 2019.
2. Saeed Paksaz, Abolfazl Halvaei Niasar, "Design and Implementation of Brushless DC Motor Drive using Current Source Inverter based on Space Vector Modulation Strategy", Iranian Journal of Electrical and Computer Engineering (IJECE), (in Press). **(in Persian)**.
3. 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, DOI: 10.24200/sci.2018.20689, 2018. (in Press)
4. Mohammad Kebriaei, Abolfazl Halvaei Niasar, Abbas Ketabi, "A New Resonant Capacitor Diode Voltage Multiplier Topology for Pulsed Power Application", Journal of Electrical Systems, Vol. 13, No. 13, pp. 517-527, 2017.
5. 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, doi:10.1016/j.asej.2015.11.001, 2017.
6. 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.
7. 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.
8. 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.
9. 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.

10. 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", *Tabriz Journal of Electrical Engineering*, Vol. 47, No. 1, pp. 55-68, Spring 2017. **(in Persian)**.
11. 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", *Journal of Control & Instrumentation*, Vol. 7, No. 3, pp. 1-11, 2016.
12. Abolfazl Halvaei Niasar, "Torque Ripple Minimization of the Non-Ideal Permanent Magnet Brushless Motors", *Journal of Electrical Machines*, Niroo Research Institute, Vol. 2, No. 4, pp. 59-72, Summer 2017. **(in Persian)**
13. 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
14. 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, DOI: 10.1155/2016/9358604, December 2016.
15. 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.
16. 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", *Journal of Energy Engineering Management*, Vol. 6, No. 3, pp. 34-45, Fall 2016. **(in Persian)**.
17. 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.
18. Abolfazl Halvaei Niasar, Seyed Ali Seyedi Seadati, "Optimal Design and Finite Element Analysis of a High Speed, Axial-Flux Permanent Magnet Synchronous Motor", *Iranian Journal of Electrical and Computer Engineering (IJECE)*, Vol. 14, No. 4-a, pp. 289-297, Winter 2017. **(in Persian)**.
19. Sayyed Hossein Edjtahed, Abolfazl Halvaei Niasar, "Control of Brushless DC Motor Drives", *Iranian Journal of Energy*, Vol. 39, No. 3, pp. 145-166, Winter 2017. **(in Persian)**.
20. 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.
21. Abolfazl Halvaei Niasar, "Review on Analysis, Control, Implementation, and Assessment of Brushless DC Motor Drives", *Journal of Energy Engineering Management*, Vol. 5, No. 2, pp. 42-51, Summer 2015. **(in Persian)**.

22. Abolfazl Halvaei Niasar, Saeid Golabi, "*Design and Manufacturing of Hybrid Electric Vehicle Pride at University of Kashan*", Iranian Journal of Energy, Vol. 18, No. 4, pp. 95-114, Spring 2016. **(in Persian)**.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. M. Ahmadi, A. Faraji A. Halvaei Niasar, "*Design of Nonlinear Optimal Controller for Underwater Vehicle to Move in Depth Channel using Gradient Descent Method*", Journal of Control, Vol. 8, No. 2, pp. 35-46, Summer 2014. **(in Persian)**
30. 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.
31. 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.
32. 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.
33. 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.
34. Abolfazl Halvaei Niasar, Saber Falahati, "*Control of BLDC Motor by using of FOPID Controller Optimized by Imperialist Competitive Algorithm ICA*", Soft Computing Journal, Vol. 2, No. 1, pp. 1-11, Spring 2013. **(in Persian)**

35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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 (IJEET)*, Vol. 3, No. 3&4, pp.83-97, July 2007.
45. 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.
46. Halvaei Niasar, A. Kazemi, M. Kalantar; "Reactive Power Control of a Wind Farm Made up with Doubly Fed Induction Generators using Adaptive Neuro-Fuzzy Inference Systems", (in Persian), *International Journal of Engineering Science (IJES)*, Iran University of Science & Technology, Vol. 3, No. 16, pp. 1-9, Fall 2006. **(in Persian)**

CONFERENCE PAPERS

1. Seyed Ali Seyedi Seadati, Abolfazl Halvaei Niasar, "Optimal Design and Finite Element Analysis of a High Speed, Axial-Flux Permanent Magnet Synchronous Motor", 9th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2018), Tehran, Iran, February 2018.
2. Abolfazl Halvaei Niasar, Mohsen Teimoori, "Design and Simulation of Z-Source Inverter Fed Brushless DC Motor Drive Supplied With Fuel Cell for Automotive Applications", 32th International Power System Conference (PSC 2017), Tehran, Iran , 23-25 October 2017.
3. Sayyed Hossein Edjtahed, Seyed Ali Seyedi Seadati, Abolfazl Halvaei Niasar, Marzieh Ahmadi, "Analytical Design and Finite Element Analysis of High Speed, Axial-Flux Permanent Magnet Synchronous Motor", in Proceedings of the 8th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2017), Tehran, Iran, pp. 235-240, 14-16 Feb. 2017.
4. Sayyed Hossein Edjtahed, Marzieh Ahmadi, Abolfazl Halvaei Niasar, "Research on Control of Non-Ideal Permanent Magnet Brushless Motor in view of Torque Ripple Minimization", in Proceedings of the 8th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2017), Tehran, Iran.
5. Abolfazl Halvaei Niasar, Saeed Khoobi Arani, Amin Haji Zadeh, "Energy Management of a Solar Electric Vehicle Equipped with Two-Energy Storages via Optimized Fuzzy Controller by Genetic Algorithm", 31th International Power System Conference (PSC 2016), Tehran, Iran, 24-26 October, 2016.
6. Majid Moazzemi, Abolfazl Halvaei Niasar, "Design and Implementation of Direct Power Control Method for Standalone Brushless DC Generator", 31th International Power System Conference (PSC 2016), Tehran, Iran, 24-26 October 2016.
7. AmirHossein PirZadeh, Abolfazl Halvaei Niasar, Sayyed Hossein Edjtahed, "Analytical Modeling and Simulation of Overexcitation Process in Hysteresis Motor", in Proceedings of the 8th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2017), Tehran, Iran.
8. Sayyed Hossein Edjtahed, Abolfazl Halvaei Niasar, Marzieh Ahmadi, "Sensorless Control of Non-Sinusoidal Permanent Magnet Brushless Motor using Selective Torque Harmonic Elimination Method and Sliding Mode Observer", in Proceedings of the 8th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2017), Tehran, Iran, 14-16 Feb. 2017 .
9. Mohammad Kebriaei, Abbas Ketabi, Abolfazl Halvaei Niasar, "Three-Phase Pulsed Power Generator using Diode-Capacitor Boost Topology", (in Persian), 3rd National and First International Conference in applied research on Electrical, Mechanical and Mechatronics Engineering, Malek-e-Ashtar University of Tehnology, Tehran, Iran, 18-19 Feb. 2015.
10. Mohammad Kebriaei, Abolfazl Halvaei Niasar, Abbas Ketabi, "A New Pulsed Power Generator Topology for Corona Discharge", in Proceedings of the 7th IEEE Power Electronics, Drive Systems

- & Technologies Conference (PEDSTC 2016), Tehran, Iran, pp. 577-581, DOI: 10.1109/PEDSTC.2016.7556924, 16-18 Feb. 2016.
11. Abolfazl Halvaei Niasar, Arsham Ghanbari, "*Evaluation of Various Dynamic Modeling Methods of a Circumferential-Flux Hysteresis Motors*", in Proceedings of the 7th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2016), Tehran, Iran, pp. 1-6, DOI: 10.1109/PEDSTC.2016.7556828, 16-18 Feb. 2016.
 12. Saeed Khoobi Arani, Abolfazl Halvaei Niasar, Amin Haji Zadeh, "*Energy Management of Dual-Source Propelled Electric Vehicle using Fuzzy Controller Optimized via Genetic Algorithm*", in Proceedings of the 7th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2016), Tehran, Iran, pp. 338-343, DOI: 10.1109/PEDSTC.2016.7556884, 16-18 Feb. 2016.
 13. Mohammad Kebriaei, Abbas Ketabi, Abolfazl Halvaei Niasar, "*A New Resonant CDVM Topology for Pulsed Power Application*", in Proceedings of the 24th Iranian Conference on Electrical Engineering (ICEE 2016), Shiraz University, Shiraz, Iran, 10-12 May 2016.
 14. Abolfazl Halvaei Niasar, Arsham Ghanbari, AmirHossein PirZadeh, "*An Improved Analytical Dynamic Modeling of Hysteresis Motor*", in Proceedings of the 24th Iranian Conference on Electrical Engineering (ICEE 2016), Shiraz University, Shiraz, Iran, 10-12 May 2016.
 15. Mohammad Kebriaei, Abolfazl Halvaei Niasar, Behzad Asaei, "*Hybrid electric vehicles: An overview*", in Proceedings of the 4th International Conference on Connected Vehicles and Expo (ICCVE 2015), Shenzhen, China, pp. 299-305, DOI: 10.1109/ICCVE.2015.84, 19-23 October 2015.
 16. Mohammad Kebriaei, Abbas Ketabi, Abolfazl Halvaei Niasar, "*Water and Gas Treatment by Using Pulsed Corona Discharge Technique*", in Proceedings of the IEEE International Conference on Plasma Sciences (ICOPS), Turkey, DOI: 10.1109/PLASMA.2015.7179796, 24-28 May 2015.
 17. Saber Jamshidi far, Abolfazl Halvaei Niasar, AliReza Faraji, "*Position Sensorless Direct Power Control of Brushless DC Motor Drive,*" (in Persian), in Proceedings of the Seminar on Power Electronics Technologies (TPES 2015), Sharif University of Technology, Tehran, Iran, 3-4 March 2015.
 18. Abolfazl Halvaei Niasar, Ehsan Bolor Kashani, "*Implementation of Constant Current of Five-Phase Stepper Motor Drive, using One-Cycle Control Strategy*", in Proceedings of the Seminar on Power Electronics Technologies (TPES 2015), Sharif University of Technology, Tehran, Iran, 3-4 March 2015.
 19. Abolfazl Halvaei Niasar, Zahra Zare, Fahimeh Rabiei Far, "*A Low-Cost P&O based Maximum Power Point Tracking, Combined with Two-Degree Sun Tracker,*" in Proceedings of the 6th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2015), Tehran, Iran, 3-4 Feb. 2015.
 20. Omid Mohammadpour, Abolfazl Halvaei Niasar, "*One Cycle Control of Buck-Type, Current Source Inverter-Fed, Brushless DC Motor Drive,*" in Proceedings of the 6th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2015), Tehran, Iran, 3-4 Feb. 2015.
 21. Abolfazl Halvaei Niasar, Dariush Zamani, Hassan Moghbeli, "*Power System Stabilizer Design Based On Honey-Bee Mating Optimization Algorithm,*" Qatar Foundation Annual Research Conference Proceedings, Vol. 1, ITPP0048, DOI: 10.5339/qfarc.2014.ITPP0048, 17-19 Feb. 2014.

22. Abolfazl Halvaei Niasar, Hassan Moghbeli, Hossein Rahimi Khoei, *"Sensorless Direct Power Control Of Induction Motor Drive Using Artificial Neural Network,"* Qatar Foundation Annual Research Conference Proceedings, Vol. 1, ITPP0049, DOI: 10.5339/qfarc.2014.ITPP0049, 17-19 Feb. 2014.
23. Omid Mohammadpour, Abolfazl Halvaei Niasar, *"Comparison of One-Cycle Control and PWM Strategies in Sensorless Drive of Brushless DC Motor Drive",* 8th National Conference on Engineering, Science and Novel Ideas, Tonekabon, Iran, 11 May 2014. (in Persian)
24. Omid Mohammadpour, Abolfazl Halvaei Niasar, *"Current Source Inverter, Brushless DC Motor Drive based on One Cycle Control Strategy",* First National Conference on Electrical and Computer in North of Iran, Bandar Anzali, Iran, 12 June 2014. (in Persian)
25. Abolfazl Halvaei Niasar, Ehsan Bolor Kashani, Hassan Moghbeli, *"A Low-Cost Sensorless BLDC Motor Drive using One-Cycle Current Control Strategy,"* in Proceedings of the 22nd Iranian Conference on Electrical Engineering (ICEE 2014), Tehran, Iran, 20-22 May 2014.
26. Hassan Moghbeli, Mozghan Behzadi Shahrabak, Abolfazl Halvaei Niasar, *"Direct Power Control of Brushless DC Motor Drive,"* in Proceedings of the 2014 IEEE Industrial Electronics Society Conf., (ISIE 2014), Istanbul, Turkey, 1-4 June 2014.
27. Hassan Moghbeli, Naser Fallahi, Abolfazl Halvaei Niasar, *"Fuzzy Energy Control Strategy of Through-To-Road Hybrid Electric Vehicle,"* in Proceedings of the 2014 IEEE Industrial Electronics Society Conf., (ISIE 2014), Istanbul, Turkey, 1-4 June 2014.
28. E. Bolor Kashani, A. Halvaei Niasar, *"Implementation of a Novel Brushless DC Motor Drive based on One-Cycle Control Strategy,"* in Proceedings of the 5th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2014), Tehran, Iran, 5-6 Feb. 2014.
29. A. Halvaei Niasar, M. Behzadi Shahrabak, *"Direct Power Control of Brushless DC Generator for Automotive Applications,"* in Proceedings of the 5th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC 2014), Tehran, Iran, 5-6 Feb. 2014.
30. M. Zare, A. Halvaei Niasar, *"A Novel Speed-Sensorless Field Oriented Control for Hysteresis Motor,"* in Proceedings of the 4th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC), pp. 142-147, Tehran, Iran, 13-14 Feb. 2013.
31. N. Fallahi, A. Halvaei Niasar, *"Optimized Energy Management Strategy for Separated-Axle Parallel Hybrid Electric Vehicle,"* in Proceedings of the 4th IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC), pp. 261-264, Tehran, Iran, 13-14 Feb. 2013.
32. A. Halvaei Niasar, H. Moghbelli, M. Yavari, *"Speed Sensorless Control of Hysteresis Motor based on MRAS and Luenberger Observer Techniques,"* in Proceedings of the 19th International Conference on Neural Information Processing (ICONIP), Part V, LNCS 7667, pp. 455-464, Doha, Qatar, 2012.
33. S. Falahati, A. Halvaei Niasar, *"Design of Power System Stabilizer via Optimal Control,"* (in Persian), in Proceedings of the 15th Iranian Student Conference on Electrical Engineering (ISCEE), University of Kashan, Kashan, Iran, 28-30 August 2012.

34. E. Bolor Kashani, A. Halvaei Niasar, "*XMEGA-Based Implementation of Four-Switch, Three-Phase Voltage Source Inverter-Fed Induction Motor Drive,*" (in Persian), in Proceedings of the 15th Iranian Student Conference on Electrical Engineering, (ISCEE), University of Kashan, Kashan, Iran, 28-30 August 2012, .
35. S.A. Seyedi, A. Halvaei Niasar, "*State of Charge Estimation of Battery using Kalman Filter,*" (in Persian), in Proceedings of the 15th Iranian Student Conference on Electrical Engineering, (ISCEE), University of Kashan, Kashan, Iran, 28-30 August 2012.
36. M. NasimAfza, A. Halvaei Niasar, "*Sensorless Control of BLDC Motor at Low Speeds using Neural Networks,*" (in Persian), in Proceedings of the 15th Iranian Student Conference on Electrical Engineering, (ISCEE), University of Kashan, Kashan, Iran, 28-30 August 2012.
37. M. Zare, A. Halvaei Niasar, "*Control of Induction Motor Drive Using Direct Torque Control with 12 Sectors,*" in Proceedings of the 15th Iranian Student Conference on Electrical Engineering, (ISCEE), University of Kashan, Kashan, Iran, 28-30 August 2012.
38. A. Halvaei Niasar, E. Bolor Kashani, "*Sensorless Control of PMSM using Extended Kalman Filter,*" (in Persian), in Proceedings of the 15th Iranian Student Conference on Electrical Engineering, (ISCEE), University of Kashan, Kashan, Iran, 28-30 August 2012.
39. A. Halvaei Niasar, A. Abolfathi, M. Jafaei, S.A. Moghaddasi, H. Moghbelli, "*Design and Implementation of a Low-Cost Photovoltaic Traffic Light Signal System,*" in Proceedings of the American Society for Engineering Education (ASEE) Annual Conference, AC2012-4256, San Antonio, Texas, USA, 10-13 June 2012.
40. S. AhmadZadeh, A. Halvaei Niasar, "*Sensorless Indirect Flux Oriented Control of Single-Phase Induction Motor,*" (in Persian), in Proceedings of the 2nd Iranian National Conference on Electrical Engineering, Azad University of Khomeyni Shahr, Iran, Dec. 2011.
41. A. Halvaei Niasar, H. Moghbelli, "*Sensitivity Analysis of Circumferential-Flux Hysteresis Motor to the Design Parameters,*" in Proceedings of the 3rd IEEE Power Electronics, Drive Systems & Technologies Conference (PEDSTC), pp. 73-77, Tehran, Iran, 15-16 Feb. 2012.
42. A. Halvaei Niasar, S. Golabi, "*Design and Manufacturing of Hybrid Electric Vehicle Pride at University of Kashan, Part 2: Electrical Considerations,*" (in Persian), in Proceedings of the First National Conference on Electric and Hybrid Vehicles, Tehran, Iran, 23-24 Oct. 2011.
43. S. Golabi, A. Halvaei Niasar, "*Design and Manufacturing of Hybrid Electric Vehicle Pride at University of Kashan, Part 1: Mechanical Considerations,*" (in Persian), in Proceedings of the First National Conference on Electric and Hybrid Vehicles, Tehran, Iran, 23-24 Oct. 2011.
44. H. Moghbelli, M. Amani, A. Halvaei Niasar, Sh. Agrawal, J. J. Abraham, "*Conversion of Gasoline Vehicles to CNG Vehicles and Hybrid Vehicles (CNG-Electric),*" in Proceedings of the American Society for Engineering Education (ASEE) Annual Conference, pp. 1-12, McNeese State University, Louisiana, USA, 2010.
45. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "*Estimation Error Analysis of the Position Sensorless-Controlled BLDC Motor Drive based on Line-to-Line Voltages Measurement,*" (in Persian), in Proceedings of the 17th Iranian Conference on Electrical Engineering (ICEE), pp. 251-256, Iran University of Science and Technology, Tehran, Iran, May 2009.

46. H.R. Soroush, A.R. Rahmati, A. Halvaei, "Study on the Hunting in High Speed Hysteresis Motors due to the Rotor Hysteresis Material," in Proceedings of the IEEE Eurocon conference, pp. 696-701, Russia, May 2009.
47. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "Modeling, Simulation and Implementation of Four-Switch, Three-Phase Brushless DC Motor Drive based on Switching Function Concept," in Proceedings of the IEEE Eurocon conference, pp. 696-701, Russia, May 2009.
48. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "A Low-Cost Sensorless Control for Reduced-Parts, Brushless DC Motor Drives," in Proceedings of the IEEE International Symposium on Industrial Electronics (ISIE), pp. 662-667, Cambridge, UK, June 2008.
49. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "Torque Control of Brushless DC Motor Drive based on DSP Technology," in Proceedings of the IEEE International Conference on Electrical Machines and Systems (ICEMS), pp. 524-528, Seoul, South Korea, Oct. 2007.
50. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "A Novel Sensorless Control Method for Four-Switch, Brushless DC Motor Drive without Using any 30 degree Phase Shifter," in Proceedings of the IEEE International Conference on Electrical Machines and Systems (ICEMS), pp. 408-413, Seoul, South Korea, Oct. 2007.
51. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "Implementation of Four-Switch Brushless DC Motor Drive based on TMS320LF2407 DSP," in Proceedings of the IEEE International Conference on Signal Processing and Communications (ICSPC), pp. 332-335, Dubai, UAE, Nov. 2007.
52. H. Moghbelli, A. Halvaei Niasar, R. Langari, "New Generation of Passenger Vehicles: FCV or HEV?," in Proceedings of the International Conference on Renewable Energy and Power Quality (ICREPEQ), Sevilla, Spain, March 2007.
53. A. Halvaei Niasar, H. Moghbelli, "Mild Hybrid, A New Strategy for Fuel Consumption Optimization in Internal Combustion Engine and Energy Saving," (in Persian), in Proceedings of the 9th Iranian Student Conference on Electrical Engineering (ISCEE), pp.1-6, University of Tehran, Tehran, Iran, Sep. 2006.
54. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, "Analysis and Control of Commutation Torque Ripple in Four-Switch, Three-Phase Brushless DC Motor Drive," in Proceedings of the IEEE International Conference on Industrial Technology (ICIT), pp.239-246, Mumbai, India, Dec. 2006.
55. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "ANFIS-Based Controller with Fuzzy Supervisory Learning for Speed Control of 4-Switch Inverter Brushless DC Motor Drive," in Proceedings of the 37th IEEE Power Electronics Specialists Conference (PESC), pp. 1323-1327, Jeju, South Korea, June 2006.
56. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "Commutation Torque Ripple of Four-Switch Brushless DC Motor Drives_Part II: Controllability and Minimization," in Proceedings of the 9th IEEE International Workshop on Advanced Motion Control (AMC), pp. 547-552, Istanbul, Turkey, March 2006.
57. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, "Commutation Torque Ripple of Four-Switch Brushless DC Motor Drives_Part I: Analysis," in Proceedings of the 9th IEEE International Workshop on Advanced Motion Control (AMC), pp. 541-546, Istanbul, Turkey, March 2006.

58. S.A. Kamali, A. Vahedi, A. Halvaei Niasar, *“Performance Analysis of HTS Fault Current Limiter Combined with a ZnO Varistor,”* in Proceedings of the 8th IEEE International Conference on Electrical Machines and Systems (ICEMS), pp. 907-910, Nanjing, China, Sep. 2005.
59. A. M. Kashtiban, A. Vahedi, A. Halvaei Niasar, *“Investigation of Winding Type effect on Leakage Flux of Single Phase Shell Type Transformer Using FEM,”* in Proceedings of the 8th IEEE International Conference on Electrical Machines and Systems (ICEMS), pp. 1755-1758, Nanjing, China, Sep. 2005.
60. A. Halvaei Niasar, A. Vahedi, H. Moghbelli, *“Speed Control of a Brushless DC Motor Drive via Adaptive Neuro-Fuzzy Controller based on Emotional Learning Algorithm,”* in Proceedings of the 8th IEEE International Conference on Electrical Machines and Systems (ICEMS), pp. 230-234, Nanjing, China, Sep. 2005.
61. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, *“Design Methodology of Drive Train for a Series-Parallel Hybrid Electric Vehicle (SP-HEV) and its Power Flow Control Strategy,”* in Proceedings of the IEEE International Electric Machines and Drives Conference (IEMDC), pp. 1549-1554, Texas, USA, May 2005.
62. A. Halvaei Niasar, H. Moghbelli, A. Vahedi, *“Modeling and Simulation Methods for Brushless DC Motor Drives,”* in Proceedings of the First International Conference on Modeling, Simulation and Applied Optimization (ICMSAO), pp.05-16/05-6, Sharjah, UAE, Feb. 2005.
63. A. Halvaei Niasar, SH. Jadid, H. Moghbelli, *“Dynamic Stability of a Grid-Connected Photovoltaic System and Interactive Effects Analysis,”* (in Persian), in Proceedings of the 19th International Power System Conference (PSC), pp. 1-7, Tehran, Iran, Nov. 2004.
64. A. Halvaei Niasar, *“Superconductive Magnetic Energy Storage Systems (SMES): Control and Applications in Electrical Power Systems,”* (in Persian), in Proceedings of the 7th Iranian Student Conference on Electrical Engineering (ISCEE), Khajeh Nasiraddin Toosi University, Tehran, Iran, Sep. 2004.
65. A. Halvaei Niasar, A. Gholami, H. Moghbelli, *“Lifetime Assessment and Aging Acceleration of Power and Distribution Transformers Insulation under Combined Electrical & Thermal Stresses,”* (in Persian), in Proceedings of the 9th Conference of Electric Power Distribution Networks (EPDN), pp. 365-374, Zanjan, Iran, May 2004.
66. A. Halvaei Niasar, M.A.S. Masoum, H. Moghbelli, *“Adaptive Neuro-Fuzzy Intelligent Controller via Emotional Learning for Indirect Vector Control (IVC) of Induction Motor Drives,”* in Proceedings of the 12th Iranian Conference of Electrical Engineering (ICEE), pp. 280-285, Mashhad, Iran, May 2004.
67. A. Halvaei Niasar, A. Kazemi, H. Moghbelli, M. Kalantar, *“Reactive Power Distribution and Control of a Wind Farm Made up with Doubly Fed Induction Generators using Adaptive Neuro-Fuzzy Inference Systems (ANFIS),”* (in Persian), in Proceedings of the 12th Iranian Conference of Electrical Engineering (ICEE), pp. 272-279, Mashhad, Iran, May 2004.
68. A. Halvaei Niasar, H. Moghbelli, R. Kazemi, Sh. Farhangi, *“Control of Independent Rear Wheel Drives for Electric and Hybrid Vehicles Using One Neuro-Fuzzy Controller,”* in Proceedings of the Society of Automotive Engineers (SAE) Congress & Exhibition, Paper No. 2003-01-0107, Michigan, USA, March 2003.

69. A. Halvaei Niasar, R. Kazemi, H. Moghbelli, *"Yaw Moment Control via Emotional Adaptive Neuro-Fuzzy Controller for Independent Rear Wheel Drives of an Electric Vehicle,"* in Proceedings of the IEEE Conference on Control Applications (CCA), pp. 380-385, Istanbul, Turkey, June 2003.
70. A. Halvaei Niasar, Sh. Farhangi, R. Kazemi, *"Torque Control of an Electric Vehicle equipped with two Electric Drives, Part II: Efficiency Enhancement of Induction Motor Drive via Flux Optimization for Electric Vehicle Applications,"* (in Persian), in Proceedings of the 8th Iranian Conference of Electrical Engineering (ICEE), pp. 115-122, Isfahan University of Technology, Isfahan, Iran, May 2000.
71. A. Halvaei Niasar, R. Kazemi, Sh. Farhangi, *"Torque Control of an Electric Vehicle equipped with two Electric Drives, Part I: Yaw Moment Control of Vehicle via Fuzzy Logic,"* (in Persian), in Proceedings of the 8th Iranian Conference of Electrical Engineering (ICEE), pp. 107-114, Isfahan University of Technology, Isfahan, Iran, May 2000.