

# CV

## Hossein Madadikojabadi

### Education:

[**High School**]: Physics & Mathematics ; Ferdowsi High-School, Tabriz-IRAN  
G.P.A.: 19.34 (out of 20), Rank: 1/3000

[**B.Sc.**]: Electrical Engineering; University of Amir-Kabir and Tabriz, IRAN  
G.P.A.: 16.21 (out of 20), Rank: 1/35

[**M.Sc.**]: Electrical Engineering; University of Tabriz, Tabriz-IRAN  
G.P.A.: 17.07 (out of 20), Rank: 2/10

[**Ph.D.**]: Electrical Eng., Motor Drives & Power Electronics, CANADA  
University of New Brunswick (UNB), CANADA, G.P.A, A+, 2003

[**Post-Doc. Fellow**]: University of New Brunswick, CANADA (Sept. 2003 - Sept. 2005)

**ORCID id:** [0000-0003-4893-5000](https://orcid.org/0000-0003-4893-5000)

<https://www.adscientificindex.com/scientist.php?id=357071>

Web of Science ResearcherID [?](https://orcid.org/0000-0003-4893-5000)  
[ADT-1369-2022](https://orcid.org/0000-0003-4893-5000)

### B.Sc. Thesis:

Design and Construction of 3Phase variable frequency (0-400 Hz), 4 kW, Voltage Source Inverter for variable IM motor drive, Tabriz Univ. IRAN

### M.Sc. Thesis:

“Estimation of speed & pole Position of Field Oriented Controlled Permanent Magnet Synchronous Motor Drive by an Extended Kalman Filter”. IRAN (1992)

### Ph.D. Thesis:

A Novel MRAS-Based Adaptive Psedoreduced -Observer for Sensorless Induction Motor Drives, 2003, Sept. UNB, Canada

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Top 2% most-cited scientists in the world “Based on scopus on Stanford University’s list, for long term and single year”, 2020, 2021, 2022, 2023

**Occupation:** Professor in Electrical Engineering

IEEE Member, P. Eng.

Associate Editor of “Helyion, Elsevier

Associate Editor of “Journal of Non-linear Systems in Electrical Engineering”

Reviewer for various high ranked journals” IEEE Transactions, Elsevier journals”

2019: Visiting Professor at Department of Energy Technology, University of Aalborg, Denmark, 2019-2020.

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Citizen: Iran

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## **Experiences:**

### **Industrial Experiences (Projects):**

- Design and construction of 50 KVA, 400 Hz, 115/200 V Passenger Air-plane Power supply, Iran, Tehran Air Port, 2014.
  - Design and Construction of 2 kW grid connected inverter, Supported by Tabriz/Iran electric distribution company, 2016.
  - Design and Construction of 2 kW Active Power Filter, Supported by Azarbyjan/Iran electric distribution company, 2018.
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### **Some other research (practical) projects:**

- Field Oriented Control of an 150 Hp Induction Motor Drives by an 150 kW SPWM based IGBT Inverter, 2002 UNB, and PEI, CANADA
- DSP (microcontrollerTMS320LF2407) based control of PMSM drive, Feb. 2004-June 2005, UNB, Canada
- Design & Construction of 3 Phase, 4 kW, Variable frequency (0-400 Hz) Voltage Source Inverter, Tabriz Univ., IRAN
- Design and implementation of 20 kW solar panels in Tabriz/Iran, (industrial project) under way 2018.
- Design and implementation of 1 kW Step-up DC – DC Converter, UNB, CANADA
- Design and implementation of 2 KW Step-down DC-DC Converter, UNB,

## CANADA

- Design and Construction of 10 KW, 3 phase IGBT Inverter, UNB, CANADA
  - Development of a Novel Wind Turbine Simulator for Wind Energy Conversion Systems Using an Inverter Controlled Induction Motor, UNB, PEI, CANADA
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## Positions:

- Manager of Advanced Power Electronics and Renewable Energy Research Center at SUT.
- Directing Manager of Knowledge based company (Sahand Tavan Ghostar Khebreh), some of our products including the following:
  - 1- High Power IGBT Driver Boards (up to 200 - 300A)
  - 2- Isolated Voltage Transducers (VT)
- Laboratory Manager: Electrical Machinery, Electrical Workshop

## Qualifications:

- Microprocessors, Microcontrollers, Intel 80C196KC/ KD, DSP, eZdspTMS320LF2407, & 2812/28335
  - C language
  - Lab Window/CVI , Version 6.1 [NI-DAQ, PCI-MIO-16E-4 ]
  - MATALAB, SIMULINK Version 6.1
  - Microsoft Word
  - Word Perfect
  - PSIM
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## Honors:

### Awards

- ❖ First rank award in Tabriz, Iran high schools.
  - ❖ First rank award in Tabriz University, B.Sc.
  - ❖ Post Doctoral Fellowship, UNB, Canada, 2003-2005.
  - ❖ Selected Researcher of Electrical Engineering Dept., Iran, 2006.
  - ❖ Selected Researcher of Electrical Engineering Dept., Iran, 2015.
  - ❖ Selected Researcher of SUT, 2016
  - ❖ Best Researcher of SUT in Industrial Projects, 2018
  - ❖ **Receiving three appreciations for Industry Project** “Design and Construction of Three-Phase 50 KVA Regulated Power Supply with Variable Frequency, 0-400 Hz,” Iran, 2011-2015.
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## Patents :

- Design and construction of Grid connected Single phase Inverter by DSP-TMS 320-2407A
  - Control of IM speed by 4 -switch three phase inverter
  - Design and construction of Grid connected three-phase Inverter by DSP-TMS 320-2407A
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- Isolated Driver Board for High Power IGBTs. Patent No.53799, October 18, 2008, IRAN.
  - Single phase parallel active power filter for compensation of various disturbances under various operating conditions.
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## **Books:**

### **Translations: (From English to Farsi)**

- 1- Power Electronics, Circuits, Devices, and applications, 1993; by: M. H. Rashid
- 2- Basic Circuit theory, by L. P. Huelsman

### **Book Chapters:**

- 1- **H. Madadi Kojabadi**, L. Chang “**Wind turbine simulators**” Wind Turbines, Intech, 2011.
- 2- M. Abarzadeh, **H. Madadi Kojabadi**, L. Chang “**Small Scale Wind Energy Conversion Systems**” Wind Turbines, Intech, 2011.
- 3- M. Abarzadeh, **H. Madadi Kojabadi**, L. Chang, “**Power electronics in small scale Wind turbines**” Advances in Wind Power, Intech, 2012.
- 4- M. Abarzadeh, **H. Madadi Kojabadi**, L. Chang, “**Study of Novel Power Electronic Converters for Small Scale Wind Energy Conversion Systems**” Renewable Energy, Intech, 2015.
5. R. Ebrahimi, **H. Madadi Kojabadi**, L. Chang, “Application of DC-DC Converters at Renewable Energy” Intech, 2022.

### **Contribution to Book:**

Power Electronics, Circuits, Devices, and Applications, 3th Edition, By: M. H. Rashid, 2004, Prentice-Hall

### **Book Author:**

- Advanced Power Electronics & Applications, 2018, by: **Hossein Madadikojabadi**
- Electric Railway Transportation System, 2018, by: H. Jafari, S. S. Fazel, and **Hossein Madadikojabadi**
- Harmonics and their reduction methods, by: M. Fallah, **H. Madadi Kojabadi**

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## **International Collaborations:**

- University of New Brunswick, Smart Grid Research Center.
  - MEMORANDUM OF UNDERSTANDING (M.O.U) ON Educational, Research and Technological Cooperation: Between Advanced Power Electronics and Renewable Energy Research Center at **SUT** and Research Center for Photovoltaic Engineering System, MOE, **Hefei University of Technology, P.R. of China.**
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### **Teaching Experiences:**

- Power Electronics, for M.Sc. and Ph.D. students
  - Advanced Power Electronics, for Ph.D. students
  - Renewable Energy, for M.Sc. and Ph.D. students
  - Electrical Machines, for Undergraduate students
  - DSP based (DSP 2812,...) Control of Induction Motor drives, for M.Sc. and Ph.D. students,
  - Electrical Circuits, for Undergraduate students,
  - Generalized Theory of Electrical Machines, for M.Sc. and Ph.D. students
  - Electrical Installations, for Undergraduate students,
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### **M.Sc. and Ph.D. thesis Supervisor (more than 30):**

- High performance direct instantaneous power control of PWM rectifiers, Ph.D. thesis (Amir Kabir University, Tehran, Iran), 2010
- A Modified Static Ground Power Unit Based on Novel Modular Active Neutral Point Clamped Converter, Ph.D. thesis, 2015
- Rail way harmonics compensation and assessment, Ph.D. thesis, 2017
- Active power filter design and....., Ph.D. thesis, 2020
- Direct power control of DFIG based on discrete space vector modulation, M.Sc.
- Novel Single Stage Grid Connected PV System with Fuzzy Reactive Power Control, M.Sc.
- Dc-Motor based-Wind turbine simulator, (Amir Kabir University, Tehran, Iran), M.Sc.
- Comparative study of various IM stator resistance estimation schemes, M.Sc.
- 4-switch three phase IM drive, M.Sc.
- Study and analysis of hybrid energy storage system , M.Sc.
- Simulation and modelling of DFIG for wind energy conversion, MSc.
- MPPT algorithm in Single phase grid connected inverter, MSc.
- Experimental & Simulation Comparison of three most used PWM s (Hysteresis, SPWM, SVM) algorithms in three phase grid connected Inverters MSc.

- Design simulation and control of Z-source inverter to overcome VSI limitations, MSc.
  - Design and construction of 1 KW wind turbine to overcome hunting problems of traditional small scale wind turbines, MSc.
  - Comparative analysis of various battery charger methods, 2012, MSc.
  - Experimental and theoretical analysis of Z-source inverters with switched Z-impedance, 2016. MSc.
  - High boost DC-DC Converters, 2017, MSc.
  - DC-DC converters for photovoltaic applications, 2017, MSc.
  - High voltage gain transformer based z-source inverter, 2017, MSc.
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## Publications

### Referred Journal Papers:

1. J. Faiz, M. Sharifian, and **H. Madadi Kojabadi**, "Simulation of Induction Motor Including Mechanical losses and Saturation." *Advanced Technology of Electrical Engineering and Energy (Journal)*, China, No.1, pp. 55-60, 1994.
2. **H. Madadi Kojabadi**, and G. Ahrabian," Simulation and analysis of the interior permanent magnet synchronous motor as a brushless AC-Drive", *Simulation Practice and Theory*, 7(2000), pp. 691-707, *ELSVIER*.
3. **H. Madadi Kojabadi**, L. Chang, and T. Boutot," Development of a Novel Wind Turbine Simulator for Wind Energy Conversion Systems Using an Inverter Controlled Induction Motor," *IEEE Transaction on Energy Conversion*, vol. 19, no. 3, Sept. 2004, pp. 547-552.(ISI, IF= , MIF= )
4. **H. Madadi Kojabadi**, L. Chang ,"Comparative Study of Pole Placement methods in adaptive flux observers, "Control Engineering Practice, *ELSVIER*. Volume 13, Issue 6, June 2005, Pages 749-757(ISI, IF=2.6, MIF=1.41)
5. **H. Madadi Kojabadi**, L. Chang "A Novel Wind Steady-State Turbine Simulator Using an Inverter Controlled Induction Motor, "*Wind Engineering*". 2004, pp. 433-443(11)
6. **H. Madadi Kojabadi**, L. Chang, and R. Doraiswami" A MRAS-Based Pseudoreduced Order Flux Observer for Sensorless Induction Motor Drives, *IEEE Transactions on Power Electronics*, Volume 20, Issue 4, July 2005 Page(s):930 – 938. (ISI, IF=4.95, MIF= 1.277)
7. **H. Madadi Kojabadi** ," Simulation and experimental studies of model reference adaptive system for sensorless induction motor drive," *Simulation Modeling Practice and Theory*, Volume 13, Issue 6, September 2005, Pages 451-464.
8. Mohammad Monfared , **H. Madadi Kojabadi**, H. Rastegar" Static and dynamic wind turbine simulator using a converter controlled DC motor," *Renewable Energy, International Journal Elsevier*, Vol. 5, May, 2008, pp. 906-913. ,(ISI, IF = 3.47, MIF = 2.05).
9. **H. Madadi Kojabadi**, L. Chang, I. Ghadoura, M. Ghribi, A Novel DSP-based Current-Controlled PWM Strategy for Single Phase Grid Connected Inverters" *IEEE Transaction On Power Electronics.*, Vol. 21, no. 4, 2006. pp. 985-993. (ISI, IF=4.95, MIF= 1.277).

10. Mohammad Monfared , H. Rastegar, **H. Madadi Kojabadi**, “A new strategy for wind speed forecasting using artificial intelligent methods” *Renewable Energy, International Journal Elsevier*, Vol. 34, (2009), pp. 845-848,(ISI, IF = 3.47, MIF = 2.05).
11. **H. Madadi Kojabadi**,” Active power and MRAS based rotor resistance identification of an IM drive, *Simulation modelling practice and theory, SIMPAT ELSEVEIR* , 17 (2009)-376-389, Q3
12. M. Kazemi, A. Sadeghi, **H. Madadi Kojabadi**, “A Simple Approach to Direct Power Control of DFIG Based on DSVM with Constant Switching Frequency,” at *Renewable Energy, International Journal Elsevier* 35(2010) 1033-1042.(, (ISI, IF = 3.47, MIF = 2.05).
13. Mohammad Monfared , H. Rastegar, **H. Madadi Kojabadi**,” High performance direct instantaneous power control of PWM rectifiers” *Energy Conversion and Management*, No. 51 (2010), pp. 947-954. ,(ISI, IF = 4.38, MIF = 1.16).
14. Mohammad Monfared, H. Rastegar, **H. Madadi Kojabadi** A Simple and Efficient Control Strategy for Four-Switch Three-Phase Power Converters,” *Advances in Electrical and Computer Engineering* Volume 10, Number 1, 2010. (ISI, IF = 0.529, MIF=1.4), Q4
15. Mohammad Monfared , H. Rastegar, **H. Madadi Kojabadi** Simulation and implementation of a novel model-based DPC for three-phase power converters,”. Vol. 5, No. 1, Feb. 2010,(ISI, IF=.55, MIF=1.23)
16. **H. Madadi Kojabadi**,”A comparative analysis of different pulse width modulation methods for low cost induction motor drives” *Energy Conversion and Management* 52 (2011) 136–146. (ISI, IF= 4.38, MIF= 1.16)
17. **H. Madadi Kojabadi** S. Aghaei, "A comparative study of Various MRAS-Based IM's rotor..., " *IJECE, Iranian journal of electrical Engineering and computer Engineering.*, No. 1, pp. 27-34, 2012
18. D. Khani, A. Sadeghi, **H. Madadi Kojabadi**, " Impacts of Distributed Generations on Power System Transient and Voltage Stability *International Journal of Electrical Power and Energy Systems*," No. 43, pp. 488-500, 2012. (SCOUPUS, IF =3.42, ), Q1
19. **H. Madadi Kojabadi**, M. Abarzadeh, S. Aghaei, ” Robust stator resistance identification of an IM drive using model reference adaptive system,” *Energy Conversion & Management, Elsevier*, V. 65, pp. 507-517, 2013. ,(ISI, IF = 4.38, MIF = 1.16).
20. H. Fathi, **and H. Madadi Kojabadi**,” Enhanced-boost Z-source inverters with switched Z- impedance" *IEEE Trans. On Indus. Electronics*, Vol. 63, no. 2, pp. 692-702, 2016, (ISI, IF=6.38, MIF=1.41)
21. R. Barzeghar, **H. Madadi Kojabadi**, E. Zamiri, N. Vosoughi, “ Generalized Structure for a Single Phase Switched-Capacitor Multilevel Inverter Using a New Multiple Dc Link Producer with Reduced Number of Switches,” *IEEE Trans. On Power Electronics*, Vol. 31, no. 8, pp. 5604-5617,2016. (ISI, IF=4.95, MIF= 1.277)
22. Mehdi Fallah, Mitra Imani, Mostafa Abarzadeh, **Hossein Madadi Kojabadi**, Mohammad Hejri,” Load compensation based on frame considering low order dominant harmonics and distorted power system,” *Elsevier, Control Eng. Practice*, vol. 51, pp. 1-12, 2016.(ISI, IF = 2.6, MIF = 1.41)

23. M. Fallah, **H. Madadi Kojabadi**, M. Bina, A. Ajami, "Novel Control Structure of Single Phase Active Power Filter Using Recursive Least Squares Estimator Considering a Distorted Environment," Transactions of the Institute of Measurement and Control, vol. 23 No. 2015, pp. 1-12, (ISI, IF = 0.83, MIF=1.41) Q2, site score = 1.8
  24. M. Abarzadeh, **H. Madadi Kojabadi**, "A Static Ground Power Unit Based on Improved Hybrid Active-Neutral-Point-Clamped Converter " IEEE Trans. On Indus. Electronics," IEEE TRANS. ON INDUS. ELEC., Vol. 63, issue 12, pp. 7792-7803, 21 April, 2016.(ISI, IF = 7.16, MIF=1.41), Q1
  25. M. Abarzadeh, **H. Madadi kojabadi**, F. Deng, Z. Chen, "Enhanced Static ground Power unit based on flying capacitor based h-bridge hybrid active-neutral-point- clamped converter, "IET power electronics, Vol. 9, Issue 12, 20<sup>th</sup> Oc., 2016, pp. 2337-2349. (ISI)Q1
  26. R. Barzegharkhoo, **H. Madadi Kojabadi**, E. zamiry, N. Vosoughi, L. Chang, "Cascaded Multilevel Inverter Using Series Connection of Novel Capacitor-Based Units with Minimum Switch Count," IET Power Electronics, Vol. 9, Issue 10, Aug. 2016, pp. 2060-2075.(ISI).
  27. M. Abarzadeh, **H. Madadi kojabadi**, L. Chang, "A Modified Static Ground Power Unit Based On Novel Modular Active Neutral Point Clamped Converter," IEEE Trans. On Indus. Application, 2016 Vol. 52, No.5, (ISI, IF = 2.94, MIF = 1.00<sup>o</sup>., Q1
- R. Barzegharkhoo, , E. zamiry, N. Vosoughi, **H. Madadi Kojabadi**, L. Chang"
- Cascaded Modular Multilevel Inverter Topology Using a Novel Basic Unit with Less Number of Power Electronic Elements" Journal of Power Electronics, S. Korea, Vol. 16, No.6, pp. 2139- 2149, November 2016.(ISI, IF=0.93, MIF=1.27)
28. **H. Madadi Kojabadi**, H. Fathi, F. Blaabjerg, " Experimental and Theoretical Analysis of Trans-Z-Source Inverters with Leakage Inductance Effects, IEEE Trans. On Indus. Electronics, Issue 99, 2017.
  29. Reza Barzegarkhoo; Majid Moradzadeh; Elyas Zamiri; **Hossein Madadi Kojabadi**, Frede Blaabjerg, " A New Boost Switched-Capacitor Multilevel Converter with Reduced Circuit Devices," IEEE Trans. On Power electronics, Issue 99, 2018.
  30. M Fallah, R Kazemzadeh, and H Madadi Kojabadi Performance Improvement of DVR Using a New Numerical LPF Based on VFF-RLS and Fuzzy Logic **Controller" July 2017 Journal of Vibration and Control 24(17):107754631771877, Q1, site Score: 3.8 DOI:10.1177/1077546317718774**
  31. S. S. Fazel, H. Jafari, **H. Madadi Kojabadi**, " An Efficient Strategy for Power Rating Reduction of Back - to-Back Converters Used in Railway Power Conditioner," International Journal of Railway Research, Vol. 3, No.1, pp. 19-28, 2016.
  32. H. Jafari, **H. Madadi Kojabadi**, " An intelligent control method for capacity reduction of power flow controller in electrical railway grids," Electric Power Systems Research, Elsevier, 165(2018)157-166., Q1, Site score= 6.4
  33. H. Jafari, **H. Madadi Kojabadi**, S. S. Fazel, Federica Foidelli, Morris Brenna" A Converter based Railway Power Supply System for High-Speed Networks Using Direct Modular Multilevel Converter," Has been accepted in International Journal of Railway Research, 2018. ISC. ISSN: 2423-3838
  - 35- Hamed Jafari Kaleybar<sup>1</sup>, **Hossein Madadi Kojabadi**<sup>2\*</sup>, Seyed Saeed Fazel<sup>3</sup>, Federica Foidelli<sup>4</sup>, Morris Brenna<sup>5</sup>, A Direct Power Feeding System for AC



36. Hamed Jafari Kaleybar <sup>a</sup>, Hossein Madadi Kojabadi <sup>a</sup>, Federica Foiadelli <sup>b</sup>, Morris Brenna <sup>b</sup>, Frede Blaabjerg <sup>c</sup> Model Analysis and Real-Time Implementation of Model Predictive Control for Railway Power Flow Controller,” *International Journal of Electrical Power and Energy Systems*, 109 (2019), 290-306, 2019., Q1, IF = 3.58
37. Pourjafar, S.; Shayeghi, H.; Kojabadi, H. Madadi; Maalandish, M.; Sedaghati, F. ,” A coupled inductor based high voltage gain dc-dc converter using interleaved voltage multiplier cells,” *Iranian Journal of Electrical & Electronic Engineering*, 2020, Vol 16, Issue 1, p1, Q2, IF = 0.19
- 38- M. Fallah, **H. Madadi Kojabadi**, and F. Blaabjerg” New control method for VSC-MTDC Stations in the abnormal conditions of power system,” *Control Engineering Practice* 96, 104316, 2020., Q2, HF 3.74
38. Hossein MadadiHosseinH Reza Ebrahimi, Hossein Esmailifard, Liuchen Chang, Zhe Chen, Frede Blaabjerg, ...” High boost transformer-based Z-source inverter under continuous input current profile, *IET power Electronics*, iet power Electronics 12 (14), 3716-3723, 2019, Q1, IF = 2.67, site score 5.5
39. Reza Ebrahimi, Hossein Madadi Kojabadi, Liuchen Chang, Frede Blaabjerg
40. First published: 13 September 2019 <https://doi.org/10.1049/iet-pel.2019.6151>Coupled-inductor-based high step-up DC–DC converter,” *IET Power Electronics* 12 (12), 3093-3104, 2019., Q1, HF = 3.74, site score = 5.5
41. Mohammad Ghaffarpour, Reza Ebrahimi, Hossein Madadi Kojabadi, Liuchen Chang, Josep M. Guerrero Novel high voltage gain dc–dc converter with dynamic analysis,” *IET Power Electronics*, 2021, Q1, IF =2.11
42. Mana Hoseinzadeh Lish, Reza Ebrahimi, Hossein Madadi Kojabadi, Josep M. Guerrero, Naser Nourani Esfetanaj, Liuchen ChangNovel high gain DC–DC converter based on coupled inductor and diode capacitor techniques with leakage inductance effects,” *IET Power Electronics* 13 (11), 2380-2389.2020, Q1,site score 5
43. Mehdi Fallah, Javad Modarresi, Hossein Madadi Kojabadi, Liuchen Chang, Josep M. Guerrero A modified Indirect Extraction Method for a Single-Phase Shunt Active Power Filter with Smaller DC-link Capacitor Size ,” *Accepted at Sustainable Energy Technologies and Assessments*, 2021, Vol. 45, Q1, IF = 7.6
44. Mehdi Fallah <sup>a</sup>, Hossein Madadi Kojabadi <sup>a</sup>, Ehsan Pashajavid <sup>b</sup>, Alper Nabi Akpolat <sup>c</sup>, Josep M. Guerrero <sup>d</sup>, “Compensation of Distortions in the DC-AC Power System Using Modified Vector Control Method-Based VSC Station, *Control Eng. Practice*, 2021. Q1, If = 4.051 Volume 114, September 2021, 104864
45. **H. Madadi kojabadi**, and, L. Chang,” Online induction motor rotor time constant estimation using perturbation-based extremum seeking control, *International journal of power electronics and drive systems*, vol. 13, no. 3, sept. 2022. Q2, Scopus, %54<sup>th</sup>, 2022. Site score 3.5

46. H. Abbaspour, and **H. Madadi kojabadi**,” Design and implementation of Ground Power Unit Using a Three-Level Fault-Tolerant Neutral Point Clamped Inverter, has been accepted at *International journal of Circuits Theory and Applications*, 2022.
47. Saeed Pourjafar, **Hossein Madadi Kojabadi**, Mohammad Maalandish, Mostafa Abarzadeh, Frede Blaabjerg Non-isolated coupled inductor based dc-dc converter with high voltage conversion ratio recommended for renewable applications” *Electric Power Components and Systems*, Q3
48. H. Abbaspor, **H. Madadi kojabadi**, ....,” Design and implementation of Ground Power Unit based on fault tolerant Inverter,” has been accepted at *Electric Power Systems and Components*, 2022.
49. **H. Madadi kojabadi**, “ Dither frequency effects on extreemum seeking control based of IM parameter estimation,” *Electrical Engineering*, 3 Feb. 2023.  
<https://doi.org/10.1007/s00202-023-01755-0> Q3, IF = 1.8
50. A. Ghorbani, K. varesi, **H. Madadi Kojabadi**, “ Novel dc-dc converters with reduced swithes numbers” 2022, *Electrical Eng. Journal*, Univ. of Tabriz

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### Referred Conference papers:

- G. Ahrabian, and **H. Madadi Kojabadi**, "Improving of the Performance of Brushless Dc Motor by Injecting of Demagnetizing Current." *IGIP*, Klagenfort/Austria, Conference Proceedings, PP.623-629, 1992.
- G. Ahrabian, and **H. Madadi Kojabadi** ,”Estimation of Pole Position of an Inverter Fed Permanent Magnet Synchronous Machine by an Extended Kalman Filter" *Proceedings of the 1996 IEEE International Symposium on Circuits and Systems, ISCAS*. Part 4 (of 4), May 12-15 1996, Atlanta, GA, USA, p 588-591.
- G. Ahrabian, and **H. Madadi Kojabadi**,” Estimation of Speed of an Inverter Fed IPMSM by an Extended Kalman Filter," *ELMA'93*, Varna / Bulgaria, Conference Proceedings, pp.498-503, 1993.
- **H. Madadi Kojabadi**, and G. Ahrabian,” Interior Permanent Magnet Synchronous Motor Drive without Electro-mechanical Sensors." *ELMA,96, Eight International conference on Electrical Machines and Derives*, Varna/Bulgaria, pp. 102-110, 1996.
- L. Chang, and **H. Madadi Kojabadi**,” Review of interconnection standards for distributed power generation,” *Proceedings of IEEE 2002 Large Eng. System Conf., on Power Eng. (LESCOPE02)*, Halifax, Canada, Jun, 2002, pp.36-40.
- **H. Madadi Kojabadi**, and L. Chang, “ Recent progress in sensorless vector-controlled Induction Motor drives,” *Proceedings of IEEE 2002 Large Eng. System Conf., on Power Eng. (LESCOPE02)*, Halifax, Canada, Jun, 2002, pp.80-85.
- **H. Madadi Kojabadi**, and L. Chang,” Model reference adaptive system pseudoreduced – order flux observer for very low speed and zero speed

estimation in sensorless induction motor drives," *PESC Record - IEEE Annual Power Electronics Specialists Conference*, v 1, 2002, pp. 301-308, *PESC02*, Queensland, Australia,

- L. Chang, R. Doraiswami, T. Botout, and **H. Madadi Kojabadi**," Development of a Wind Turbine Simulator for Wind Energy Conversion Systems," *IEEE 2000 Canadian Conference on Electrical and Computer Engineering*, Halifax, Canada, May 2000, pp. 550-554
- **H. Madadi Kojabadi**, L. Chang, R.. Doriaswami," Novel Adaptive Observer for Very Fast Estimation of Stator Resistance in Sensorless Induction Motor Drives" *IEEE Annual Power Electronics Specialists Conference*, 2003, pp. 1455-1459, *PESC03, Mexico*.
- **H. Madadi Kojabadi**, L. Chang, R.. Doriaswami," Effects of Adaptive PI Controller Gains on Speed Estimation Convergence and Noises at Sensorless Induction Motor Drives, pp. 263-269, 2003, Montreal *CCECE2003*
- **H. Madadi Kojabadi**, L. Chang, R.. Doriaswami," Stability Conditions of Adaptive Pseudoreduced-Order Flux Observer for Vector-Controlled of Sensorless IM Drives presented in:"*IEEE Canadian Conference on Electrical & Computer Eng., CCECE2004*, Niagra Falls, Canada.
- **H. Madadi Kojabadi**, L. Chang, "Induction motor as wind turbine simulator, presented at *MITACS 2004*, Halifax, Canada
- **H. Madadi Kojabadi**, L. Chang, A. Chao, M. Ghribi, " Optimal PI controller gains using a multi-loop multi objective genetic algorithm in IM drives," *CCECE2005*, in CD
- Kai Zhang, **H. Madadi Kojabadi**, L. Chang, , "Modelling of a converter-connected six phase PMSM Generator" Malaysia, Nov. 2005, *PEDS 2005*.
- **H. Madadi Kojabadi**, I. Gadoura, M. Ghribi, IMPLEMENTATION OF DIFFERENT CURRENT-CONTROLLED PWM STRATEGIES FOR VSI, Has been accepted in *IFAC*, 2005. Pragh, Czech Republic.
- **H. Madadi Kojabadi**, I. Gadoura, M. Ghribi, " A simple digital current control for Grid-connected inverters, " Germany, 2005, *EPE2005*, Germany.
- **H. Madadi Kojabadi**, K. Zhang, M. Ghribi," Wind turbine driven grid-connected inverter based on predictive current control technique," 20<sup>th</sup> international power system conference, *PSC2005*, Tehran-Iran, Nov. 2005
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## Research Interests

- **Smart Grid**

PVs and wind systems, storage systems such as electric vehicle (EV) batteries, and customer loads. bi-directional EV charging station, energy management system, converters,...

- **Variable Speed Motor Drives:**

Induction Motor Drives, PMSM drives, IPMSM Drives, Stepper Motor Drives, Application of Adaptive Control (Perturbation based ESC, EKF, MRAS, ...), Fuzzy Logic & Neural Network in Motor Drives, Sensorless Motor Drives, Parameter

Estimation, Modeling and Simulation of AC & DC motors, Synchronous & Induction Generators.

- **Renewable Energy Systems**

Grid Connected inverters, Hybrid energy storage systems (Wind & Solar), Distributed Generation Systems (Stability, Dynamic and Reliability), Design and Construction of small Wind turbines, Gearbox-less Wind Turbines (Multi-Pole Axial Flux Permanent Magnet Synchronous Generators (AFPMSG) driven by a wind-turbine shaft without Gearbox),

**Power Electronics:**

DC-DC Choppers, Inverters (Z-source inverters, Multilevel inverters, 4-Switch three phase inverters, Various PWM methods ...), Controlled AC to DC Converters, Switching Power Supplies

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