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Education:

Ph.D., Electrical Power Engineering, Sharif University of Technology, Tehran, Iran.

Thesis Title: "Analysis and improvement of dynamic performance and low voltage ride-through capability of DFIG-based wind turbines"

Supervisor: Dr. Mostafa Parniani

M.Sc., Electrical Power Engineering, Sharif University of Technology, Tehran, Iran.

Thesis Title: "Study the effective design parameters for three phase active filters and filter size design optimization"

Supervisor: Dr. Hossein Mokhtari

B.Sc., Electrical Engineering, Esfahan University of Technology, Esfahan, Iran.

B.SC. Project: "Design and implementation of pulsing power supply"

Research of Interest:

- **Renewable energy systems (wind power Generation, PV, ...)**
 - o Modeling and Control of grid connected renewable energy sources, Dynamic performance evaluation, Grid integration of renewable energy systems

- **Modeling and Control of Distributed power systems and dc/ac Microgrids**
- **Electrical Machines: Control and Dynamics**
- **Power system dynamics, stability and control.**
- **Application of power electronics in power systems (FACTS technologies, DG Interfaces, ...).**
- **Application of control theory in Power systems.**

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Publications

1. Journal Papers

- 1- **M. Rahimi**, "Drive train dynamics assessment and speed controller design in variable speed wind turbines", *Renewable Energy-Elsevier*, Accepted for publication.
- 2- **M. Rahimi**, "Discussion on "Virtual damping flux-based LVRT control for DFIG-based wind turbine" ", *IEEE Trans Energy Convers.*, Accepted for Publication.
- 3- **M. Rahimi**, A. Karimi, M. Fotuhi-Firuz abad, "Short Term Voltage-Based Risk Assessment by incorporating Reactive Power Adequacy", *Ain Shams Engineering Journal- Elsevier*, Accepted for Publication.
- 4- S. Tohidi, H. Oraee, M. R. Zolghadri, and **M. Rahimi**, "A control scheme to enhance low voltage ride-through of brushless doubly-fed induction generators", *Wind Energy- Wiely* (2015), Article in Press.
5. H. Mahvash, S. A. Taher, **M. Rahimi**, "A new approach for power quality improvement of DFIG based wind farms connected to weak utility grid", *Ain Shams Engineering Journal- Elsevier* (2015), Article in Press.
6. **M. Rahimi**, "Dynamic performance assessment of DFIG-based wind turbines: A review" *Renewable & Sustainable Energy Reviews-Elsevier*, Vol. 37, 2014, pp. 852–866.
7. **M. Rahimi**, M. Parniani, "Low voltage ride-through capability improvement of DFIG-based wind turbines under unbalanced voltage dips" *Electrical Power and Energy Systems*, Vol. 60, 2014, pp. 82-95.
8. **M. Rahimi**, M. Parniani, "Coordinated Control Approaches for Low-Voltage Ride-Through Enhancement in Wind Turbines With Doubly Fed Induction Generators" *IEEE Trans Energy Convers.*, Vol. 25, No. 3, Sep. 2010, pp. 873-883.
9. **M. Rahimi**, M. Parniani, "Transient Performance Improvement of Wind Turbines With Doubly Fed Induction Generators Using Nonlinear Control Strategy" *IEEE Trans Energy Convers.*, Vol. 25, No. 25, Jun. 2010, pp. 514-525.
10. **M. Rahimi**, M. Parniani, "Efficient Control Scheme of Wind Turbines with Doubly-Fed Induction Generators for Low Voltage Ride-Through Capability Enhancement" *IET Renew. Power Gener.*, 2010, Vol. 4, Iss. 3, pp. 242–252.
11. **M. Rahimi**, M. Parniani, "Grid-fault ride-through analysis and control of wind turbines with doubly fed induction generators" *Electric Power Systems Research-Elsevier*, Vol. 80, 2010, pp. 184–195.
12. **M. Rahimi**, M. Parniani, "Dynamic behavior analysis of doubly-fed induction generator wind turbines – The influence of rotor and speed controller parameters" *Electrical Power and Energy Systems-Elsevier*, Vol. 32, 2010, pp. 464–477.
13. **M. Rahimi**, M. Parniani, "Dynamic behavior and transient stability analysis of fixed speed wind turbines" *Renewable Energy-Elsevier*, Vol. 34, 2009, pp. 2613–2624

14. **M. Rahimi**, H. Mokhtari, Gh. Zafarabadi, "A New Active method in damping possible Resonance in Active Filters", *Iranian Journal of Electrical and Computer Engineering*, Vol. 7, No. 1, Winter/Spring 2008.

15. **M. Rahimi**, "Analysis and Improvement of Unbalanced Fault Ride-Through Response in DFIG-based Wind Turbines", *Journal of Energy Engineering Mangement*, Kashan University, Vol. 4, No. 1, 2014 (In Farsi).

2. Conference Papers

1. A Movahhedi, **M. Rahimi**, "PI-R controller design for rotor- and grid-side converters in doubly fed induction generators", *PSC 2014 Conference, Tehran, Iran, October 2014*, (in Farsi).

2. Z. Dehghani Arani, S. A. Taher, **M. Rahimi**, "Nonlinear controller design for improving the low voltage ride-through capability in DFIG based wind turbine", *First International Conference on Electric Engineering and Computer Science*, 2015, Iran, (in Farsi).

3. Z. Dehghani Arani, S. A. Taher, **M. Rahimi**, "Low voltage ride-through capability improvement of DFIG based wind turbine by using sliding mode control", *Second National Conf. on Management of Clean and Renewable Energies*, Hamedan, 2015.

4. H. Mokhtari, **M. Rahimi**, "A Novel Voltage Controller Design for Shunt Active Filter and DC Link Optimization", *PSC 2003 Conference, Tehran, Iran, October 2003*, (in Farsi)

5. **M. Rahimi**, H. Mokhtari, "Active Power Filter Control using space vector modulation", *ICEE Conference 2004, Ferdousi univ., Mashhad, Iran, May 2004*, (in Farsi)

6. H. Mokhtari, **M. Rahimi**, "Active Power Filter Control in Three-Phase four-wire systems using space vector modulation", *IEEE Power Electronics, Drives and Energy Systems, PEDES 2006*, December, 2006, New Delhi, India.

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Teaching Experience

Under Graduate:

- **Fundamental of Electrical Engineering II**
- **Electrical Machines 1**
- **Electrical Machines 2**
- **Special Machines**
- **Industrial Electronics**

Graduate:

- **Renewable Energy Sources**
- **Flexible AC Transmission Systems (FACTS)**

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Industrial Experiences

- Consultant of Sabaniroo Co (wind turbine manufacture in Iran), from 2010-2012.
- Study regarding the grid integration of wind turbine generators in Iran.
- Design and Simulation of Controllers for application in DFIG and limited variable speed wind turbines.
 - Analysis & Direction of Harmonic and Flicker sources in some distribution and transmission substations of Iran. (Niroo Consulting Engineers, 2004-2005).
 - Substation automation standard for 63/132/230/400 KV substations . (Niroo Consulting Engineers, 2005)
 - Dynamic Equivalency of Iran Unified Electrical Network. (Niroo Research Institute, System Operation Group, 2002)
 - Design of a D-STATCOM for reactive and harmonic compensation in distribution networks.(Power systems dynamics and control Lab., Dep. Of Elec. Engineering, Sharif University of Technology, 2004).
 - Implementation of pulse power supply, (Information and Communication Technology Institute, Isfahan University of Technology, 2001.)

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Review Member

- International Journal of Electrical Power and Energy Systems- Elsevier
- IEEE Transactions on Energy Conversion
- IEEE Transaction on Sustainable Energy

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References:

- Dr. M. Parniani, Dept. of Electrical Engineering, Sharif University of Technology, Tehran, Iran. Email: parniani@sharif.edu
- Dr. H. Mokhtari, Dept. of Electrical Engineering, Sharif University of Technology, Tehran, Iran. Email: mokhtari@sharif.edu
- Prof. M. Fotuhi Firuzabad, Dept. of Electrical Engineering, Sharif University of Technology, Tehran, Iran. Email: fotuhi@sharif.edu