
CURRICULUM VITAE

Gennadi Y. Sizov

1515 W. Wisconsin Avenue, Milwaukee, WI 53233
tel.: (414) 288-1593, mob.: (414) 526-8228, email: gennadi.sizov@mu.edu
web.: <http://www.eng.mu.edu/demerdashn/gysizov.htm>

AREAS OF SPECIAL INTEREST

1. Electric Motors in Adjustable Speed Drives
2. Analysis, Design and Modeling of Electric Machines and Drives
3. Finite Element Modeling of Electric Machinery
4. Fault Diagnostics in Electric Machines and Drive Systems
5. Power Electronics
6. Power Systems

EDUCATION

1. **Ph.D. in Electrical Engineering,** August 2010 (expected)
Marquette University, Milwaukee, WI
Area of research/interest: Electric Machine Design and Modeling,
Power Electronics, Fault Diagnostics in Electric Machines and
Drive Systems
2. **Master of Science in Electrical Engineering,** December 2007
Marquette University, Milwaukee, WI
Thesis: "Analysis, Modeling and Diagnostics of Adjacent and
Nonadjacent Broken Rotor Bars in Squirrel-Cage Induction
Machines"
3. **Bachelor of Science in Electrical Engineering,** May 2005
Marquette University, Milwaukee, WI
Major: Electrical and Electronic Engineering

ACADEMIC EXPERIENCE

1. **Instructor,** Marquette University, Department of Electrical and Computer Engineering
Electromechanical Energy Conversion, junior level course, Spring 2009
Topics Covered:
 - Fundamentals of electromechanical energy conversion
 - Principles and concepts of electronic power conditioning
 - Induction machines and drives
 - Conventional (brush-commutator type) dc machines and drives
 - Permanent magnet brushless dc machines and drives
 - Synchronous machines and drives
2. **Teaching Assistant,** Marquette University, Department of Electrical and Computer Engineering
 - Electromechanical Energy Conversion, junior level course, Spring 2006 and 2008
 - Electromagnetic Fields I, junior level course, Summer 2006
 - Electric Circuits I, sophomore level course, Fall 2006
 - Electric Circuits II, sophomore level course, Spring 2007
3. **Research Assistant**
Electric Machines and Drives Lab, Marquette University Department of Electrical and
Computer Engineering, September 2005 - present
 - Fault Diagnostics in Electric Machinery
 - Fault Tolerant Electric Machinery and Adjustable Speed Drives

Mechatronics Lab, Marquette University Department of Mechanical Engineering,
January 2005 – June 2005

- Design of analog and digital control systems for MagLev Systems

INDUSTRIAL EXPERIENCE

1. **Electrical Engineering Intern**

ABB Low Voltage Drives, Department of Research and Development, New Berlin, WI,
September 2005- August 2006

- AC drive (ACS-150) software testing

2. **Electrical Engineering Intern**

Bucyrus International, Electric Drive Upgrade Group, Milwaukee, WI, May 2003-
September 2005

- Worked on various Siemens inverter and rectifier upgrades
- Involved in the development of the inverter/rectifier power section hardware as well as the embedded software for DSP (TI C6000), FPGA (Xilinx), and CPLD (Cypress)

JOURNAL PUBLICATIONS

1. **Gennadi Y. Sizov**, Ahmed Sayed-Ahmed, Chia-Chou Yeh , and Nabeel A. O. Demerdash, “Analysis and Diagnostics of Adjacent and Nonadjacent Broken Rotor Bar Faults in Squirrel-Cage Induction Machines,” *IEEE Transactions on Industrial Electronics*, **accepted for publication**.
2. Ahmed Sayed-Ahmed, **Gennadi Y. Sizov**, and Nabeel A. O. Demerdash, “Diagnosis of Inter-turn Short Circuit for a Polyphase Induction Motor in Closed-Loop Vector Controlled Drives,” *IEEE Transaction on Industrial Applications*, **in review (first iteration)**.
3. Chia-Chou Yeh, **Gennadi Y. Sizov**, Ahmed Sayed-Ahmed, Nabeel A. O. Demerdash, Richard J. Povinelli, Edwin E. Yaz, and Dan M. Ionel, “A Reconfigurable Motor for Experimental Emulation of Stator Winding Inter-Turn and Broken Bar Faults in Polyphase Induction Machines,” *IEEE Transactions on Energy Conversion*, *IEEE Transactions on Energy Conversion*, vol. 23, no. 4, pp. 1005-1014, Dec. 2008.

CONFERENCE PUBLICATIONS

1. **Gennadi Y. Sizov**, Chia-Chou Yeh, Nabeel A. O. Demerdash, “Magnetic Equivalent Circuit Modeling of Induction Machines under Stator and Rotor Fault Conditions,” *Conference Proceedings in International Electric Machines and Drives Conference (IEMDC)*, 2009, Miami, USA, May 3-6, 2009.
2. **Gennadi Y. Sizov**, Chia-Chou Yeh, Nabeel A. O. Demerdash, “Application of Piezoelectric Sensors to Rotor Fault Diagnostics in Squirrel-Cage Induction Machines,” *Annual IEEE Industrial Applications Society Meeting*, Edmonton, Canada, October 5-9, 2008.
3. Ahmed Sayed-Ahmed, **Gennadi Y. Sizov**, and Nabeel A. O. Demerdash, “ Diagnosis of Inter-turn Short Circuit for a Polyphase Induction Motor in Closed-Loop Vector Controlled Drives,” *Annual IEEE Industrial Applications Society Meeting*, New Orleans, USA, September 23-27, 2007.
4. Chia-Chou Yeh, **Gennadi Y. Sizov**, Ahmed Sayed-Ahmed, Nabeel A. O. Demerdash, Richard J. Povinelli, Edwin E. Yaz, and Dan M. Ionel, “A Reconfigurable Motor for Experimental Emulation of Stator Winding Inter-Turn and Broken Bar Faults in Polyphase Induction Machines,” *Conference Proceedings in IEEE International Electric Machines and Drives Conference (IEMDC)*, 2007, May 2007.

PRESENTATIONS

1. “Magnetic Equivalent Circuit Modeling of Squirrel-Cage Induction Machine Under Stator and Rotor Fault Conditions,” Rockwell Automation Tech Meeting, Mequon, USA, January 27, 2009.
2. “Application of Piezoelectric Sensors to Rotor Fault Diagnostics in Squirrel-Cage Induction Machines,” Annual IEEE Industrial Applications Society meeting, Edmonton, Canada, October 7, 2008.
3. “Analysis of Effects of Adjacent and Nonadjacent Broken Rotor Cage Bars on Magnetic Field Pendulous Oscillation Patterns for Motor Fault Diagnostics,” Rockwell Automation Tech Meeting, Mequon, USA, March 27, 2007.

PROFESSIONAL AFFILIATIONS

- Active member of Eta Kappa Nu (Electrical Engineering Honor Society)
- Active member of Sigma Xi (The Scientific Research Society)
- Graduate Student Member of IEEE

PROFESSIONAL SERVICE

Journal Paper Reviewer:

IEEE Transactions on Industry Applications (IEEE-IAS)
IEEE Transactions on Industrial Electronics (IEEE-IES)
ISA International Society of Automation Transactions (ISA)

Conference Proceedings Reviewer:

Industry Applications Society (IAS) 43rd and 44th Annual Meetings
International Machines and Drives Conference (IEMDC) 2007 and 2009,
Energy Conversion Congress and Exposition (ECCE) 2009

Badger State Science and Engineering Fair 2009 - Judge

AWARDS

- Recipient of the GAANN Fellowship (Graduate Assistance in Areas of National Need), Fall 2006-present
- Marquette University College of Engineering Dean’s List: Fall 2002, Fall 2003, Spring 2003, Spring 2004
- National Dean’s List: 2001-2002, 2003-2004, 2002-2003

LANGUAGES

- Russian – mother tongue
- English – proficient