



PROGRAMME

2017 INTERNATIONAL SYMPOSIUM ON ELECTRICAL MACHINES (SME)



SME 2017

Naęczów, Poland, 18-21 June 2017

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Venue:

Venue and accommodation of SME 2017 Symposium

Centrum Szkoleniowo Wypoczynkowe CSW “Energetyk”

Nałęczów, 10 Paderewskiego, 24-150 Nałęczów, Poland



OUTLINE PROGRAMME of the SME 2017 Symposium

18 June 2017	
9.00 - 13.00	Registration and Welcome Coffee. CSW Energetyk, Nałęczów http://www.cswenergetyk.lublin.pl/
10.30 - 13.30	Workshop "PMSM real time model prototyping in FPGA application"
14.00 - 15.00	Lunch
15.00 - 16.00	<p>Opening Session</p> <ol style="list-style-type: none"> 1. Address of the Lublin University of Technology authorities <ul style="list-style-type: none"> • V-ce Rector, prof. Anna Halicka • Dean of the Faculty of Electrical Engineering and Computer Science, prof. H. D. Stryczewska 2. Address of the Chairman of the Committee on Electrical Engineering, Polish Academy of Sciences (PAN), prof. M. Łukaniszyn 3. Address of the Chairman of the Polish Society of Applied and Theoretical Electrotechnics (PTETiS), prof. K. Kluszczyński 4. Address of the representative of IEEE's Poland Section, prof. M. P. Kaźmierkowski Information about a IEEE Student Branch– mgr T. Chmielewski, Chair of Lublin IEEE Student Branch 5. Address of the President of SEP - dr inż. Piotr Szymczak
16.10 - 17.40	<p>Plenary Session I (Invited lectures)</p> <p>Session chairmen: prof. M. Łukaniszyn, prof. L. Nowak</p> <ul style="list-style-type: none"> • Tadeusz J. Sobczyk: An Algorithm of Time Domain Steady-State Analysis for Electrical Machines Accounting for Saturation • Andrzej Bytnar: Automatic evaluation method of the vibrating and technical condition of a turbogenerator stator. • Mieczysław Ronkowski, Roland Ryndzionek, Łukasz Sienkiewicz: Piezoelectric Motors, Actuators and Sensors and their Applications
17.40 - 18.10	Coffee break
18.10 - 19.10	<p>Plenary Session II</p> <p>Session chairmen: prof. K. Kluszczyński, prof. T. Sobczyk</p> <ul style="list-style-type: none"> • Uwe Schuffenhauer, Sören Miersch, Norbert Michalke, Thomas Schuhmann: Modeling and Practical Investigation of the Efficiency and Operational Behavior of Induction Machines with Die-Cast Copper Rotor

	<ul style="list-style-type: none"> • Paweł Idziak: Influence of the Structure of Electrical Machine Rotor for the Stator Deformations During Operation • Maciej Gwoździewicz, Jan Zawilak: Induced Pole Permanent Magnet Synchronous Motor
19.30 -	Welcome dinner
20.30 - 21.30	Vocal recital

19 June 2017	
7.00 - 8.30	Breakfast
9.00 - 10.40	Lecture Session I
10.40 - 11.10	Coffee break
11.10 - 12.50	Lecture Session II
13.00 - 14.00	Lunch
14.15 - 14.30	Family photo of Symposium Participants in front of CSW "Energetyk"
14.30 - 15.20	Poster Session I
15.20 - 15.40	Coffee break
15.40 - 17.30	Lecture Session III
17.30 - 18.30	Poster Session II
19.00	Barbeque + 700th Anniversary Jubilee of Lublin

20 June 2017	
7.00 - 8.30	Breakfast
9.00 - 10.40	Lecture Session IV
10.40 - 11.00	Coffee break
11.00 - 11.45	Discussion Session
11.45 - 12.45	Plenary Meeting of the Electrical Machines Section of the Polish Academy of Sciences and Symposium Steering Committee
13.00 - 14.00	Lunch
14.30 - 19.00	A sightseeing session "Walk around Nałęczów"
19.30	Gala Dinner <ul style="list-style-type: none"> • Summary of the Symposium

21 June 2017	
7.00 - 8.30	Breakfast
8.30 - 12.00	Industrial session: Departure to Puławy and visiting Zakłady Azotowe Puławy (Nitrogen Fertilisers Plant)
12.30 - 13.30	Lunch (Puławy) Closing of the Symposium

Monday, 19 June, 2017

9.00 - 10.40	<p>Lecture Session I Chairman: Marian Pasko, Mieczysław Ronkowski</p> <ul style="list-style-type: none">• Mariusz Barański, Wojciech Szelaĝ, Cezary Jędrzcza: Influence of Temperature on Partial Demagnetization of the Permanent Magnets During Starting Process of the Line Start Permanent Magnet Synchronous Motor• Maciej Gwoździewicz, Roberto Eduardo Quintal-Palomo: Induced Pole Permanent Magnet Synchronous Generator• Cezary Jędrzcza, Wojciech Szelaĝ: Analysis of the Multi-Drive Powered Permanent Magnet Synchronous Motor under Drive Fault Conditions• Piotr Bogusz, Mariusz Korkosz, Jan Prokop: The Analysis of High-Speed Multi-Pole Brushless Motor with Permanent Magnets for Hybrid Drive of Unmanned Aerial Vehicle• Wiesław Łyskawiński, Cezary Jedryczka, Wojciech Szelaĝ: Influence of Magnet and Cage Shape on Parameters of the Line Start Synchronous Motor with Powder Hybrid Rotor
11.10 - 12.50	<p>Lecture Session II Chairman: Wojciech Szelaĝ, Włodzimierz Przyborowski</p> <ul style="list-style-type: none">• Roman Niestrój, Tadeusz Białoń, Marian Pasko, Jarosław Michalak: Study of Adaptive Proportional Observer of State Variables of Induction Motor taking into Consideration the Generation Mode• Krzysztof Bieńkowski, Krzysztof Jackiewicz: The Impact of Four Phase Switched Reluctance Motor's Control Parameters on the Performance of the Drive• Marek Gołębiowski, Lesław Gołębiowski, Damian Mazur, Andrzej Smoleń: Autotransformer Rectifier Circuits with Parallel Connection without the Use of ITP Chokes – Review• Marcin Skóra: Operation of PM BLDC Motor Drives with Faulty Rotor Position Sensor• Tomasz Garbiec: Polyharmonic Strongly-Coupled Field-Circuit Model for Solid-Rotor Induction Machine

14.30 - 15.20	Poster Session I Chairman: Zdzisław Życki, Krzysztof Pieńkowski, Jan Prokop, Mariusz Jagieła
	<ul style="list-style-type: none"> • Marek Gołębiowski, Lesław Gołębiowski, Damian Mazur, Andrzej Smoleń: Rectifier Circuits with Magnetically Non-Coupled Chokes • Piotr Drozdowski, Dominik Mamcarz: Controlled Passive Filtering of Currents and Voltages Supplying Induction Motor Drives • Grzegorz Kostro, Filip Kutt, Michał Michna, Mieczysław Ronkowski: Low Speed Permanent Magnet Synchronous Generator for Vertical Axis Wind Turbine • Krzysztof Kluszczynski, Marcin Szczygieł: Study on 3-Winding System with Angular Asymmetry Part I - Current Zero-Components and 2-Axis Transformation • Krzysztof Kluszczynski, Marcin Szczygieł: Study on 3-Winding System with Angular Asymmetry Part II - Eigenvalues of Inductance Matrix and Transformation $\alpha\beta\theta$ • Tomasz Makowski, Krzysztof Kluszczynski: Dynamic Model of Hybrid Electromagnetic Launcher for Simulations in LabVIEW Environment • Rafał Piotuch, Ryszard Pałka: Dead-Beat Predictive Current Controller for PMSM • Marcin Wardach, Ryszard Pałka: Research of IPM Electrical Machine with Flux Barriers • Želmíra Ferková, Peter Bober: Magnetic Shield Optimization for the Multi-Motor Assembly • Dawid Wajnert, Bronisław Tomczuk, Dariusz Koterak: Calculation of the Magnetic Bearing Parameters • Piotr Bogusz, Mariusz Korkosz, Jan Prokop: The Analysis of Flux Characteristics of Dual-Channel BLDC Machine • Kamil Klimkowski, Mateusz Dybkowski, Szymon Antoni Bednarz: Influence of Stator and Rotor Resistances Changes to the Properties of the Fault Tolerant Vector Control of Induction Motor Drive • Kamil Klimkowski, Maciej Gwoździewicz, Mateusz Dybkowski: Analysis of the Vector Control Algorithm for New Concept of Permanent Magnet Synchronous Machines in Wide Speed Range • Marek Paweł Ciurys: Time-Stepping Finite Element Analysis of a Brushless DC Motor with PWM Speed Control

15.40 - 17.30	Lecture Session III Chairman: Ryszard Pałka, Paweł Idziak
	<ul style="list-style-type: none"> • Piotr Drozdowski: Extended Circuit Oriented Models of Induction Machines for Simulink and Spice • Jarosław Rolek: A Methodology for Electromagnetic Parameter Estimation of an Induction Motor Equivalent Circuit Based on the Load Curve Test • Jarosław Tulicki, Konrad Weinreb, Maciej Sułowicz: The Possibility of Distinguishing Rotor Cage Bar Faults in Double Squirrel Cage Induction Motors on the Basis of the Stator Current Signal • Wojciech Burlikowski, Łukasz Kohlbrenner, Zygmunt Kowalik: Hamiltonian Model Based Control Algorithm for Electromechanical Actuator
Invited occasional paper	<ul style="list-style-type: none"> • Jerzy Hickiewicz: Ignacy Mościcki – Chemist or electrician? Reflections of the 125th anniversary of Lviv School of Electrical Engineering (Ignacy Mościcki – chemik czy elektryk? Refleksje z uroczystości 125-lecia Lwowskiej Szkoły Elektrotechniki)
17.30 - 18.20	Poster Session II Chairman: Andrzej Bytnar, Piotr Drozdowski, Mieczysław Zajac
	<ul style="list-style-type: none"> • Dariusz Borkowski: Average-Value Model of Energy Conversion System Consisting of PMSG, Diode Bridge Rectifier and DPC-SVM Controlled Inverter • Tomasz Węgiel: Cogging Torque Analysis Based on Energy Approach in Surface-Mounted PM Machines • Jacek Listwan, Krzysztof Pieńkowski: Control of Five-Phase Induction Motor with Application of Second-Order Sliding-Mode Direct Field-Oriented Method • Piotr Gajewski, Krzysztof Pieńkowski: Analysis of Sliding Mode Control of Variable Speed Wind Turbine System with PMSG • Adam Biernat: Analysis of State of Operation of Asynchronous Motor with Beat Stator Slot Frequency • Wojciech Pietrowski, Konrad Górny: Wavelet Analysis of Torque at Startup of an Induction Machine Under Inter-Turn Short-Circuit • Tomasz Drabek, Paweł Dybowski, Jarosław Kozik, Tomasz Lerch, Waldemar Milej, Michał Rad: Commutation Torque Ripple Reduction in High-Speed Brushless DC Motor • Paweł Ewert: Use of Axial Flux in the Detection of Electrical

	<p>Faults in Induction Motors</p> <ul style="list-style-type: none"> • Henryk Banach: Voltage Regulation in Small Transformers • Jarosław Domin, Łukasz Kutyna: Monitoring Acceleration Process of Missile in the Hybrid Electromagnetic Launcher with Use of FPGA Module • Krzysztof Ludwinek: A Simple Way of Determining of Stator-to-Field Winding Mutual Inductance Functions of a Salient Pole Synchronous Generator • Zbigniew Goryca, Sebastian Różowicz: Design and Tests of Generators for Micro Hydro Plants • Krzysztof Kolano: Lift door follow-up drive system with a PMSM motor • Karol Fatyga, Dariusz Zieliński: Comparison of main control strategies for DC/DC stage of bidirectional vehicle charger
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Tuesday 20 June, 2017

9.00 - 10.40	<p>Lecture Session IV Chairman: Tadeusz Glinka, Jan Zawilak</p>
	<ul style="list-style-type: none"> • Jose Gregorio Ferreira, Adam Warzecha: An Application of Machine Learning Approach to Fault Detection of Synchronous Machine • Natalia Radwan-Pragłowska, Dariusz Borkowski, Tomasz Węgiel: Model of Coreless Axial Flux Permanent Magnet Generator • Mieczysław Zając, Maciej Sułowicz: Detection of Coil Shorting in an Induction Motor by Means of Wavelet Detectors Based on Orthogonal Legendre Polynomials • Mariusz Jagieła, Marcin Kulik: Chaotic Behavior of New Nonlinear Electromagnetic Microgenerator Harvesting Energy from Mechanical Vibrations • Agnieszka Banach, Witold Mazgaj, Zbigniew Szular: Textures of Dynamo Steel Sheets