

PRELIMINARY LIST OF SPECIAL SESSIONS EPE-PEMC 2010

	Chairman of session	Title of session	Papers and authors	Comments
1	Manfred Schrödl Vienna University of Technology, Institute of Electrical Drives and Machines, Austria	Sensorless Control of PM Synchronous Motors at Low Speed and Standstill	<p>1. J. Arellano, C.Gerada, G.Asher and M. Sumner, "Inductance characteristics of PMSMs and their impact on saliency-based sensorless control", University of Nottingham, UK</p> <p>2. J.Wisniewski, P.Dobron and W.Koczara, "A Sensorless position detection and control of the permanent magnet motor by HPI method at extended range of low speed", Warsaw University of Technology, Poland</p> <p>3. W.Staffler and M.Schroedl, "Extended mechanical observer structure with load torque estimation for sensorless dynamic control of permanent magnet synchronous machines", Vienna University of Technology, Institute of Electrical Drives and Machines, Austria</p> <p>4. N. Bianchi, S. Bolognani and A. Faggion, "Rotor design arrangement of SPM motors for the sensorless control at low speed and standstill", Department of Electrical Engineering, University of Padova, Italy</p> <p>5. P. Landsmann, D. Paulus, P.Stolze and R. Kennel, "Saliency Based Encoderless Predictive Torque Control without Signal Injection for a Reluctance Synchronous Machine", TU Munich, Institute for Electrical Drive Systems and Power Electronics, Germany</p>	
2	Ahmed Zobaa, Brunel University, UK Gerard Hurley NUI Galway, Ireland	Real Time Simulations for Power Electronics and Machines Control	<p>1. O. Craciun, A. Florescu, S. Bacha, I. Munteanu, A. I. Bratcu and B. Raison, "Hardware-in-the-loop testing of PV control systems using RT-Lab simulator"</p> <p>2. Minh C. Ta, and Christian Dufour, "Real-Time Simulation and Control of Reluctance Motor Drives for High Speed Operation with Reduced Torque Ripple"</p> <p>3. E. Ormaetxea, E. Ibarra, J. Andreu, I. Kortabarria, and M.</p>	

			<p>Santos, "FPGA Based Real Time Simulation of a Matrix Converter"</p> <p>4. Frédéric COLAS, Fouad SALHA, and Xavier Guillaud, "Power Hardware In the Loop real-time simulation of an LC output filter inverter"</p> <p>5. Tarek Ould Bachir and Jean-Pierre David, "FPGA-Based Real-Time Simulation of State-Space Models Using Floating-Point Cores"</p>	
3	<p>Elena Lomonova, J.W. Jansen Electromechanics and Power Electronics group, Department of Electrical Engineering, Eindhoven University of Technology, The Netherlands</p>	<p>PM Linear Drives and Actuators</p>	<p>1. Y. Amara, G. Barakat and B. Dakyo, "Analytical Prediction of Eddy-Current Loss in Flat Permanent-Magnet Linear Machines," Groupe de Recherche en Electrotechnique et Automatique du Havre - EA 3220, Department of Electronic and Electrical Engineering, University of Le Havre, France</p> <p>2. A. Verdel, F. Sahin, J.C. Compter, E.A. Lomonova, "Linear induction motor for a novel magnetically levitated system," Philips Applied Technologies / Eindhoven University of Technology, Eindhoven, the Netherlands</p> <p>3. W.R. Canders, "New Linear Drive Concepts by Taking Advantage of Soft Magnetic Composites", Institute for Electrical Machines, Traction and Drives, Technical University of Braunschweig, Germany</p> <p>4. N.H. Vrijsen, J.W. Jansen, E.A. Lomonova, "Comparison of voice-coil actuators and reluctance actuators for high-precision systems", Eindhoven University of Technology, Eindhoven, the Netherlands</p> <p>5. Phong C. KHONG, Roberto LEIDHOLD and Peter MUTSCHLER, "Magnetic guiding and capacitive sensing for a passive vehicle of a long-primary linear motor" Department of Power Electronics and Control of Drives, Technische Universität Darmstadt, Germany</p>	
4	<p>Dusan Maga FM TnUAD Trencin,</p>	<p>Numerical Methods in Power Electronics and Electrical</p>	<p>1. Jan Leuchter*, Vladimir Rerucha* and Ahmed F. Zobaa**, "Mathematical Model and Modeling of Photovoltaic Systems", *University of Defence/Department of Electrical</p>	

	Slovakia	Engineering	<p>Engineering, Brno, Czech Republic, **University of Exeter/Renewable Energy Group, Penryn, United Kingdom,</p> <p>2. Michal Dub and Rudolf Jalovecký, "DC Motor Experimental Parameter Identification using the Neelder-Mead Simplex Method", University of Defence, Brno, Czech Republic</p> <p>3. Karel Hruška, Vladimír Kindl and Roman Pechánek, "Concept, Design and Coupled Electro-thermal Analysis of New Hybrid Drive Vehicle for Public Transport", University of West Bohemia, Pilsen, Czech Republic,</p> <p>4. Fabo Peter, Pavlíková Soňa, "GSIM – Software for Simulation in Electronics", AD University of Trencin, Slovakia</p> <p>5. Damijan Miljavec*, Dušan Maga**, "Additional Losses in Permanent Magnet Brushless Machines, *University of Ljubljana, Slovenia, ** AD University of Trencin, Slovakia</p> <p>6. Balazs Czech*, Rick van Kessel*, Pavol Bauer*, Jon Abraham Ferreira*, Ambroise Wattez**, „Energy Harvesting Using Dielectric Elastomer“, *Department Electrical Sustainable Energy, TU Delft, Delft, The Netherlands, **Single Bouy Moorings Offshore, Monaco, Principality of Monaco</p>	
5	Pavol Bauer, TU Delft V. Fedak, TU Kosice	E-learning and Modern Educational Methods in Education of Power Electronics and Motion Control	<p>1. P.Bauer, V Fedak: Education for Power Electronics and Motion Control (PEMC)</p> <p>2. Andreja Rojko, Darko Hercog, Karel Jezernik: PRACTICAL BLENDED LEARNING APPROACH IN MECHATRONICS</p> <p>3. Rostislav Huzlík , Vítězslav Hájek , Ondřej Vítek; Pavol Bauer, : Virtual laboratory of DC machine and Automotive electrical engineering</p> <p>4.Thomas Zurcher: Practical distance self study in a virtual classroom with remote laboratories</p>	

			5. Durovsky, Fedak: Integrated Mechatronic Systems Laboratory	
6	Marco Riva Universita degli Studi di Milano, Italy	Power Distribution and Energy Management systems : smart solution and methods	<p>1. "A Multiagent System for Efficient Electrical Energy Management on the Palamede Satellite", Francesco Amigoni¹, Stefano Gualandi¹, Guido Sangiovanni², ¹Dipartimento di Elettronica e Informazione - Politecnico di Milano (Italy), ²Italian Space Agency</p> <p>2. "Bio-inspired techniques for energy optimization in wireless sensor networks", F.Grimaccia and A.Gandelli, Energy Department - Politecnico di Milano (Italy)</p> <p>3. "Multi-Agent Control of PEBB Based Power Electronic Systems", Herbert L. Ginn III¹, Ferdinanda Ponci², ¹Department of Electrical and Computer Engineering, Mississippi State University, USA, ² Institute for Automation of Complex Power Systems, RWTH Aachen University, Germany</p> <p>4. "Evolution of naval and terrestrial power systems", A. Monti¹, F. Ponci¹, R. Dougal², ¹Institute for Automation of Complex Systems E.ON Energy Research Center – RWTH Aachen University, ²Department of Electrical Engineering University of South Carolina Columbia, SC, USA</p>	
7	Hitoshi Hayashiya East Japan Railway Company, Tokyo	Leading-Edge Trend of Railways – Eco-Friendliness and Standardization, part I	<p>1. "Traction in Europe", Prof. Marcel Jufer, Swiss Federal Institute of Technology Lausanne, SWITZERLAND</p> <p>2. "Enhancement of Low-Frequency System Stability of 60-Hz Railway Power Grids", Carsten Heising, Roman Bartlet, Martin Oettmeier, Volker Staudt, Andreas Steimel, Ruhr-University Bochum, GERMANY</p> <p>3. "Future prospects of high speed railway transportation system in China", Dr. Han Tongxin, China Academy of Railway Sciences, Locomotive & Research Institute</p> <p>4. "Onboard Storage in Japanese Electrified Lines", Ogasa Masamichi, Railway Technical Research Institute, Tokyo,</p>	

			<p>JAPAN</p> <p>5. "Survey of power electronics and electric machine application for on-site railway power system in Japan to realize eco-friendly transportation", Dr. H.Hayashiya, East Japan Railway Company, Tokyo, Dr. Agaki, Dr. Konishi, Dr. Okui, Railway Technical Research Institute, Tokyo,JAPAN</p>	
8	Satoru Hatsukade Railway Technical Research Institute, Tokyo, Japan	Leading-Edge Trend of Railways – Eco-Friendliness and Standardization, part II	<p>1. "Research and Standardization in Rail Energy Saving and Billing", Gianosvaldo Fadin, FAR Systems SpA, Verona, Italy</p> <p>2. "Standardization of system architectures for onboard auxiliary power supply systems", B. Laska*, P. Steimer, M. Debruyne, L. Cecchi, R. Klein, M. Kunz, Ch. Laurencin, M. Weytens, *Siemens AG, Nuremberg, Germany</p> <p>3. "Reliability of power converters – lifetime cycle approach", Tomoki Watanabe, Noriko Fukuda, Railway Technical Research Institute, Tokyo, Japan</p>	
9	Hugo Valderrama-Blavi Universitat Rovira i Vergili, Tarragona, Spain	Distributed Generation Systems: Architectures, Topologies and Control	<p>1. "EMI Filter sizing in transformerless PV systems based on full bridge inverter", E. Gubia, P. Sanchis, J.Lopez, A. Ursua, L. Marroyo, Universidad Publica de Navarra, Spain</p> <p>2. "A novel distributed photovoltaic power architecture using advanced Li-Ion batteries", J.F. Reynaud, O.Gantet, P. Aloisi, B. Estibals, C. Alonso, LAAS-CNRS, Toulouse, France</p> <p>3. "Digital current mode and voltage converter based on the FPGA technology", M.Truntich, M. Milovanovich, E. Vidal, C.E. Carrejo, C. Alonso, Univerza v Mariboru, Slovenia, LAAS-CNRS, Toulouse, France, Universitat Rovira i Virgili, Tarragona, Spain</p> <p>4. "Sizing factor design of a single inverter based PV grid-connected systems", G. Velasco, R. Pique, F. Guinjoan, F. Casellas, Universitat Politecnica de Catalunya, Barcelona, Spain</p>	

			<p>5. "Increased dynamics adaptor to incorporate energy sources in PV-based DC microgrids", J.M. Bosque, H. Valderrama-Blavi, M. Munoz, X. Maixe, P. Garces, Universitat Rovira i Virgili, Tarragona, Spain</p> <p>6. "Why a sliding mode control methodology needed for power converters", L. Martinez-Salamero, J. Calvente, R. Giral, A. Cid-Pastor, V.I. Utkin, Ohio State University, USA, Universitat Rovira i Virgili, Tarragona, Spain</p>	
10	Zdenek Peroutka University of West Bohemia in Pilsen, Czech Republic	Smart Drives	<p>1. "MRAS Sensorless techniques for high performance liner induction motor drives", M. Pucci, A. Sferlazza, G. Vitale and F. Alonge, I.S.S.I.A.-C.N.R., Istituto Studi Sistemi Intelligenti per l'Automazione, Italy</p> <p>2. "Experimental verification of energy saving position control algorithm applied to the drives with PMSM", J. Vittek, P.Bris, I. Skalka, R. Filka, P. Minarech and J. Faber, University of Žilina, Slovakia</p> <p>3." Dynamic emulation of mechanical loads – position control approach", M. Rodic, K. Jezernik and M. Trlep, University of Maribor, Slovenia</p> <p>4. "Sensorless control of permanent magnet motor with a simple position controller targeted for low-performance MCUs", P.Štekl¹, Z. Peroutka² and P.Glasblum³, ¹Embedded Spin Control, Ltd., ²University of West Bohemia in Pilsen, ³Freescale Semiconductor, Inc, Czech Republic</p> <p>5. "New generation of trams with gearless wheel PMSM drives: From simple diagnostics to sensorless control", Z.Peroutka¹, K. Zeman¹, F. Krus¹, and F.Kosta², ¹University of West Bohemia in Pilsen, ²Škoda Electric, Czech Republic</p>	
11	Kay Hameyer RWTH Aachen University Germany	Electrical Motor Drives for Electro Mobility	<p>1. "New Design and Control Aspects for Electric Vehicle Drives", W. R. Canders, G. Tareilus, I. Koch, H. May, Institute of Electrical Machines, Drives and Train Systems, TU Braunschweig</p> <p>2. "Electric Vehicle Drive Trains: From the Specification</p>	

			<p>Sheet to the Drive-Train Concept”, M. Felden, P. Butterling, P. Jeck, L.Eckstein, K. Hameyer, Institute of Electrical Machines, RWTH Aachen University, Germany</p> <p>3. “Development and Control of an Integrated Distributed Inverter for a Fault Tolerant Five-Phase Switched Reluctance Traction Drive”, M. Hennen, M. Niessen, C. Heyers, H. Brauer, R. De Doncker, Institute for Power Electronics and Electrical Drives, RWTH Aachen University, Germany</p> <p>4. “Towards Low Audible Noise Drive for FEV Application”, D. Franck, M. van der Giet, K. Hameyer, Institute of Electrical Machines, RWTH Aachen University, Germany</p> <p>5. “Efficient battery models for the design of EV drive train”, J. Kowal, J. Gerschler, C. Schaeper, T. Schoenen, D. U. Sauer, Institute for Power Electronics and Electrical Drives, RWTH Aachen University, Germany</p> <p>6. P.Bauer, J.Doppler, N.Stembridge, Yi Zhou, “Possibility and Consequence of Fast Charging of EV”</p>	
12	<p>Tomoki Yokoyama Department of Robot and Mechatronics, School of Science and Technology for Future Life, Tokyo Denki University, Japan</p>	<p>Distribution Systems and Green Energy I</p>	<p>1. “Characteristics Analysis of Three-Phase Diode Rectifier Isolated by Transformer with Delta-Star Windings on Rectangular-Voltage-Fed Distribution System”, Minoru Kito, Takaharu Takeshita (Nagoya Institute of Technology), Yasuyuki Nishida (Chiba Institute of Technology)</p> <p>2. “Doubly Fed Induction Generator for Wind Power Generation using Synchronous Rectifier”, Noriyuki Kimura*, Takashi Koya*, Kenichi Nakatani*, Toshimitsu Morizane* and Yasuyuki Nishida** *Osaka Institute of Technology, Electrical and Electronic Systems Dept., Asahi-ku 5-16-1, Osaka, Japan, e-mail: n.kimura@ieee.org ** Dept. of Electric, Electronics and Computer Engineering, Chiba Institute of Technology 2-17-1 Tsudanuma, Narashino, Chiba, JAPAN, e-mail: nishida_yas@nifty.com</p>	

			<p>3. "Digital Control Method for 100kHz Single Phase Utility Interactive Inverter with FPGA based Hardware Controller", Takahiro Saigusa*, Tomoki Yokoyama* *TOKYO DENKI UNIVERSITY 2-2, Nishiki-cho, Kanda, Chiyoda-ku, Tokyo, Japan</p> <p>4. "Evaluation of Total Loss for an Inverter and Motor by Applying Modulation Strategies", Jun-ichi Itoh, Takumi Ogura, Nagaoka University of Technology Department of Electrical, Electronics and Information Engineering, e-mail: itoh@vos.nagaokaut.ac.jp takumi94@stn.nagaokaut.ac.jp</p> <p>5. "Investigation on Resolution of Initial Position Estimation for IPMSM", Zhaofeng Li and Atsuo Kawamura, Department of Electrical and Computer Engineering Yokohama National University 79-5 Tokiwadai, Hodogaya-ku, Yokohama, 240-8501, Japan {lzf, kawamura}@kawalab.dnj.ynu.ac.jp</p>	
13	Fujio Kurokawa Nagasaki University, Japan	Distribution Systems and Green Energy II	<p>1. "A Novel Motor Surge Voltage Suppression Method with Surge Energy Regeneration", Toshihisa Shimizu and Nakamura Masanori</p> <p>2. "Analysis of Loss of Receiving Transformer Caused by Harmonic Current and Voltage for Loss Reduction", Chiharu Sasaki, Hirohito Funato, Yuki Chiku and Satoshi Ogasawara</p> <p>3. "A New Fast Digital PID Control DC-DC Converter", Fujio Kurokawa, Yuki Maeda, Tsukasa Takahashi, Kouta Bansho, Toru Tanaka and Keiichi Hirose</p> <p>4. "Sliding Mode Agent-Based Control of Parallel Buck Converters", D. T. Sepsi, J. Hamar, R. K. Jordan</p> <p>5. "Evaluation of Novel Model Digital Control DC-DC Converter", Fujio Kurokawa, Junya Sakemi, Tsukasa Takahashi, Kouta Bansho, Toru Tanaka and Keiichi Hirose</p>	
14	Milutin Jovanovic Northumbria University,	Wind Energy Conversion Systems	<p>1. "Analysis of design variations in brushless doubly-fed reluctance generators for wind turbine applications", D.G.</p>	OK

	Newcastle upon Tyne, UK		<p>Dorell, University of Technology Sydney, Australia, R.E. Betz, University of Newcastle, Australia, M. Jovanovic, Northumbria University, Newcastle upon Tyne, UK</p> <p>2. "Novel control scheme for wind generation with energy storage supplying a given demand power", M. Fazeli, G. Asher, University of Nottingham, UK</p> <p>3. "A wind park emitting characteristic and non-characteristic harmonics", M. Bollen et al, Lulea University of Technology, Skelleftea, Sweden University</p> <p>4. "Current source converter topologies for wind turbine applications", A.Nikolic, Insitute "Nikola Tesla", Belgrade, Serbia, B. Jeftenic, University of Belgrade, Serbia</p> <p>5. "Fixed speed wind turbine topology based on actively damped PMSG", S.Grabic, N.Celanovic, V.Katic, University of Novi Sad, Serbia</p>	
15	Eberhard Waffenschmidt Philips Technologie GmbH, Aachen, Germany	Wireless Power Transmission	<p>1. "The Qi Wireless Power Standard", Dries van Wageningen, Philips Research, Aachen, Germany Toine Staring, Philips Applied Technology, Eindhoven, The Netherlands</p> <p>2. "Comparative Study on Power Conversion Methods for Wireless Battery Charging Platform", W.P. Choi, W.C. Ho, X. Liu, Convenientpower HK Ltd. Hong Kong, China and S.Y.R. Hui, City University of Hong Kong, China</p> <p>3. "Shielding properties of soft-magnetic layers for planar inductors", Eberhard Waffenschmidt, Philips Research, Aachen, Germany</p> <p>4. "Inductive Power Transmission System with Stabilized Output Voltage using Local Primary and Secondary-Side Control", Peter Wambsganss, Dominik Huwig, RRC power solutions GmbH, Homburg, Germany</p>	OK