

IEEE IEMDC 2017

Schedule of Events & Conference Advance Program

Time	Sunday, May 21 st , 2017
09:00 am – 12:00 pm	Tutorial 1 - Flux modulation machines-- from Principle, Features to Topologies (Concerto A)
09:00 am – 12:00 pm	Tutorial 2 - Design of Special PM Machines using FEA with Insights on Flux Switching and PM-assisted Machine Types (Concerto B)
09:00 am – 12:00 pm	Tutorial 3 - Design for Manufacturing of Permanent Magnet Assemblies and Electric Machines – Combined Theoretical and Practical Approach (Concerto C)
12:00pm-1:00 pm	Lunch Break (ON YOUR OWN)
1:00 pm - 4:00 pm	Tutorial 4 - Motoring, Generating, Simulation & Test Results for the Current BWM i3 Electric Vehicle Traction Machine (Concerto A)
1:00 pm - 4:00 pm	Tutorial 5 – High Performance Multiphysics Design for Electrical Machines (Concerto B)
1:00 pm - 4:00 pm	Tutorial 6 - Advanced Variable Frequency Drive Controller Design, Testing, and UL1741 SA Pre-certification with Hardware in the Loop (HIL) (Concerto C)
6:00 pm – 9:00 pm	Conference Reception
12:00 pm – 5:00 pm	Conference Registration
09:00 am – 04:00 pm	Exhibits Setup

Time	Monday, May 22 nd , 2017			
7:00 am- 8:00 am	Continental Breakfast (Symphony IV and Concerto D)			
8:00 am- 8:45 am	Opening Session – (Symphony I & II)			
8:45 am -10:00 am	Oral Session 1- MO11 Permanent Magnet Machines I Chairs: Ronghai Qu and Rafal Jastrzebski (Symphony I)	Oral Session 2- MO12 Synchronous Machines I Chair: Edson C. Bortoni and Jie Wu (Symphony II)	Oral Session 3-MO13 Induction Motor Drives I Chairs: Andrea Cavagnino and Keiichiro Kondo (Concerto A)	
	Oral Session 4- MO14 Magnetless or Reduced Magnet Machines for Emerging Appl. I Chairs: James L. Kirtley and Christopher H.T. Lee (Concerto B)	Oral Session 5- MO15 Drives for Transportation I Chairs: Luca Solero and Kiruba Haran (Concerto C)	Oral Session 6- MO16 Simulation Technology for Motors I Chairs: Marius Rosu and Mohmoud Amin (Picasso)	
10:00 am- 10:30 am	Coffee Break (Foyer I & II)			
10:00 am- 5:00 pm	Exhibits Open			
10:30 am-12:00 pm	Poster Sessions (Symphony III)			
	Poster Session 1	MP11	Synchronous Machines II	Chair: Jie Wu Chair: Yumin Xiao
	Poster Session 2	MP12	Induction Machines I	Chair: Andrea Cavagnino Chair: Soumia El Hani
	Poster Session 3	MP13	Design Related Problems I	Chair: David Lowther Chair: Dingsheng Lin
	Poster Session 4	MP14	Bearingless Motors I	Chair: Junichi Asama Chair: Eric Loren Severson

	Poster Session 5	MP15	High Speed Electrical Machines and Drives I	Chair: Christophe Espanet Chair: Bulent Sarlioglu
12:00 pm- 1:00 pm	Lunch Break (Symphony IV & Concerto D)			
1:00 pm- 2:30 pm	Poster Sessions (Symphony III)			
	Poster Session 6	MP21	Permanent Magnet Machines II	Chair: Masatsugu Takemoto Chair: Kent Davey
	Poster Session 7	MP22	Synchronous Motor Drives I	Chair: Yumin Xiao Chair: Yves Perriard
	Poster Session 8	MP23	Magnetless or Reduced Magnet Machines for Emerging Applications II	Chair: James L. Kirtley Chair: Christopher H.T. Lee
	Poster Session 9	MP24	Motors for Transportation I	Chair: Takashi Kosaka Chair: Gurakuq Dajaku
	Poster Session 10	MP25	Condition Monitoring, Noise and Vibration I	Chair: Hiroya Sugimoto Chair: Yang Hu
2:30 pm- 3:00 pm	Coffee Break (Foyer I & II)			
3:00 pm- 4:45 pm	Oral Session 7- MO21 Permanent Magnet Machines III Chairs: Gianmario Pellegrino and Kazuto Sakai (Symphony I)		Oral Session 8- MO22 Synchronous Machines III Chairs: Jie Wu and Edson C. Bortoni (Symphony II)	
	Oral Session 10- MO24 Synchronous Motor Drives II Chairs: Yves Perriard and Haran Karmaker (Concerto B)		Oral Session 11- MO25 Design Related Problems II Chairs: Hiroya Sugimoto and Dingsheng Lin (Concerto C)	
	Oral Session 9- MO23 Induction Machines II Chairs: Soumia El Hani and Andrea Cavagnino (Concerto A)		Oral Session 12- MO26 Condition Monitoring, Noise and Vibration II Chairs: Dan Ionel and Rafal Wrobel (Picasso)	
6:00 pm- 6:30 pm	Busses to Conference Dinner (Motor lobby)			
7:00 pm- 11:00 pm	Conference Dinner (OFF Premises)			

Time	Tuesday, May 23 rd , 2017			
7:00 am- 8:00 am	Continental Breakfast (Symphony IV and Concerto D)			
8:00 am- 10:00 am	Oral Session 13- TO11 Permanent Magnet Machines IV Chairs: Masatsugu Takemoto and Yves Perriard (Symphony I)		Oral Session 14- TO12 Reluctance Machines I Chairs: Kan Akatsu and Takashi Kosaka (Symphony II)	
	Oral Session 16- TO14 High Speed Electrical Machines and Drives II Chairs: Christophe Espanet and Thomas Wu (Concerto B)		Oral Session 17- TO15 Motors for Transportation II Chairs: Osama Mohammed and Gurakuq Dajaku (Concerto C)	
	Oral Session 15- TO13 Special Machines, Sensors and Actuators I Chairs: Nobuyuki Kurita and Chris Gerada (Concerto A)		Oral Session 18- TO16 Condition Monitoring, Noise and Vibration III Chairs: Gianmario Pellegrino and Kiruba Haran (Picasso)	

10:00 am- 10:30 am	Coffee Break (Foyer I & II)			
10:00 am- 5:00 pm	Exhibits Open			
10:30 am-12:00 pm	Poster Sessions (Symphony III)			
	Poster Session 11	TP11	Permanent Magnet Machines V	Chair: Haran Karmaker Chair: Babak Fahimi
	Poster Session 12	TP12	Induction Machines III	Chair: Yumin Xiao Chair: Bernd Ponick
	Poster Session 13	TP13	Special Machines, Sensors and Actuators II	Chair: Chris Gerada Chair: Ahmed Mohamed
	Poster Session 14	TP14	Optimization for Electrical Machines I	Chair: Mohmoud Amin Chair: Dionysios Aliprantis
Poster Session 15	TP15	Drives for Transportation II	Chair: Kiruba Haran Chair: Nicola Bianchi	
12:00 pm- 1:00 pm	Lunch Break (Symphony IV & Concerto D)			
1:00 pm- 2:30 pm	Plenary Session (Symphony I & II)			
1:00 pm- 2:30 pm	Poster Sessions (Symphony III)			
	Poster Session 16	TP21	Reluctance Machines II	Chair: Kan Akatsu Chair: Yilmaz Sozer
	Poster Session 17	TP22	Optimization for Electrical Machines II & Simulation Technology for Motors II	Chair: Katsumi Yamazaki Chair: Xiao Li
Poster Session 18	TP23	Condition Monitoring, Noise and Vibration IV & Magnetless or Reduced Magnet Machines for Emerging Applications II	Chair: Marius Rosu Chair: Xiao Li	
2:30 pm- 3:00 pm	Coffee Break (Foyer I & II)			
3:00 pm- 5:00 pm	Oral Session 19- TO21 Permanent Magnet Machines VI Chairs: Kent Davey and Ronghai Qu (Symphony I)	Oral Session 20- TO22 Synchronous Motor Drives III Chairs: Luca Solero and David Lowther (Symphony II)	Oral Session 21- TO23 Design Related Problems III Chairs: Yang Hu and Nicola Bianchi (Concerto A)	
	Oral Session 22- TO24 Bearingless Motors II Chairs: Junichi Asama and Wolfgang Gruber (Concerto B)	Oral Session 23- TO25 Optimization for Electrical Machines III Chairs: Dionysios Aliprantis and Hiroyuki Sano (Concerto C)	Oral Session 24- TO26 High Speed Electrical Machines and Drives III Chairs: Tarek Youssef and Bulent Sarlioglu (Picasso)	
5:00 pm - end	IEEE Electric Machines and Drives Committees and Working Groups - Information and Networking Session (Symphony I Ballroom) Representatives of the executive committees from the IEEE power sister societies: PES, IAS, PELS, and IES will provide information and updates on their organization and activities, including working groups, and contributions to conferences and transactions. Both IEEE members and non-members are welcome to attend.			

Time	Wednesday, May 24 th , 2017			
7:00 am- 8:00 am	Continental Breakfast (Symphony IV and Concerto D)			
8:00 am -10:00 am	Oral Session 25- WO11 Permanent Magnet Machines VII Chairs: Mahmoud Amin and Ronghai Qu (Symphony I)	Oral Session 26- WO12 Synchronous Motor Drives IV Chairs: Rafal Jastrzebski and Nobuyuki Kurita (Symphony II)	Oral Session 27- WO13 Induction Motor Drives II Chairs: Somia El Hani and Kazuto Sakai (Concerto A)	
	Oral Session 28- WO14 Bearingless Motors III Chairs: Wolfgang Gruber and Hiroya Sugimoto (Concerto B)	Oral Session 29- WO15 Optimization for Electrical Machines IV Chairs: Babak Fahimi and Katsumi Yamazaki (Concerto C)	Oral Session 30- WO16 High Speed Electrical Machines and Drives IV Chairs: Bulent Sarlioglu and Thomas Wu (Picasso)	
10:00 am- 10:30 am	Coffee Break (Foyer I & II)			
10:00 am- 5:00 pm	Exhibits Open			
10:30 am-12:00 pm	Poster Sessions (Symphony III)			
	Poster Session 19	WP11	Permanent Magnet Machines VIII	Chair: Erick Loren Severson Chair: Keiichiro Kondo
	Poster Session 20	WP12	Synchronous Motor Drives V	Chair: Rafal Jastrzebski Chair: David Lowther
	Poster Session 21	WP13	Design Related Problems IV	Chair: Dingsheng Lin Chair: Thomas Wu
	Poster Session 22	WP14	Simulation Technology for Motors III	Chair: Xiao Li Chair: Yang Hu
	Poster Session 23	WP15	Condition Monitoring, Noise and Vibration V	Chair: Dan Ionel Chair: Nobuyuki Kurita
12:00 pm- 1:00 pm	Lunch Break (Symphony IV & Concerto D)			
1:00 pm- 2:30 pm	Poster Sessions (Symphony III)			
	Poster Session 24	WP21	Permanent Magnet Machines IX	Chair: Masatsugu Takemoto Chair: Nicola Bianchi
	Poster Session 25	WP22	Reluctance Machines III	Chair: Yilmaz Sozer Chair: Luca Solero
	Poster Session 26	WP23	Special Machines, Sensors and Actuators III	Chair: Chris Gerada Chair: Kiruba Haran
	Poster Session 27	WP24	Induction Motor Drives III	Chair: Kazuto Sakai Chair: Rafal Wrobel
	Poster Session 28	WP25	High Speed Electrical Machines and Drives V & Condition Monitoring, Noise and Vibration VI	Chair: Hiroyuki Sano Chair: Thomas Wu
2:30 pm- 3:00 pm	Coffee Break (Foyer I & II)			
3:00 pm- 5:00 pm	Oral Session 31- WO21 Induction Machines IV Chairs: Bernd Ponick and Erick Loren Severson (Symphony I)	Oral Session 32- WO22 Reluctance Machines IV Chairs: Yilmaz Sozer and Babak Fahimi (Symphony II)	Oral Session 33- WO23 Special Machines, Sensors and Actuators IV Chairs: Chris Gerada and Rafal Wrobel (Concerto A)	
	Oral Session 34- WO24 Motors for Transportation III	Oral Session 35- WO25	Oral Session 36- WO26	

	Chairs: Ahmed Arshan Khan and Takashi Kosaka (Concerto B)	Simulation Technology for Motors IV Chairs: Katsumi Yamazaki and Hiroyuki Sano (Concerto C)	Condition Monitoring, Noise and Vibration VII Chairs: Dan Ionel and Nicola Bianchi (Picasso)
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5:00 pm - 5:30 pm	Closing Session and Best Poster Award Presentation (Symphony I & II)
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Technical Program

OPENING SESSION Monday, May 22, 2017 8:00 AM- 8:45 AM	(Symphony I & II)
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ORAL SESSION MO11 Monday, May 22, 2017 8:45 AM-10:00 AM	Permanent Magnet Machines I Ronghai Qu, Rafal Jastrzebski (Symphony I)
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8:45 AM-9:10 AM	MO111	Baker, Nick; Kulan, Mehmet Newcastle University, United Kingdom A Thermal Equivalent Circuit to Quantify the Effect of Thermal Paste on Heat Flow Through a PM Machine
9:10 AM-9:35 AM	MO112	Huo, Yongsheng; Qu, Ronghai; Gao, Yuting; Jia, Shaofeng; Xinggang Fan State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan 430074, China Design of a Linear Vernier Permanent Magnet Machine with High Thrust Force Density and Low Thrust Force Ripple
9:35 AM-10:00 AM	MO113	Ma, Jie; Zhu, Zi-Qiang University of Sheffield, United Kingdom Magnet Eddy Current Loss Reduction in a 3-slot 2-pole Permanent Magnet Machine

ORAL SESSION MO12 Monday, May 22, 2017 8:45 AM-10:00 AM	Synchronous Machines I Edson C. Bortoni, Ahmed Mohamed (Symphony II)
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8:45 AM-9:10 AM	MO121	Misir, Onur; Spyridonidis, Ioannis; Bothmann, Fabian; Dreyer, Malte; Ponick, Bernd Leibniz Universität Hannover, Germany Performance Analysis of Synchronous Machines after Disconnecting Stator Coils
9:10 AM-9:35 AM	MO122	Wisniewski, Teodor (1,2); Vannier, Jean-Claude (1); Lorcet, Bruno (1); Saint-Michel, Jacques (2); Jannot, Xavier (2) 1: Group of electrical engineering-Paris, Gif-sur-Yvette, France; 2: Leroy Somer Motors, Angoulême, France Wound-rotor synchronous machine dq modeling with saturation for transient analysis
9:35 AM-10:00 AM	MO123	Nuzzo, Stefano (1); Bolognesi, Paolo (3); Galea, Michael (1); Gerada, Chris (1,2) 1: University of Nottingham, United Kingdom; 2: University of Nottingham Ningbo, China; 3: University of Pisa, Italy A Hybrid Analytical-Numerical Approach for the Analysis of Salient-Pole Synchronous Generators with a Symmetrical Damper Cage

ORAL SESSION MO13 Monday, May 22, 2017 8:45 AM-10:00 AM	Induction Motor Drives I Andrea Cavagnino, Keiichiro Kondo (Concerto A)
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8:45 AM-9:10 AM	MO131	Salem, Aboubakr (1); De Belie, Frederik (2); Yousef, Tarek (3); Melkebeek, Jan (2); Mohammed, Osama (3); M.A. Abido (1) 1: Helwan University, Egypt; 2: Ghent University, Belgium; 3: Florida International University, USA Advanced Multilevel Converter Applied to an Open-Ends Induction Machine: Analysis, Implementation and Loss Evaluation
9:10 AM-9:35 AM	MO132	Rafetseder, David; Amrhein, Wolfgang Johannes Kepler University Linz, Austria Control and Evaluation of a Double-Stator Linear Induction Machine with Reciprocating Cage Mover
9:35 AM-10:00 AM	MO133	Rubino, Sandro (1); Bojoi, Radu (1); Mengoni, Michele (2); Zarri, Luca (2) 1: Politecnico di Torino, Italy; 2: University of Bologna, Italy Optimal Flux Selection for Multi Three-Phase Machines in Normal and Fault Conditions

ORAL SESSION MO14
Monday, May 22, 2017
8:45 AM-10:00 AM

Magnetless or Reduced Magnet Machines for Emerging Applications I
James L. Kirtley, Christopher H.T. Lee
(Concerto B)

8:45 AM-9:10 AM	MO141	Ogawa, Toru (1); Takahashi, Tomohira (1); Takemoto, Masatsugu (2); Ogasawara, Satoshi (2); Daikoku, Akhiro (1) 1: Mitsubishi Electric Corporation, Japan; 2: Hokkaido University The Examination of Pole Geometry of Consequent Pole Type Ferrite PM Axial Gap Motor with Field Winding
9:10 AM-9:35 AM	MO142	Du, Zhentao Stephen; Lipo, Thomas Anthony WEMPEC, United States of America Interior Permanent Magnet Machines with Rare Earth and Ferrite Permanent Magnets
9:35 AM-10:00 AM	MO143	Patel B. Reddy (1); Ayman El-Refai (2); Min, Zou (1); Di, Pan (1); James, P. Alexander (1); Nidhishri, Tapadia (1); Kevin, Grace (1); Kum-kang, Huh (1); Frank, Johnson (1) 1: GE Global Research, USA; 2: Marquette University, USA Performance Testing and Analysis of Synchronous Reluctance Motor Utilizing Dual-Phase Magnetic Material

ORAL SESSION MO15
Monday, May 22, 2017
8:45 AM-10:00 AM

Drives for Transportation I
Luca Solero, Kiruba Haran
(Concerto C)

8:45 AM-9:10 AM	MO151	Xiao, Mr. Shuxin (1); Xia, Prof. Changliang (1); Wang, Dr. Zhiqiang (2); Li, Dr. Xinmin (2) 1: Tianjin University, China, People's Republic of; 2: Tianjin Polytechnic University, China, People's Republic of A Novel SVPWM Based Maximum Boost Control of Z Source Inverter in Motor Drive Application
9:10 AM-9:35 AM	MO152	Kim, Taehyung; Baek, Stanley University of Michigan-Dearborn, United States of America Multiple Bus Motor Drive Based on a Single Inductor Multi Output Converter in 48 V Electrified Vehicles
9:35 AM-10:00 AM	MO153	Senol, Murat; De Doncker, Rik W. RWTH Aachen, Germany Implementation of a Drivetrain Integrated Dc-Dc Converter for 48V Vehicles

ORAL SESSION MO16
Monday, May 22, 2017
8:45 AM-10:00 AM

Simulation Technology for Motors I
Marius Rosu, Mohmoud Amin
(Picasso)

8:45 AM-9:10 AM	MO161	Zhou, Ping; He, Bo; Lu, Chuan; Lin, Dingsheng; Chen, Ningning ANSYS Inc, United States of America Transient Simulation of Electrical Machines Using Time Decomposition Method
9:10 AM-9:35 AM	MO162	Zhang, Dongdong (1); Bu, Lixiao (1); Chengyuan, He; (2) An, Ruichi (1); Wu, Thomas (1,2) 1: School of Electrical Engineering, Xi'an Jiaotong University; 2: School of Electrical Engineering and Computer Science, University of Central Florida, USA; 3: The Force Intelligence Co. LTD., Shenzhen, China A Modified 2-D Multislice FEM for Computing the Airgap Flux Density of Induction Motor with Skewed Slots
9:35 AM-10:00 AM	MO163	Lin, Dingsheng; Zhou, Ping; Chen, Ningning; Lu, Chuan; Christini, Mark

		ANSYS Inc, United States of America Fast Methods for Reaching AC Steady State in FE Transient Analysis
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POSTER SESSION MP11 Monday, May 22, 2017 10:30 AM-12:00 PM	Synchronous Machines II Luca Solero, Yumin Xiao (Symphony III)
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10:30 AM-12:00 PM	MP1101	Bottesi, Omar (1); Alberti, Luigi (2) 1: Free University of Bolzano, Italy; 2: University of Padua, Italy Comparison of Small-Size Generator for High-Efficiency Hydroelectric Energy Production
10:30 AM-12:00 PM	MP1102	Yamazaki, Katsumi (1); Suzuki, Ren (1); Nuka, Motoharu (2); Masegi, Makoto (2) 1: Chiba Institute of Technology; 2: SIGMA&HEARTS CO. LTD Characteristics Improvement of Claw-Pole Alternators by Reducing Armature Reaction
10:30 AM-12:00 PM	MP1103	Bortoni, Edson; Bernardes Jr., José; Araújo, Bruno; Silva, Paulo Itajuba Federal University, Brazil Revisiting Three-Phase Sudden Short-Circuit and Voltage Recovery Tests
10:30 AM-12:00 PM	MP1104	Debruyne, Colin (1); Sergeant, Peter (1); Corne, Bram (1); Rens, Johan (2); Desmet, Jan (1) 1: Ghent University, Belgium; 2: North West University, South Africa Modeling and Validation of Losses due to Unbalanced Loading of Stand-Alone Generators
10:30 AM-12:00 PM	MP1105	Masrob, M. A; Rahman, M. A; George, G. H; Butt, C.B. (4) Memorial University, Canada Design of a Simple Neural Network Stabilizer for a Synchronous Machine of Power System via MATLAB/Simulink
10:30 AM-12:00 PM	MP1106	Chit Dirani, Hind (1,2); Merkhouf, Arezki (2); Kedjar, Bachir (1); Giroux, Anne-Marie (2); Al-Haddad, Kamal (1) 1: Ecole de technologie supérieure; 2: Institut de Recherche d'Hydro-Québec Finite Element Simulation of Hydro Generators with Rotor InterTurn Short Circuit
10:30 AM-12:00 PM	MP1107	Kenneth, Okedu Caledonian College of Engineering, Oman Improving Grid Frequency Dynamics of Synchronous Generators Considering Wind Energy Penetration
10:30 AM-12:00 PM	MP1108	Nguimpi Langué, Leila; Friedrich, Guy; Vivier, Stephane; El Kadri Benkara, Khadija UTC, France Comparative analysis of different approaches for an optimal design of synchronous reluctance machines
10:30 AM-12:00 PM	MP1109	Salon, Sheppard (1); Pham, Tan (1); Akaishi, Willian (2); Debortoli, Mark (3) 1: RPI, United States of America; 2: Altair Engineering; 3: MWH Global Damper Bar Heating in Hydro Generators with Fractional Slot Windings
10:30 AM-12:00 PM	MP1110	Poudel, Bikrant (1); Amiri, Ebrahim (1); Damaki Aliabad, Ali (2); Ghoroghchian, Fakhrossadat (2) 1: University of New Orleans, United States of America; 2: Yazd University Line Start Synchronous Motor for Multi-Speed Applications
10:30 AM-12:00 PM	MP1111	Nguimpi Langué, Leila; Friedrich, Guy; Vivier, Stephane; El Kadri Benkara, Khadija UTC, France Consideration of mechanical constraints for an optimal design of ferrite assisted flux-barriers synchronous reluctance machines

POSTER SESSION MP12 Monday, May 22, 2017 10:30 AM-12:00 PM	Induction Machines I Andrea Cavagnino, Soumia El Hani (Symphony III)
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10:30 AM-12:00 PM	MP1201	Pereira, Luis Alberto; Pereira, Luis Fernando Alves; Perin, Matheus; Sogari, Paulo; Haffner, Sergio UFRGS, Brazil Estimation of Parameters of Induction Machines based on Instantaneous Impedance
10:30 AM-12:00 PM	MP1202	Veach, Giselle Suzette (1); Lenberg, Timothy (2); Hess, Herbert (1) 1: University of Idaho, USA; 2: Contractor On Site, Flux Resources LLC, USA Wide Radius, Multi-Pole Gearless DFIG for InStream Hydroelectric Generation
10:30 AM-12:00 PM	MP1203	Yao, Atsushi; Adachi, Ai; Fujisaki, Keisuke Toyota Technological Institute, Japan Iron Loss Characteristics of Electric Motor in High-Temperature Environment
10:30 AM-12:00 PM	MP1204	Pereira, Luis Alberto; Pereira, Luis Fernando Alves; Haffner, Sergio; Sogari, Paulo; Perin, Matheus UFRGS, Brazil

		Estimation of Parameters of Induction Machines from No-Load Starting without Speed Acquisition
10:30 AM-12:00 PM	MP1205	Fischer, Normann (1); Johnson, Brian K. (2); Law, Joseph D. (2); Miles, Andrew Gregory (2); 1: Schweitzer Engineering Laboratories, USA; 2: University of Idaho, USA Induction Motor Modeling for Development of a Secure In-Phase Motor Bus Transfer Scheme
10:30 AM-12:00 PM	MP1206	Ni, Kai (1); Hu, Yihua (1); Liu, Yang (2); Gan, Chun (3) 1: Department of Electrical Engineering and Electronics, University of Liverpool, U. K.; 2: South China University of Technology, China, People's Republic of; 3: Department of Electrical Engineering, University of Tennessee, Knoxville, USA Fault-Tolerant Operation Of Dfig-Wt With Four-Switch Three-Phase Grid-Side Converter By Applying A Simplified Svpwm Technique
10:30 AM-12:00 PM	MP1207	Li, Haodong; Klontz, Keith Advanced MotorTech LLC, United States of America An Investigation of Current Harmonic Influence on Induction Motor in Hybrid Electric Vehicle Application
10:30 AM-12:00 PM	MP1208	Kuehl, Alexander; Furlan, Stefan; Gutmann, Joschka; Meyer, Manuel; Franke, Joerg. Friedrich-Alexander-University Erlangen-Nürnberg, Germany Technologies and Processes for the Flexible Robotic Assembly of Electric Motor Stators
10:30 AM-12:00 PM	MP1209	Bijan, Mahmud G. (1); Al-Badri, Maher (1); Pillay, Pragasen (1); Angers, Pierre (2) 1: Concordia University, Canada; 2: Laboratoire des Technologies de l'Énergie, Institut de Recherche (LTE), Hydro-Québec, Canada Induction Machine Parameter Range Constraints in Genetic Algorithm Based Efficiency Estimation Techniques

POSTER SESSION MP13
Monday, May 22, 2017
10:30 AM-12:00 PM

Design Related Problems I
David Lowther, Dingsheng Lin
(Symphony III)

10:30 AM-12:00 PM	MP1301	Lu, Buqing; Hao, Zhenyang Nanjing University of Aeronautics and Astronautics, China, People's Republic of Research on Digital Control Bi-directional Full Bridge DC/DC Converter
10:30 AM-12:00 PM	MP1302	Zhang, Cheng; Hao, Zhenyang Nanjing University of Aeronautics and Astronautics, China, People's Republic of An Isolated Household Grid-Connected Photovoltaic Power System
10:30 AM-12:00 PM	MP1303	Morisco, David Philipp (1); Iepure, Ioan Liviu (1); Moeckel, Andreas (2) 1: Robert Bosch GmbH, Germany; 2: Technische University of Ilmenau Enhanced 3D Finite Element Method Analysis of a Permanent Magnet Machine With Reduced Stator-Core Iron Losses
10:30 AM-12:00 PM	MP1304	Lee, Jaehyun Hyundai MOBIS, Korea, Republic of (South Korea) A Novel Method for Improving Productivity of Axial-Type Powerpack with Hall-Effect Magnetic Position Sensor on Electric Power Steering
10:30 AM-12:00 PM	MP1305	Abdelkader, Mohamed Taha; Wale, J. ; Greenwood, D. University of Warwick, United Kingdom Design of a High Power-Low Voltage Multiphase Permanent Magnet Flux Switching Machine For Automotive Applications
10:30 AM-12:00 PM	MP1306	Mansouri Habibabadi, Mohammad (1); Knight, Andy (1); Moradi-Shahrbabak, Zahra (2); Mojiri, Mohsen (2) 1: University of Calgary, Canada; 2: Isfahan University of Technology Damping of Electromechanical Oscillations Based on the Internal Model Principle
10:30 AM-12:00 PM	MP1307	Ruf, Andreas; Paustenbach, Jörg; Franck, David; Hameyer, Kay RWTH Aachen, Germany A methodology to identify the state of health and electrical ageing of winding insulation systems by using fast switching voltage generators
10:30 AM-12:00 PM	MP1308	Liu, Zhejie; Jiang, Quan; Yu, Yinquan Data Storage Institute, Singapore; 2: Fusionopolis Way, Singapore Influence of Design Parameters on Performance of PM AC Motors with Fractional-Slot Windings
10:30 AM-12:00 PM	MP1309	Simpson, Nick; Hopkins, Andrew University of Bristol, United Kingdom An Accurate and Flexible Calorimeter Topology for Power Electronic System Loss Measurement
10:30 AM-12:00 PM	MP1310	El Tawil, Tony (1,2); Charpentier, Jean-Frederic (1); Benbouzid, Mohamed (2,3); Yao, Gang (3)

		1: French Naval Academy, France; 2: University of Brest, IRDL, France; 3: Shanghai Maritime University, Shanghai, China Design, Analysis, and Comparison of Inverter Control Methods for Microgrid
10:30 AM-12:00 PM	MP1311	Elfgen, Silas; Ruf, Andreas; Steentjes, Simon; Hameyer, Kay RWTH Aachen University, Germany Consideration of the manufacturing influence in standardized material characterizations using machine measurements

POSTER SESSION MP14

Monday, May 22, 2017

10:30 AM-12:00 PM

Bearingless Motors I

Junichi Asama, Eric Loren Severson

(Symphony III)

10:30 AM-12:00 PM	MP1401	Jastrzebski, Rafal Piotr (1); Jaatinen, Pekko (1); Pyrhonen, Olli (1); Chiba, Akira (2) 1: Lappeenranta University of Technology, Finland; 2: Tokyo Institute of Technology, Japan Design of 6-slot inset PM bearingless motor for high-speed and higher than 100kW applications
10:30 AM-12:00 PM	MP1402	Sugimoto, Hiroya; Yokoyama, Shotaro; Chiba, Akira Tokyo Institute of Technology, Japan Design of a Novel Disk-Shaped Single-Drive Bearingless Motor with High Torque Density
10:30 AM-12:00 PM	MP1403	Sekine, Takahiro; Hijikata, Kimio; Tanaka, Yasuhiro Tokyo City University, Japan Investigation of Torque and Suspension Force Characteristic in a Reluctance Type Bearingless Vernier Motor
10:30 AM-12:00 PM	MP1404	Puentener, Pascal (1); Hoffmann, Felix; Menzi, David (1); (1); Steinert, Daniel (2); Kolar, Johann W. (2) 1: ETH Zurich, Switzerland; 2: Levitronix GmbH, Switzerland Homopolar Bearingless Slice Motor in Temple Design
10:30 AM-12:00 PM	MP1405	Noh, Minkyun (1); Gruber, Wolfgang (2); Trumper, David L. (1) 1: Massachusetts Institute of Technology, United States of America; 2: Johannes Kepler University, Austria Low-cost Eddy-current Position Sensing for Bearingless Motor Suspension Control
10:30 AM-12:00 PM	MP1406	Jaatinen, Pekko (1); Jastrzebski, Rafal (1); Pyrhönen, Olli (1); Chiba, Akira (2) 1: Lappeenranta University of Technology, Finland; 2: Tokyo Institute of Technology, Japan Improving of bearingless 6-slot IPM motor radial force characteristics using rotor skew
10:30 AM-12:00 PM	MP1407	Wolf, Christopher; Degner, Michael Ford Motor Company, United States of America The Development and Applications of a Novel PWM Spectral Analysis Technique
10:30 AM-12:00 PM	MP1408	Lefebvre, Martin; Van Verdegheem, Joachim; Kluyskens, Virginie; Dehez, Bruno Université catholique de Louvain, Belgium Dynamic Modelling of Passive Electrodynamical Self-Bearing Axial-Flux Permanent Magnet Machines
10:30 AM-12:00 PM	MP1409	Fu, Yu; Takemoto, Masatsugu; Ogasawara, Satoshi; Koji, Orikawa Hokkaido University, Japan Investigation of a High Speed and High Power Density Bearingless Motor with Neodymium Bonded Magnet

POSTER SESSION MP15

Monday, May 22, 2017

10:30 AM-12:00 PM

High Speed Electrical Machines and Drives I

Christophe Espanet, Bulent Sarlioglu

(Symphony III)

10:30 AM-12:00 PM	MP1501	Gumbleton-Wood, Daniel (1,2); Atkinson, Glynn (1,2); Washington, Jamie (1,2); Sjöberg, Lars (2) 1: Newcastle University, United Kingdom; 2: Höganäs AB, Sweden The Influence of Production Methods on the Magnetic Performance of Electrical Steels and Soft Magnetic Composites
10:30 AM-12:00 PM	MP1502	Zhang, Dongdong (1); An, Ruichi (1); Chengyuan, He (2); Bu, Lixiao (1); Wu, Thomas (1,2) 1: School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China; 2: School of Electrical Engineering and Computer Science, University of Central Florida, USA Electromagnetic Design of a Megawatt High Efficiency High Speed Solid Rotor Induction Motor
10:30 AM-12:00 PM	MP1503	Niknejad, Payam; Agarwal, Tanushree; Barzegaran, Reza Lamar University, United States of America Using Gallium Nitride DC-DC converter for speed control of BLDC Motor
10:30 AM-12:00 PM	MP1504	Khawja, Muhammad Raza (1); Gerada, Chris (1,2); Vakil, Gaurang (1); Patel, Chintan (1,3); Wheeler, Pat (1)

		1: The University of Nottingham, Nottingham, United Kingdom; 2: The University of Nottingham, Ningbo, China; 3: Ricardo UK Ltd Design Optimization of Integrated Rotational Inductor for High-Speed AC Drive Applications
10:30 AM-12:00 PM	MP1505	Deng, Xu; Lambert, Simon; Mecrow, Barrie; Mohamed, Mohamed; Ullah, Sana Newcastle University, United Kingdom Winding Connection Solution for an Integrated Synchronous Motor Drive
10:30 AM-12:00 PM	MP1506	Rabbi, S. F. (1); Constantine, M. (2); Rahman, M. A. (1) 1: Memorial University of Newfoundland, Canada; 2: Avalon Controls Ltd. A Novel Sensorless IPM Motor Drive for Electric Submersible Pumps
10:30 AM-12:00 PM	MP1507	Berardi, Grazia (1); Bianchi, Nicola (1); Gasperini, Daniel (2) 1: University of Padova, Italy; 2: Nextec, TN A High Speed PM Generator for an Organic Rankine Cycle System
10:30 AM-12:00 PM	MP1508	Prieto, Joel (1); Riveros, José A. (2); Bogado, Blas (3) 1: Universidad Paraguayo Alemana de Ciencias Aplicadas, Paraguay; 2: Facultad Politécnica, Universidad Nacional de Asunción, Paraguay; 3: Facultad de Ingeniería, Universidad Nacional de Asunción, Paraguay Continuous and Discontinuous SVPWM 2L+2M for Asymmetrical Dual Three-Phase Drives
10:30 AM-12:00 PM	MP1509	S, Neethu; Fernandes, B.G. Indian Institute of Technology Bombay, India Design, Analysis and Optimization of High Speed Axial Flux Permanent Magnet Synchronous Motor for Centrifuge Application
10:30 AM-12:00 PM	MP1510	Jensen, William R.; Pham, Thang Q.; Foster, Shanelle N. Michigan State University, United States of America Linear Permanent Magnet Synchronous Machine for High Acceleration Applications

POSTER SESSION MP21
Monday, May 22, 2017
1:00 PM-2:30 PM

Permanent Magnet Machines II
Masatsugu Takemoto, Kent Davey
(Symphony III)

1:00 PM-2:30 PM	MP2101	Yoo, Jin-Hyung; Park, Chang-Seok ; Jung, Tae-Uk Kyungam University, Korea, Republic of (South Korea) Permanent Magnet Structure Optimization for Cogging Torque Reduction of Outer Rotor Type Radial Flux Permanent Magnet Generator
1:00 PM-2:30 PM	MP2102	Liang, Zhe; Liang, Deliang; Kou, Peng; Ze, Qiji Xi'an Jiaotong University, China, People's Republic of Linearized Model and Control Strategy for Dual Three-Phase PMSM Based on Small Signal Theory
1:00 PM-2:30 PM	MP2103	Sun, Tianfu; Wang, Jiabin; Griffo, Antonio; Sen, Bhaskar The University of Sheffield, United Kingdom Active Thermal Management for Interior Permanent Magnet Synchronous Machine (IPMSM) Drives
1:00 PM-2:30 PM	MP2104	Jiang, Mr. Guokai; Xia, Prof. Changliang; Chen, Dr. Wei; Shi, Prof. Tingna Tianjin University, China, People's Republic of Commutation Torque Ripple Suppression Strategy for Brushless DC Motors with Commutation Time in Multiples of PWM Period
1:00 PM-2:30 PM	MP2105	Schmidt, Erich (1); Kaltenbacher, Manfred (1); Wolfschluckner, Anton (2) 1: Vienna University of Technology, Austria; 2: Traktionssysteme Austria Eddy Current Losses in the Permanent Magnets of Synchronous Machines – Comparison of Planar and Cylindrical Arrangements with Various Pole Coverages
1:00 PM-2:30 PM	MP2106	Cariou, Arnaud (1); Bernot, Alix (2) 1: ENSEEIHT, France; 2: IRT, France A reluctant analytical model of PMSM for an electromechanical chain's optimization process
1:00 PM-2:30 PM	MP2107	Islam, Md. Zakirul; Choi, Seungdeog The University of Akron, United States of America Design Optimization of Rare-earth Free PM-assisted Synchronous Reluctance Motor to Improve Demagnetization Prevention Capability
1:00 PM-2:30 PM	MP2108	Miyama, Yoshihiro (1); Ishizuka, Mitsuru (1); Kometani, Haruyuki (1); Akatsu, Kan (2) 1: Mitsubishi Electric Corporation; 2: Shibaura Institute of Technology Vibration reduction by applying carrier phase-shift PWM on dual three-phase windings permanent-magnet synchronous motor
1:00 PM-2:30 PM	MP2109	Ghoroghchian, Fakhrossadat (1); Damaki Aliabad, Aliakbar (1); Amiri, Ebrahim (2); Poudel, Bikrant (2) 1: Yazd University, Iran; 2: University of New Orleans, United States of America

		Line Start Permanent Magnet Synchronous Motor With Dual Magnetic Polarity
1:00 PM-2:30 PM	MP2110	Yan, Huazhen; Ye, Yongqiang Nanjing University of Aeronautics and Astronautics, China, People's Republic of Improved Deadbeat Direct Torque Control of Interior Permanent Magnet Synchronous Machines with Flux Linkage Reference Correction

POSTER SESSION MP22
Monday, May 22, 2017
1:00 PM-2:30 PM

Synchronous Motor Drives I
Yumin Xiao, Yves Perriard
(Symphony III)

1:00 PM-2:30 PM	MP2201	Liu, Xiao; Cramer, Aaron; Rallabandi, Vandana; Ionel, Dan University of Kentucky, United States of America Switching Frequency Selection for Ultra-Low-Inductance Machines
1:00 PM-2:30 PM	MP2202	Pramod, Prerit; Zhang, Zhe; Namburi, Krishna Mpk; Mitra, Rakesh; Paul, Subhra; Islam, Rakib Nexteer Automotive, United States of America Effects of Position Sensing Dynamics on Feedforward Current Control of Permanent Magnet Synchronous Machines
1:00 PM-2:30 PM	MP2203	Gee, Anthony; Mellor, P.; Drury, David University of Bristol, United Kingdom An Analysis of Constant R.M.S. Current Ripple PWM Control for Permanent Magnet AC Drives
1:00 PM-2:30 PM	MP2204	Pan, Qinwei; Jewell, Geraint W University of Sheffield, United Kingdom Modelling of Dynamic Machine Behavior in Peripheral Milling Operations
1:00 PM-2:30 PM	MP2205	Kshirsagar, Parag (1); Krishnan, R (2) 1: United Technologies Research Center, United States of America; 2: Virginia Polytechnic and State University Sensorless Position Control of PMSM Operating at Low Switching Frequency for High Efficiency Climate Control Systems
1:00 PM-2:30 PM	MP2206	Lu, Buqing; Hao, Zhenyang Huazhong University of Science and Technology, Switzerland Drive for DC-Biased Sinusoidal Current Vernier Reluctance Motors With Reduced Power Electronics Devices
1:00 PM-2:30 PM	MP2207	Armando, Eric; Guglielmi, Paolo; Gianmario Pellegrino; Bojoi, Radu Politecnico di Torino, Italy Flux Linkage Maps Identification of Synchronous AC Motors Under Controlled Thermal Conditions
1:00 PM-2:30 PM	MP2208	Li, Xiao (1); Huang, Shimeng (1); Yeh, Tinghao (2); Mao, Shangsun (2); Kher, Sameer (1); Ambalavanar, Vel (1) 1: ANSYS Inc., United States of America; 2: ANSYS Inc., Taiwan Detailed Modeling and Integrated Solution of Electrical Motor Driven System
1:00 PM-2:30 PM	MP2209	Liu, Wenbo; Lipo, Thomas A University of Wisconsin Madison, United States of America Saliency Enhancement of Salient Pole Wound Field Synchronous Machines for Variable Speed Applications
1:00 PM-2:30 PM	MP2210	Arafat, Akm; Reddy Bonthu, Sai Sudheer; Dharmasena, Shamini; Choi, Seungdeog University of Akron, USA Torque Ripple Minimization under Unbalanced Phase Resistance in a Five-phase Permanent Magnet Assisted Synchronous Reluctance Motor
1:00 PM-2:30 PM	MP2211	Ye, Donglin; Li, Jian; Qu, Ronghai; Lu, Hanxiao; Lu, Yang School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, China, People's Republic of Finite Set Model Predictive MTPA Control with VSD Method for Asymmetric Six-phase PMSM

POSTER SESSION MP23
Monday, May 22, 2017
1:00 PM-2:30 PM

Magnetless or Reduced Magnet Machines for Emerging Applications II
James L. Kirtley, Christopher H.T. Lee
(Symphony III)

1:00 PM-2:30 PM	MP2301	Maroufian, Seyede Sara; Pillay, Pragasen Concordia University, Canada PM Assisted Synchronous Reluctance Machine Design Using AlNiCo Magnets
1:00 PM-2:30 PM	MP2302	Hasan, Iftekhar (1); Husain, Tausif (1); Sozer, Yilmaz (1); Husain, Iqbal (2); Muljadi, Eduard (3)

		1: The University of Akron, Akron, OH, United States of America; 2: North Carolina State University, Raleigh, NC, United States of America; 3: National Renewable Energy Laboratory, Golden, CO, United States of America Analytical Modeling of a Double-Sided Flux Concentrating E-Core Transverse Flux Machine with Pole Windings
1:00 PM-2:30 PM	MP2303	Zhou, Lei (1); Gruber, Wolfgang (2); Trumper, David (1) 1: Massachusetts Institute of Technology, Cambridge, MA, USA; 2: Johannes Kepler University, Linz, Austria Position Control for Hysteresis Motors: A Field-oriented Control Approach
1:00 PM-2:30 PM	MP2304	Xu, Longya (2); Wang, Hongya (2); Krein, Philip (1) 1: Zhejiang University/University of Illinois Institute, China; 2: The Ohio State University A high-performance permanent-magnet-free machine for wide load ranges
1:00 PM-2:30 PM	MP2305	Zhu, Xinkai; Cheng, Ming; Han, Peng; Wei, Xinch Southeast University, China, People's Republic of Analysis of a Novel Field-Modulated Dual-Stator Brushless Wind Generator with Three Electrical Ports

POSTER SESSION MP24
Monday, May 22, 2017
1:00 PM-2:30 PM

Motors for Transportation I
Takashi Kosaka, Gurakuq Dajaku
(Symphony III)

1:00 PM-2:30 PM	MP2401	Paul, Subhra; Mitra, Rakesh; Piña Ortega, Alejandro; Pramod, Prerit; Islam, Rakib Nexteer Automotive, United States of America Drive Response Modeling of Dual Wound Surface Permanent Magnet Machines
1:00 PM-2:30 PM	MP2402	Immonen, Paula; Lindh, Pia; Pyrhönen, Juha Lappeenranta teknillinen yliopisto, Finland Analyses of Energy Saving in a Hybrid and Electric Bus
1:00 PM-2:30 PM	MP2403	Lindh, Pia; Kärkkäinen, Hannu; Pyrhönen, Juha; Immonen, Paula; Aarniovuori, Lassi Lappeenranta University of Technology, Finland Analyses of Modular Windings of a Traction Motor in a Hybrid Bus
1:00 PM-2:30 PM	MP2404	Fyhr, Pontus; Domingues, Gabriel; Reinap, Avo; Andersson, Mats; Alakula, Mats Lund University, Sweden Performance and Manufacturability Tradeoffs of Different Electrical Machine Designs
1:00 PM-2:30 PM	MP2405	Husain, Tausif (1); Tekgun, Burak (1); Sozer, Yilmaz (1); Hamdan, Marv (2) 1: The University of Akron, Akron, OH United States of America; 2: Bendix Commercial Vehicle Systems, Elyria, OH, United States of America Comparison of Axial Flux Machine Performance with Different Rotor and Stator Configurations
1:00 PM-2:30 PM	MP2406	Druant, Joachim; Vansompel, Hendrik; De Belie, Frederik; Sergeant, Peter Ghent University Dual Rotor Electrical Variable Transmission for Hybrid Vehicles: Performance Analysis with Focus on Losses over a Driving Cycle
1:00 PM-2:30 PM	MP2407	Jordan, Steven; Baker, Nick Newcastle University, United Kingdom Comparison of Two Transverse Flux Machines for an Aerospace Application
1:00 PM-2:30 PM	MP2408	Li, Yingjie; Liu, Mingda; Kim, Ju Hyung; Sarlioglu, Bulent WEMPEC, University of Wisconsin-Madison, United States of America Torque Ripple Reduction and Mechanical Tolerance Analysis of A Novel Dual-Stator 6/4 Flux-Switching Permanent Magnet Machine
1:00 PM-2:30 PM	MP2409	Groschup, Benedikt (1); Leonardi, Franco (2); 1:RWTH Aachen University, Germany; 2:Ford Motor Company, United States of America Combined electromagnetic and static structural simulation to reduce the weight of a Permanent Magnet machine rotor for HEV application
1:00 PM-2:30 PM	MP2410	Bastiaens, K.; Jansen, J.W.; Jumayev, S.; Lomonova, E.A. Eindhoven University of Technology, Netherlands, The Design of an Axial-Flux Permanent Magnet Machine for an In-Wheel Direct Drive Application
1:00 PM-2:30 PM	MP2411	Okada, Yasuhiro; Kosaka, Takashi; Matsui, Nobuyuki Nagoya Institute of Technology, Japan Windage Loss Reduction for Hybrid Excitation Flux Switching Motors Based on Rotor Structure Design
1:00 PM-2:30 PM	MP2412	Sanchez, Reed; Yi, Xuan; Chen, Yuanshan; Zheng, Lijun; Haran, Kiruba

		University of Illinois at Urbana Champaign, United States of America Mechanical Validation of High Power Density Rotor
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POSTER SESSION MP25
Monday, May 22, 2017
1:00 PM-2:30 PM

Condition Monitoring, Noise and Vibration I
Hiroya Sugimoto, Yang Hu
(Symphony III)

1:00 PM-2:30 PM	MP2501	Dias, Cleber; Morais de Sousa, Cristiano Universidade Nove de Julho, Brazil An Experimental Approach for Diagnosis of Adjacent and Nonadjacent Broken Bars in Induction Motors at Very Low Slip
1:00 PM-2:30 PM	MP2502	Liu, Xing; Liang, Deliang; Ze, Qiji; Yu, Yanan Xi'an Jiaotong University, China, People's Republic of The Frequency Response of Parallel Misalignment in PMSM Test Bench
1:00 PM-2:30 PM	MP2503	Cuevas, Mauricio (1,2); Romary, Raphael (1); Lecointe, Jean-Philippe (1); Morganti, Fabrice (1); Jacq, Thierry (2) 1: Artois University, France; 2: EDF Lab Paris - Saclay Non-invasive Detection of Winding Short-circuit Faults in Salient-pole Synchronous Machine
1:00 PM-2:30 PM	MP2504	Hu, Rongguang (1); Wang, Jiabin (1); Mills, Andrew R (1); Chong, Ellis (2); Sun, Zhigang (2) 1: The University of Sheffield, United Kingdom; 2: Rolls-Royce plc, United Kingdom Turn Fault Detection for Surface-Mounted Permanent Synchronous Machines Based on Current Residual
1:00 PM-2:30 PM	MP2505	Bauw, Gregory; Balavoine, Francois; Cassoret, Bertrand; Ninet, Olivier; Romary, Raphael Laboratoire Systèmes Électrotechnique et Environnement (LSEE), France Damper winding for noise and vibration reduction of PWM-fed induction machines
1:00 PM-2:30 PM	MP2506	Pham, Thang; Jensen, William; Foster, Shanelle Michigan State University, United States of America Stator Incipient Fault Identification in Short Secondary Linear Permanent Magnet Synchronous Machines
1:00 PM-2:30 PM	MP2507	Kim, Kwangho; Park, Myeongkoo; Kim, Jeongeun; Jawad Yousaf; Nah, Wansoo Sungkyunkwan Univ., Korea, Republic of (South Korea) Novel diagnostic method for a single phase polemount transformer using two-port measurement
1:00 PM-2:30 PM	MP2508	Nejadi Koti, Hossein (1); Faiz, Jawad (2); Demerdash, Nabeel A. O. (1) 1: Marquette University, United States of America; 2: University of Tehran, Iran Uniform Demagnetization Fault Diagnosis in Permanent Magnet Synchronous Motors By Means of Cogging Torque Analysis

ORAL SESSION MO21
Monday, May 22, 2017
3:00 PM-4:45 PM

Permanent Magnet Machines III
Gianmario Pellegrino, Kazuto Sakai
(Symphony I)

3:00 PM-3:20 PM	MO211	Montanari, Gian Carlo (1); Ciani, Fabio (2) 1: University of Bologna, Italy; 2: Techimp HQ, Italy Inverter design and partial discharge phenomenology in insulation systems of rotating machines
3:20 PM-3:40 PM	MO212	Yang, Shih-Chin (1); Yang, Sheng-Ming (2); Zih-Cing You (2); Yao-Yang Tsai (1); Yi-Hsun Lee (3) 1: National Taiwan University, Taiwan, Republic of China; 2: National Taipei University of Technology, Taiwan, Republic of China; 3: Tungnan University, New Taipei, Taiwan, R.O.C. Position Estimation Capability on Saliency-Based Sensorless Drive of Permanent Magnet Machine using Different Injection Signals
3:40 PM-4:00 PM	MO213	Akiki, Paul (1,2); Hage-Hassan, Maya (1); Dessante, Philippe (1); Vannier, Jean-Claude (1); Bensetti, Mohamed (1); Prieto, Dany (2); McClelland, Mike (2) 1: Group of electrical engineering-Paris, CNRS, CentraleSupélec, Gif-sur-Yvette, France; 2: Leroy Somer Motors, Angoulême, France Multi-Physics Modeling and Optimization of a Multi-V-Shape IPM with Concentrated Winding
4:00 PM-4:20 PM	MO214	Athavale, Apoorva (1); Sasaki, Kensuke (2); Kato, Takashi (2); Lorenz, Robert D. (1) 1: University of Wisconsin-Madison, WEMPEC, United States of America; 2: Nissan Motor Co. Ltd. Magnetization State Estimation in Variable-Flux PMSMs
4:20 PM-4:40 PM	MO215	Du, Zhentao Stephen; Lipo, Thomas Anthony WEMPEC, United States of America

High Torque Density and Low Torque Ripple Surface Permanent Magnet Machines with Sinusoidal Plus Third Harmonic Shaped Magnets

ORAL SESSION MO22
Monday, May 22, 2017
3:00 PM-4:45 PM

Synchronous Machines III
David Lowther, Edson C. Bortoni
(Symphony II)

3:00 PM-3:20 PM	MO221	Gamba, Matteo (1); Pellegrino, Gianmario (1); Cavagnino, Andrea (1); Gmyrek, Zbigniew (2); Lefik, Marcin (2) 1: Politecnico di Torino, Dipartimento Energia, Italy; 2: Lodz University of Technology, Institute of Mechatronics and Information Systems, Poland Rotor End Effects on FEM-based Flux Mapping of Synchronous Reluctance Motors
3:20 PM-3:40 PM	MO222	Li, Sufei (1); Gong, Cheng (1); Gallandat, Noris A. (1); Mayor, J. Rhett (1); Harley, Ronald G. (1,2) 1: Georgia Institute of Technology, United States of America; 2: University of KwaZulu-Natal, Durban, South Africa Analyzing the Impact of Press Plate Structure on the Flux and Loss Distributions in the End Region of Large Generators by Transient 3-Dimensional Finite-Element Method with an Improved Core Loss Model
3:40 PM-4:00 PM	MO223	Misir, Onur; Brand, Jennifer; Ponick, Bernd Leibniz Universität Hannover, Germany Performance Analysis of Synchronous Machines after Disconnecting Stator Coils
4:00 PM-4:20 PM	MO224	Li, Sufei (1); Gong, Cheng (1); Gallandat, Noris A. (1); Mayor, J. Rhett (1); Harley, Ronald G. (1,2) 1: Georgia Institute of Technology, United States of America; 2: University of KwaZulu-Natal, Durban, South Africa Implementation of Surface Impedance Boundary Conditions in the Quasi Three-Dimensional Finite-Difference Simulations of Generator End Regions
4:20 PM-4:40 PM	MO225	Mishra, Subhendu (1); Lipo, Thomas A. (1,2,3); Sastry, Pamidi (1,2) 1: Florida State University, United States of America; 2: Center for Advanced Power Systems (CAPS), Tallahassee, USA; 3: University of Wisconsin, Madison, USA Design and analysis of a novel brushless high temperature superconducting synchronous machine

ORAL SESSION MO23
Monday, May 22, 2017
3:00 PM-4:45 PM

Induction Machines II
Soumia El Hani, Andrea Cavagnino
(Concerto A)

3:00 PM-3:20 PM	MO231	Sakai, Kazuto; Suzuki, Masaki; Takishima, Kenta Toyo University, Japan Induction Machines with Novel Concentrated Windings
3:20 PM-3:40 PM	MO232	Cheng, Ming; Jiang, Yunlei; Han, Peng; Wang, Wei Southeast University, China, People's Republic of Fault Tolerant Control for Power Side Current Sensor in Wind Energy Conversion System with Cascaded Brushless DFIG
3:40 PM-4:00 PM	MO233	Rathnayaka Mudiyansele, Sooriya Bandara; See, Kye Yak Nanyang Technological University Singapore, Singapore Early Detection of Induction Motor's Defects using an Inductively Coupled Impedance Extraction Method
4:00 PM-4:20 PM	MO234	Pantea, Alin; Yazidi, Amine; Betin, Franck; Carriere, Sebastien; Henao, Humberto; Capolino, Gerard-Andre University of Picardie Jules Verne, France Low Speed Six-Phase Induction Generator Model for Wind Turbines
4:20 PM-4:40 PM	MO235	Samonig, Matthias A.; Wolbank, Thomas M. TU Wien, Austria Analyzing the Influence of Induction Machine Design on Transient Slot Leakage Inductance with respect to Sensorless Rotor Position Estimation

ORAL SESSION MO24
Monday, May 22, 2017
3:00 PM-4:45 PM

Synchronous Motor Drives II
Yves Perriard, Haran Karmaker
(Concerto B)

3:00 PM-3:20 PM	MO241	Ekanayake, Sithumini; Pouramin, Alireza; Dutta, Rukmi; Rahman, Fazlur The University of New South Wales, Australia
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		Verification of a Novel Voltage Control Strategy for MTPV Control of a Fractional-Slot Concentrated- Winding IPMSM
3:20 PM-3:40 PM	MO242	Ott, Markus (1); Gülec, Aybike (1); Böcker, Joachim (2) 1: Daimler AG, Germany; 2: Paderborn University, Germany An Iterative Compensation Method for Production Tolerances in Electric Drive Systems
3:40 PM-4:00 PM	MO243	Hind, David; Li, Chen; Sumner, Mark; Gerada, Chris University of Nottingham, United Kingdom Realising Robust Low Speed Sensorless PMSM Control Using Current Derivatives Obtained from Standard Current Sensors
4:00 PM-4:20 PM	MO244	Redlich, Juergen; Juergens, Jonathan; Brune, Kai; Ponick, Bernd Leibniz Universität Hannover, Germany - Institute for Drive Systems and Power Electronics Synchronous Machines with Very High Torque Density for Automotive Traction Applications
4:20 PM-4:40 PM	MO245	Eldeeb, Hisham; Hackl, Christoph Michael; Kullick, Julian; Horlbeck, Lorenz Technical University of Munich, Germany Analytical Solutions for the Optimal Reference Currents for MTPC/MTPA, MTPV and MTPF Control of Anisotropic Synchronous Machines

ORAL SESSION MO25
Monday, May 22, 2017
3:00 PM-4:45 PM

Design Related Problems II
Hiroya Sugimoto, Dingsheng Lin
(Concerto C)

3:00 PM-3:20 PM	MO251	Vansompel, Hendrik (1); Hemeida, Ahmed Mohammed Abdelmoneam (1); Sergeant, Peter (1,2) 1: Department of Electrical Energy, Systems and Automation, Ghent University, Belgium; 2: Flanders Make, the strategic research centre for the manufacturing industry Stator Heat Extraction System for Axial Flux Yokeless and Segmented Armature Machines
3:20 PM-3:40 PM	MO252	Jercic, Tino; Zarko, Damir; Martinovic, Marijan; Kovacic, Marinko; Juric, Josip; Hanic, Zlatko; Stipetic, Stjepan University of Zagreb, Faculty of electrical engineering and computing Centrifugal Fan Design for Permanent Magnet Synchronous Motor in a Traction Application
3:40 PM-4:00 PM	MO253	Russel, H. Marvin; Brian, T. Helenbrook; Kenneth, D. Visser LC Drives, United States of America Predicting Motor and Generator Maximum Torque as a Function of Mass
4:00 PM-4:20 PM	MO254	Wu, Qian (1); Lu, Kaiyuan (1); Omand Rasmussen, Peter (1); Bianchi, Nicola (2); Folsach Rasmussen, Keld (3) 1: Aalborg University, Denmark; 2: University of Padova, Italy; 3: Grundfos A/S, Bjerringbro, Denmark Unified Equivalent MMF Concept for Torque Analysis of AC Machines
4:20 PM-4:40 PM	MO255	Lin, Dingsheng; Zhou, Ping; Hu, Yang; M. Rosu ANSYS Inc, United States of America Analytical Computation of End-Winding Leakage Inductance for Multi-Phase AC Machines

ORAL SESSION MO26
Monday, May 22, 2017
3:00 PM-4:45 PM

Condition Monitoring, Noise and Vibration II
Dan Ionel, Rafal Wrobel
(Picasso)

3:00 PM-3:20 PM	MO261	Goktas, Taner; Arkan, Muslum; Mamis, Mehmet Salih; Bilal, Akin Inonu University, Turkey Broken Rotor Bar Fault Monitoring based on Fluxgate Sensor Measurement of Leakage Flux
3:20 PM-3:40 PM	MO262	Flieh, Huthaifa (1); Totoki, Eigo (2); Lorenz, Robert D. (1) 1: university of Wisconsin madison, United States of America; 2: Mitsubishi Electric Corporation , Japan Dynamic Shaft Torque Observer Structure Enabling Accurate Transient Loss Measurements
3:40 PM-4:00 PM	MO263	Hologne, Malorie, Maggy, Emmanuelle (1); Bevilacqua, Pascal (1); Allard, Bruno (1); Clerc, Guy (1); Morel, Hervé (1); Razik, Hubert (1); Barrière, Antoine (2); Karode, Vinaykumar (3); Devadass, Navien (3) 1: AMPERE lab, France; 2: CETHIL lab, France; 3: Dynex Semiconductor Ltd. An Experimental Approach to the Health-monitoring of a Silicon Carbide MOSFET-based Power Module
4:00 PM-4:20 PM	MO264	Cox, Robert W; Mostafavi, Saman UNC Charlotte, United States of America

		Detecting Generalized Roughness Faults in Synchronous-Generator Bearings Using the Energy in the Current Spectrum
4:20 PM-4:40 PM	MO265	Berzoy, Alberto; Mohamed, Ahmed A. S.; Mohammed, Osama Florida International University, United States of America Stator Winding Inter-turn Fault in Induction Machines: Complex-Vector Transient and SteadyState Modelling

ORAL SESSION TO11
Tuesday, May 23, 2017
8:00 AM-10:00 AM

Permanent Magnet Machines IV
Masatsugu Takemoto, Yves Perriard
(Symphony I)

8:00 AM-8:25 AM	TO111	Lee, Seung-Tae; Hur, Jin Incheon National University, Korea, Republic of (South Korea) Simplified Equivalent Model of PMSM for Analyzing Influence of Inter-turn Fault on Motor Characteristics
8:25 AM-8:50 AM	TO112	Imamura, Ryoko; Wu, Teng; Lorenz, Robert D. University of Wisconsin–Madison, United States of America Variable Magnetization Pattern Machines
8:50 AM-9:15 AM	TO113	Jordan, Steven; Baker, Nick; Washington, Jamie; Atkinson, Glynn; Pinguet, Edwin Newcastle University, United Kingdom Construction Methods for Modulated Pole Machines
9:15 AM-9:40 AM	TO114	Takbash, Amirmasoud; Pillay, Pragasen Concordia University, Canada Design Optimization of a New Spoke Type Variable-Flux Motor Using AlNiCo Permanent-Magnet
9:40 AM-10:05 AM	TO115	Davey, Kent; Hutson, Travis; McDonald, Larry; Hutson, Gordon American Electromechanics, United States of America The Design and Construction of Cycloidal Magnetic Gears

ORAL SESSION TO12
Tuesday, May 23, 2017
8:00 AM-10:00 AM

Reluctance Machines I
Kan Akatsu, Takashi Kosaka
(Symphony II)

8:00 AM-8:25 AM	TO121	Elamin, Mohammed; Yasa, Yusuf; Sozer, Yilmaz; Kutz, John; Tylenda, Joshua; Wright, Ronnie L. The University of Akron, United States of America Effects of Windows in Stator and Rotor Poles of Switched Reluctance Motors in Reducing Noise and Vibration
8:25 AM-8:50 AM	TO122	Zhang, Taojing; Wei, Jiadan; Shi, Liwei; Zhou, Bo Nanjing University of Aeronautics & Astronautics, China, People's Republic of A Fault-tolerant Strategy for the Dual Stator Doubly Salient Electro-magnet Motor Drives with the dual inverter topology
8:50 AM-9:15 AM	TO123	Ibrahim, Mohamed Nabil Fathy (1,2); Sergeant, Peter (1,3); Rashad, Essam (4) 1: Department of Electrical Energy, Systems and Automation, Ghent University, 9000 Ghent, Belgium; 2: Electrical Engineering Department, Kafrelsheikh University, 33511 Kafr El Sheikh, Egypt; 3: Flanders Make, the Strategic Research Center for the Manufact Design of Low Cost and Efficient Photovoltaic Pumping System Utilizing Synchronous Reluctance Motor
9:15 AM-9:40 AM	TO124	Donaghy-Spargo, Christopher (1); Mecrow, Barrie (2); Widmer, James (2) 1: School of Engineering & Computing Sciences, Durham University, United Kingdom; 2: School of Electrical & Electronic Engineering, Newcastle University, United Kingdom Modelling of a 6 Slot 4 Pole Single Tooth Wound Synchronous Reluctance Motor
9:40 AM-10:05 AM	TO125	Kabir, Md Ashfanoo; Husain, Iqbal North Carolina State University, United States of America Design of Synchronous Reluctance Motor with Multilayer AC Winding

ORAL SESSION TO13
Tuesday, May 23, 2017
8:00 AM-10:00 AM

Special Machines, Sensors and Actuators I
Nobuyuki Kurita, Chris Gerada
(Concerto A)

8:00 AM-8:25 AM	TO131	Thyroff, Dominik; Hittinger, Christoph; Hahn, Ingo
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		University of Erlangen-Nueremberg, Germany Analytic Power Factor Calculation for Vernier Machines with Concentrated Windings
8:25 AM-8:50 AM	TO132	Nasr, Andre (1); Hlioui, Sami (2); Gabsi, Mohamed (1); Mairie, Mathieu (3); Lalevee, Didier (3) 1: Satie ENS Cachan, France; 2: Satie Cnam, France; 3: TAES THALES Avionics, France Experimental Investigation of A Doubly-Excited Flux-Switching Machine for Aircraft DC Power Generation
8:50 AM-9:15 AM	TO133	Gächter, Jens; Hirz, Mario; Seebacher, Roland Graz University of Technology, Austria The Effect of Rotor Position Errors on the Dynamic Behavior of Field-Orientated Controlled PMSM
9:15 AM-9:40 AM	TO134	Ferreira, Fernando J. T. E. (1,2); Silva, André M. (1,2); Cruz, Sérgio M. A. (1,3); De Almeida, Aníbal T. (1,2) 1: University of Coimbra, Portugal; 2: Institute of Systems and Robotics, Portugal; 3: Instituto de Telecomunicações, Portugal Comparison of Losses in Star- and Delta-Connected Induction Motors with Saturated Core
9:40 AM-10:05 AM	TO135	Chmelicek, Petr (1); Calverley, Stuart D. (1); Dragan, Radu S.; Atallah, Kais (2) 1: Magnomatics Ltd., United Kingdom; 2: University of Sheffield, United Kingdom Dual Rotor Magnetically Geared Power Split Device for Hybrid Electric Vehicles

ORAL SESSION TO14
Tuesday, May 23, 2017
8:00 AM-10:00 AM

High Speed Electrical Machines and Drives II
Christophe Espanet, Thomas Wu
(Concerto B)

8:00 AM-8:25 AM	TO141	Stella, Fausto (1); Pellegrino, Gianmario (1); Armando, Eric (1); Daprà, Davide (2) 1: Politecnico di Torino, Italy; 2: Vishay Semiconductor Italiana S.p.A, Turin, Italy Advanced Testing of SiC Power MOSFET Modules for Electric Motor Drives
8:25 AM-8:50 AM	TO142	Ma, Jie; Zhu, Zi-Qiang University of Sheffield, United Kingdom Unbalanced Magnetic Force Mitigation in 3-slot/2-pole Permanent Magnet Machine by Inserting Auxiliary Slots
8:50 AM-9:15 AM	TO143	Alani, Mahir (1); Barrans, Simon (2); Carter, Jeff (3) 1: University of Huddersfield, United Kingdom; 2: University of Huddersfield, United Kingdom; 3: BorgWarner Turbo Systems, United Kingdom Electromagnetic and Mechanical Analysis of High Speed SPM Rotor with Copper Shield
9:15 AM-9:40 AM	TO144	Prieto, Joel (1); Riveros, José A. (2); Bogado, Blas (3) 1: Universidad Paraguayo Alemana de Ciencias Aplicadas, Paraguay; 2: Facultad Politécnica, Universidad Nacional de Asunción, Paraguay; 3: Facultad de Ingeniería, Universidad Nacional de Asunción, Paraguay Multifrequency Output Voltage Generation For Asymmetrical Dual Three-Phase Drives
9:40 AM-10:05 AM	TO145	Renner, Nathaniel James; Lenz, Jackson David; Xuan, Yi; Kiruba, Haran. University of Illinois, Urbana-Champaign, United States of America Development of Form-Wound Air-Core Armature Windings for High-Frequency Electric Machines

ORAL SESSION TO15
Tuesday, May 23, 2017
8:00 AM-10:00 AM

Motors for Transportation II
Osama Mohammed, Gurakuq Dajaku
(Concerto C)

8:00 AM-8:25 AM	TO151	Li, Silong; Han, Di; Sarlioglu, Bulent University of Wisconsin-Madison, WEMPEC, United States of America Analysis of the Influence of Temperature Variation on Performance of Flux-Switching Permanent Magnet Machines for Traction Applications
8:25 AM-8:50 AM	TO152	Castano, Sandra M. (1); Jiang, James W. (1); Bilgin, Berker (1); Sathyan, Anand (2); Dadkhah, Hossein (2); Emadi, Ali (1) 1: McMaster University, Canada; 2: Fiat Chrysler Automobiles US LLC, MI, USA An Investigation of Slot-Pole Combinations for Interior Permanent Magnet Synchronous Machines with Different Magnet Topologies
8:50 AM-9:15 AM	TO153	Jiang, James Weisheng (1); Bilgin, Berker (1); Sathyan, Anand (2); Dadkhah, Hossein (2); Emadi, Ali (1) 1: McMaster University, Canada; 2: Fiat Chrysler Automobiles US LLC, MI, USA Noise and Vibration Reduction for IPMSM by Using Rotor Circumferential Slits
9:15 AM-9:40 AM	TO154	Kawa, Masachika (1); Kiyota, Kyohei (2); Furqani, Jihad (1); Chiba, Akira (1); 1: Tokyo institute of technology, Japan; 2: University of Toyama, Japan

		Acoustic Noise Reduction of a High Efficiency Switched Reluctance Motor for Hybrid Electric Vehicles with Novel Current Waveform
9:40 AM-10:05 AM	TO155	Rahman, Tanvir; Mohammadi, Mohammad; Lowther, David; Humphries, Kieran McGill University, Canada Comparison of Fractional-Slot Concentrated Winding and PM-Assisted Synchronous Reluctance Motors for Class IV Electric Vehicles

ORAL SESSION TO16
Tuesday, May 23, 2017
8:00 AM-10:00 AM

Condition Monitoring, Noise and Vibration III
Gianmario Pellegrino, Kiruba Haran
(Picasso)

8:00 AM-8:25 AM	TO161	Wallscheid, Oliver; Böcker, Joachim Paderborn University, Germany Fusion of Direct and Indirect Temperature Estimation Techniques for Permanent Magnet Synchronous Motors
8:25 AM-8:50 AM	TO162	Lateb, Ramdane; Da Silva, Joaquim SKF Magnetic Mechatronics, France Noninvasive method investigation of detection partially fallen magnetic slot wedge in ac machines
8:50 AM-9:15 AM	TO163	Ikram Ul Haq, Omer; Peretti, Luca ABB Corporate Research Center, Sweden Robust automatic segregation of harmonics in electric drives by means of the Mahalanobis distance
9:15 AM-9:40 AM	TO164	Ahsanullah, Kazi Ahmed; Elango, Jeyasankar; Panda, Sanjib K.; Shanmukha, Ramakrishna; Nadarajan, Sivakumar National University of Singapore, Singapore Detection and Analysis of Winding and Demagnetization Faults in PMSM based Marine Propulsion Motors
9:40 AM-10:05 AM	TO165	Zhang, Shen (1); Li, Sufei (1); He, Lijun (2); Restrepo, Jose A. (3); Habetler, Thomas G. (1) 1: Georgia Institute of Technology, United States of America; 2: Electrical Machines Laboratory, GE Global Research, Niskayuna, NY USA; 3: Departamento de Electrónica y Circuitos, Universidad Simón Bolívar, Caracas, Venezuela A High-Frequency Rotating Flux Injection Based Rotor Thermal Monitoring Scheme for Direct-Torque-Controlled Interior Permanent Magnet Synchronous Machines

POSTER SESSION TP11
Tuesday, May 23, 2017
10:30 AM-12:00 PM

Permanent Magnet Machines V
Haran Karmaker, Babak Fahimi
(Symphony III)

10:30 AM-12:00 PM	TP1101	Kim, Kyu-Seob; Kim, Kyu-Sik; Bong-Hyun Lee; Lee, Byeong-Hwa KATECH, Korea, Republic of (South Korea) Design Of Concentrated Flux Synchronous Motor To Prevent Irreversible Demagnetization
10:30 AM-12:00 PM	TP1102	Jalal, Aslan; Baker, Nick; Wu, Dawei Newcastle University, United Kingdom The effect of power converter on the design of a Linear Alternator for use with a Joule Cycle-Free Piston Engine
10:30 AM-12:00 PM	TP1103	Lu, Yang; Li, Jian; Qu, Ronghai; Sun, Jianbo; Ge, Meng; Xu, Hongwei Huazhong University of Science and Technology, China, People's Republic of Magnetic Stress and Vibration Analysis of the Permanent Magnet Assisted Synchronous Reluctance Machines
10:30 AM-12:00 PM	TP1104	Yogal, Nijan (1); Lehrmann, Christian (1); Henke, Markus (2); Liu, Xinjun (2) 1: Physikalisch-Technische Bundesanstalt, Germany; 2: Technische Universität Braunschweig, Germany How to Measure the Demagnetization of Permanent Magnet Synchronous Machines Used in Explosive Environments
10:30 AM-12:00 PM	TP1105	Peng, Yang; Xi, Xiao Tsinghua University, China, People's Republic of An Incremental Predictive Current Control for PMSM with Small or Saturated Inductance
10:30 AM-12:00 PM	TP1106	Almoraya, Ahmed Ayed; Baker, Nick J.; Smith, Kristopher J.; Raihan, Mohammad Abdul-Hakim Newcastle University, United Kingdom Development of a Double-Sided Consequent Pole Linear Vernier Hybrid Permanent-Magnet Machine for Wave Energy Converters
10:30 AM-12:00 PM	TP1107	Zhang, Wei (1); Jewell, Geraint W.; Liang, Xingyan (2); Pan, Qinwei.

		1: School of Electrical Engineering, Nantong University, China, People's Republic of; 2: School of Computer and Technology, Nantong University, China, People's Republic of Cogging Torque Reduction in Hybrid-Excited Axial Field Flux-Switching Fault-Tolerant Machines
10:30 AM-12:00 PM	TP1108	Jing, Libing; Qu, Ronghai; Kong, Wubin; Li, Dawei; Huang, Hailin. Huazhong University of Science & Technology, China, People's Republic of Genetic-Algorithm-Based Analytical Method of SMPM Motors
10:30 AM-12:00 PM	TP1109	Hill, Damien John; Heins, Greg; Thiele, Mark Charles Darwin University, Australia Reduction of Torque Ripple Induced Acoustic Emissions in Permanent Magnet Synchronous Motors
10:30 AM-12:00 PM	TP1110	Du, Zhentao Stephen; Lipo, Thomas Anthony WEMPEC, United States of America An Improved Rotor Design for Dual-Stator Vernier Ferrite Permanent Magnet Machines
10:30 AM-12:00 PM	TP1111	Cao, Yanfei (1); Shi, Tingna (1); Liu, Yapeng ; Wang, Zhiqiang (2) 1: Tianjin University, China, People's Republic of; 2: Tianjin Polytechnic University, China, People's Republic of Commutation Torque Ripple Reduction for Brushless DC Motors with Commutation Time Shortened

POSTER SESSION TP12
Tuesday, May 23, 2017
10:30 AM-12:00 PM

Induction Machines III
Yumin Xiao, Bernd Ponick
(Symphony III)

10:30 AM-12:00 PM	TP1201	Salgado-Herrera, Nadia Maria (1); Medina-Rios, Aurelio (1); Tapia-Sánchez, Roberto (1); Anaya-Lara, Olimpo (2); Rodríguez-Rodríguez, Juan Ramon (3) 1: Universidad Michoacana de San Nicolás de Hidalgo, Mexico; 2: University of Strathclyde, UK; 3: Instituto Tecnológico de Morelia, México Reactive Power Compensation in Distributed Networks with Wind Turbine Integration using Resonant Corrector
10:30 AM-12:00 PM	TP1202	Amin, Ifte Khairul; Uddin, M. Nasir Lakehead University, Thunder Bay, ON, Canada MPPT Based Efficiently Controlled DFIG for Wind Energy Conversion System
10:30 AM-12:00 PM	TP1203	Kanchan, Rahul; Moghaddam, Reza ABB AB, Sweden Experimental validation of a novel core-loss model including additional harmonic losses for online energy efficient control of induction motors
10:30 AM-12:00 PM	TP1204	Ouachtouk, Ilias; El Hani, Soumia; Guedira, Said ; Dahi, Khalid; Mediouni, Hamza Mohammed V University, ENSET, Morocco Broken Rotor Bar fault detection based on Stator Current Envelopes Analysis in Squirrel Cage Induction Machine
10:30 AM-12:00 PM	TP1205	Al-Badri, Maher (1); Pillay, Pragasen (1); Angers, Pierre (2) 1: Concordia University, Canada; 2: Hydro-Québec, Canada Simple and Accurate Algorithm for Three-Phase IM Efficiency Estimation from Only No-Load Tests
10:30 AM-12:00 PM	TP1206	Kenneth, Okedu Caledonian College of Engineering, Oman Optimal Position and Best Switching Signal of SDBR in DFIG Wind Turbine Low Voltage Ride Through
10:30 AM-12:00 PM	TP1207	Mallard, Vincent (1,2); Parent, Guillaume (1); Demian, Cristian (1); Brudny, Jean-François (1); Delamotte, Aurélien (2) 1: Laboratoire Systèmes Electrotechniques et Environnement, France; 2: Favi SA, France Increasing the Energy-Efficiency of Induction Machines by the use of Grain Oriented Magnetic Materials and Die-Casting Copper Squirrel Cage in the Rotor
10:30 AM-12:00 PM	TP1208	Jung, Jae-Woo (1); Lee, Byeong-Hwa (2); Kim, Kyu-Seob (2); Hong, Jung-Pyo (3) 1: Hyundai Mobis, Korea, Republic of (South Korea); 2: KATECH, Korea, Republic of (South Korea); 3: Hanyang University, Korea, Republic of (South Korea) Design of IPMSM for Reduction of Eddy Current Loss in Permanent Magnets to Prevent Irreversible Demagnetization
10:30 AM-12:00 PM	TP1209	Wejdan Abu Elhajja, Vahid Ghorbanian, Jawad Faiz, Hossein Nejadi-Koti university of khartoum Significance of Rotor Slots Number on Induction Motor Operation under Broken Bars
10:30 AM-12:00 PM	TP1210	Marfoli, Alessandro; Papini, Luca; Gerada, Chris; Bolognesi, Paolo Nottingham University, United Kingdom Analysis of Induction Machine: comparison of modelling techniques

POSTER SESSION TP13
Tuesday, May 23, 2017
10:30 AM-12:00 PM

Special Machines, Sensors and Actuators II
Chris Gerada, Ahmed Mohamed
(Symphony III)

10:30 AM-12:00 PM	TP1301	Gieras, Jacek; Kucharski, Adrian ; Piechowski, Jozef University of Technology and Life Sciences, Poland Performance Characteristics of a Shake Flashlight
10:30 AM-12:00 PM	TP1302	Zhang, Jitao; Wu, Jie; Yang, Qian; Wang, Xiaolei; Zheng, Xiaowan; Cao, Lingzhi Zhengzhou University of Light Industry, China, People's Republic of An Autonomous Current-sensing System for Electric Cord Monitoring Using Magnetolectric Sensors
10:30 AM-12:00 PM	TP1303	Park, Jong-Hyun; Jung, Young-Hoon; Jung, Kyung-Tae; Yoon, Myung-Hwan; Hong, Jung-Pyo Hanyang University, Korea, Republic of (South Korea) Torque Density Improvement of Concentrated Flux-type Synchronous Motor for Automotive Application
10:30 AM-12:00 PM	TP1304	Lee, Ho-Young 1: Korea Institute of Industrial Technology, Korea, Republic of (South Korea) A Study on Brushless PM Slotless Motor with Toroidal Winding
10:30 AM-12:00 PM	TP1305	Lee, Eui-Chun (1,2); Kwon, Soon-O (1); Lee, Ho-Young (1); Seung-Gyo Jang (2); Hong, Jung-Pyo (3) 1: Korea Institute of Industrial Technology(KITECH), South Korea; 2: 4th R&D Institute ; 3: Department of Automotive Engineering, Hanyang University, Seoul , South Korea Effects of Rotor Pole Angle on Torque Characteristics of a limited-angle torque motor
10:30 AM-12:00 PM	TP1306	Bitsi, Konstantina; Kowal, Damian; Moghaddam, Reza-Rajabi ABB AB, Corporate Research, Sweden Novel Approach in Investigating the Rotor Lamination Iron Losses
10:30 AM-12:00 PM	TP1307	Cai, Mang; Quirin, Maurus; Henke, Markus TU Braunschweig, Germany Tubular PM Machine with Large Force Density and Small Force Ripple for Resonance Operation
10:30 AM-12:00 PM	TP1308	Hittinger, Christoph; Thyroff, Dominik; Hahn, Ingo University of Erlangen-Nuremberg, Germany Modelling and Examination of the Influence of a Short-Circuited Rotor Winding for Saliency Tracking of a Machine with a Three-Phase Single-Tooth Winding
10:30 AM-12:00 PM	TP1309	Li, Wenlong; Ching, T.W. University of Macau, Macau S.A.R. (China) A New Segmented-Stator Linear Vernier Permanent Magnet Machine for Direct-Drive Applications
10:30 AM-12:00 PM	TP1310	Park, Min-Ro (1); Kim, Doo-Young (1); Jung, Jae-Woo (2); Hong, Jung-Pyo (1) 1: Hanyang University, Korea, Republic of (South Korea); 2: Hyundai Mobis, Korea, Republic of (South Korea) Design Of High Torque Density Multi-Core Concentrated Flux-Type Synchronous Motors Considering Vibration Characteristic

POSTER SESSION TP14
Tuesday, May 23, 2017
10:30 AM-12:00 PM

Optimization for Electrical Machines I
Mohmoud Amin, Dionysios Aliprantis
(Symphony III)

10:30 AM-12:00 PM	TP1401	Bramerdorfer, Gerd (1); Leiprecht, Fabian (2); Kobler, Ralf (3); Bobba, Dheeraj (4); Sarlioglu, Bulent (4) 1: Johannes Kepler University Linz, Austria; 2: Engel Austria GmbH, Austria; 3: Linz Center of Mechatronics GmbH, Austria; 4: WEMPEC, Department of Electrical and Computer Engineering, University of Wisconsin - Madison, Madison, WI, USA Contributions on the CAD-based Design and Optimization of Flux Switching Permanent Magnet Machines
10:30 AM-12:00 PM	TP1402	Souza, Wanberton Gabriel (1); Andrade, Darizon Alves (1); Dos Santos Júnior, Josemar Alves (2); Dos Anjos, Fagner L. (1); De Moraes, Filhoos José (1), Cássio Alves Oliveira (1) 1: Universidade Federal de Uberlândia, Brazil; 2: Federal Institute of Goiás, Brazil Wireless Power Transfer Using a Full Bridge Converter With Zero Voltage Switching
10:30 AM-12:00 PM	TP1403	Ahmed, Adeeb; Husain, Iqbal North Carolina State University, United States of America Power Factor Improvement of a Transverse Flux Machine with High Torque Density

10:30 AM-12:00 PM	TP1404	El Youssef, Mohamad (1); Van Gorp, Adrien (1); Clenet, Stephane (1); Benabou, Abdelkader (2); Faverolle, Pierre (3); Mipo, Jean-Claude (3); Lavalley, Yanninck (4); Cour, Christiane (4); Lecuppe, Thomas (4) 1: Univ. Lille, Centrale Lille; 2: Arts & Metiers ParisTech; 3: Valeo-2 Rue André Charles Boulle; 4: R.Bourgeois-25, Rue de Trépillot BP Slink Stator: The impact of manufacturing process on the magnetic properties.
10:30 AM-12:00 PM	TP1405	Baker, James Leslie; Mellor, Phil Henry University of Bristol, United Kingdom Influence of Stator Split-Ratio upon the Thermally Limited Power-Envelope of a Permanent-Magnet Electrical Machine
10:30 AM-12:00 PM	TP1406	Bosco, Maycon Chimini; Guedes, Jacqueline Jordan; Castoldi, Marcelo Favoretto; Goedtel, Alessandro; Da Silva, Emerson Ravazzi Pires; Buzachero, Luiz Francisco Sanches Federal Technological University of Parana, Brazil Estimation of Parameters and Tuning of a Speed PI of Permanent Magnet DC Motor Using Differential Evolution
10:30 AM-12:00 PM	TP1407	Pouramin, Alireza; Ekanayake, Sithumini; Dutta, Rukmi; Rahman, M. F. University of New South Wales, Australia Challenges for Including Characteristic Current as a Design Parameter in Optimization of IPM Machines
10:30 AM-12:00 PM	TP1408	Kim, Kyu-Seob; Kim, Kyu-Sik; Lee, Byeong-Hwa KATECH, Korea, Republic of (South Korea) Taguchi Robust Design for the Multi-Response with Consideration for the Manufacturing Tolerance Used in High Speed Air Blower Motor
10:30 AM-12:00 PM	TP1409	Roffi, Michele (1,2); Ferreira, Fernando J. T. E. (1); De Almeida, Anibal T. (1) 1: Institute of Systems and Robotics, University of Coimbra, Portugal; 2: University of Pisa, Italy Comparison of Different Cooling Fan Designs for Electric Motors
10:30 AM-12:00 PM	TP1410	Shi, Chaojie; Qu, Ronghai; Li, Jian; Li, Dawei; Gao, Yuting School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, China, People's Republic of Design and Optimization of An Interior Permanent Magnet Machine with Asymmetric Stator Iron Yoke Used in Rail Transportation

POSTER SESSION TP15
Tuesday, May 23, 2017
10:30 AM-12:00 PM

Drives for Transportation II
Kiruba Haran, Nicola Bianchi
(Symphony III)

10:30 AM-12:00 PM	TP1501	Onambele, Charles; Mpanda, Augustin; Elsie, Moataz; Giacchetti, Francesco; ESIEE Amiens, France Co-simulation Modeling of High Performance Motor-drive Systems for Aerospace applications
10:30 AM-12:00 PM	TP1502	Niu, He General Motors, Global Propulsion Systems, United States of America A Review of Power Cycle Driven Fatigue, Aging, and Failure Modes for Semiconductor Power Modules
10:30 AM-12:00 PM	TP1503	Heo, Jongwon; Matsuo, Kentaro; Hen, Pisithkun; Kondo, Keiichiro Chiba University, Japan Dynamics of A Minimum DC Link Voltage Driving Method to Reduce System Loss for Hybrid Electric Vehicles
10:30 AM-12:00 PM	TP1504	Najmabadi, Ali (1); Xu, Wei (2); Degner, Michael (3) 1: Ford Motor Company, United States of America; 2: Ford Motor Company, United States of America; 3: Ford Motor Company, United States of America A Sensitivity Analysis on the Fifth and the Seventh Harmonic Current Injection for Sixth Order Torque Ripple Reduction
10:30 AM-12:00 PM	TP1505	Korhonen, Juhamatti; Honkanen, Jari; Kärkkäinen, Tommi J.; Nerg, Janne; Silventoinen, Pertti Lappeenranta University of Technology, Finland Modulation and control methods to reduce zero sequence current in open-end winding motors
10:30 AM-12:00 PM	TP1506	Yao, Fang (1); Geng, Lei (1); Janabi, Ameer (2); Wang, Bingsen (2) 1: Hebei University of Technology, Tianjin, China; 2: Michigan State University, East Lansing, MI, US Impact of Modulation Schemes on DC-Link Capacitor of VSI in HEV Applications
10:30 AM-12:00 PM	TP1507	Li, Yun; Li, Zijian; Zhu, Shiwu; Jiao, Mingliang; Wu, Chundong Dynex Semiconductor Ltd, United Kingdom Junction Temperature Post-Fault Analysis of Single IGBT Short-Circuit for Double-Side Cooling Inverter Used for Electric Vehicle

10:30 AM-12:00 PM	TP1508	Hind, David (1); Trentin, Andrew (1); Degano, Marco (1); Arevalo Lopez, Saul (1); Galea, Michael (1); Gerada, Chris (1); Paciura, Krzysztof (2) 1: University of Nottingham, United Kingdom; 2: Cummins Research & Technology, Stamford A Hybrid Sensorless Control Solution for an Automotive Drive Application
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POSTER SESSION TP21

Tuesday, May 23, 2017

1:00 PM-2:30 PM

Reluctance Machines II

Kan Akatsu, Yilmaz Sozer

(Symphony III)

1:00 PM-2:30 PM	TP2101	Stillwagon, Brittany Lynn; Uddin, Wasi; Sozer, Yilmaz University of Akron, United States of America Continuous Conduction Operation for Mutually Coupled Switched Reluctance Machines
1:00 PM-2:30 PM	TP2102	Alves Dos Santos Junior, Josemar (1,2); Alves De Andrade, Darizon (1); Souza, Wanberton Gabriel (1); Moraes Filho, Marcos José (1); Alves De Oliveira, Cassio (1); Viajante, Ghunter Paulo (2); Arantes De Freitas, Marcos Antonio (2); Xavier Rocha, Cassio (1) 1: Federal University of Uberlandia, Brazil; 2: Federal Institute of Goias - Itumbiara SIMULATION AND EXPERIMENTAL VERIFICATION OF A CAGELESS SYNCHRONOUS RELUCTANCE MOTOR
1:00 PM-2:30 PM	TP2103	Bao, Jing; Gysen, B.L.J.; Boynov, Kontantin; Paulides, Johan; Bastiaens, K.; Lomonova, Elena TU/e Analysis and Minimization of Torque Ripple for Variable Flux Reluctance Machines
1:00 PM-2:30 PM	TP2104	Roshanfekar, Poopak (1); Lundmark, Sonja (1); Anvari, Bahareh (2); Thiringer, Torbjörn (1) 1: Chalmers University of Technology, Sweden; 2: Texas A & M University Investigation of Pole Number Selection in a Synchronous Reluctance Generator for Wind Applications
1:00 PM-2:30 PM	TP2105	Kerdsup, Burin; Kreuawan, Sangkla National Electronics and Computer Technology Center (NECTEC), Thailand Design of Synchronous Reluctance Motors with IE4 Energy Efficiency Standard Competitive to BLDC Motors used for Blowers in Air Conditioners
1:00 PM-2:30 PM	TP2106	Nguyen, Duy-Minh; Bahri, Imen; Krebs, Guillaume; Marchand, Claude GeePs Group of electrical engineering – Paris, UMR CNRS 8507, CentraleSupélec, Univ. Paris-Sud, Univ. Paris-Saclay, Sorbonne Universités, UPMC Univ. Paris 06, France Intermittent Control for Efficiency Gain of a Switched Reluctance Machine
1:00 PM-2:30 PM	TP2107	Cao, Guang-Zhong (1); Xiao, Song-Song (1); Huang, Su-Dan (1); Chen, Zhi-Min (1); Liang, De-Liang (2) 1: Shenzhen University, China, People's Republic of; 2: Xi'an Jiaotong University, China, People's Republic of Sensorless Position Detection of the Planar Switched Reluctance Motor Using the Current Injection Method
1:00 PM-2:30 PM	TP2108	Gong, Cheng; Habetler, Thomas Georgia Institute of Technology, United States of America A Novel Rotor Design for Ultra-high Speed Switched Reluctance Machines over 1 Million rpm
1:00 PM-2:30 PM	TP2109	Combes, Pascal (1); Malrait, Francois (1); Martin, Philippe (2); Rouchon, Pierre (2) 1: Schneider Toshiba Inverter Europe, France; 2: PSL Research University, France Modeling and Identification of Synchronous Reluctance Motors
1:00 PM-2:30 PM	TP2110	Gong, Cheng; Habetler, Thomas; Restrepo, Jose; Soderholm, Brian Georgia Institute of Technology, United States of America Direct Position Control for Ultra-high Speed Switched Reluctance Machines Based on Non-contact Optical Sensors
1:00 PM-2:30 PM	TP2111	Muteba, Mbika; Twala, Bhokisipho; Nicolae, Dan Valentin University of Johannesburg, South Africa Based 3D Finite Element Analysis of a Synchronous Reluctance Motor with Sinusoidal Rotor Shape

POSTER SESSION TP22

Tuesday, May 23, 2017

1:00 PM-2:30 PM

Optimization for Electrical Machines II and Simulation Technology

for Motors II

Katsumi Yamazaki, Xiao Li

(Symphony III)

1:00 PM-2:30 PM	TP2201	Raihan, Mohammad Abdul Hakim; Baker, Nick J.; Smith, Kristopher J.; Almoraya, Ahmed Ayed Newcastle University, United Kingdom An E-core Linear Veriner Hybrid Permanent Magnet Machine with Segmented Translator for Direct Drive Wave Energy Converter
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1:00 PM-2:30 PM	TP2202	Engevik, Erlend L.; Hestengen, Truls E.; Valavi, Mostafa; Nysveen, Arne Norwegian University of Science and Technology (NTNU), Norway Effects of lifting reactance requirements on the optimal design of converter-fed synchronous hydrogenerators
1:00 PM-2:30 PM	TP2203	Borchardt, Norman; Kasper, Roland Otto von Guericke University Magdeburg, Germany Analytical Magnetic Circuit Design Optimization of Electrical Machines With Air Gap Winding Using a Halbach Array
1:00 PM-2:30 PM	TP2204	Eroglu, Isaak; Horlbeck, Lorenz; Hackl, Christoph M.; Lienkamp, Markus Technical University of Munich, Germany Increasing the Overall Efficiency of Induction Motors for BEV by using the Overload Potential through Downsizing
1:00 PM-2:30 PM	TP2205	Lee, Heekwang; Nam, Kwanghee POSTECH, Korea, Republic of (South Korea) Selection of Copper Loss Minimizing D-axis Inductance in IPMSM Design
1:00 PM-2:30 PM	TP2206	PICHOT, Renaud UTBM, France Design optimization method of BLDC motors within an industrial context
1:00 PM-2:30 PM	TP2207	Kato, Tetsuji; Maki, Kohji Research & Development Group, Hitachi Ltd., Japan Equivalent Circuit Simulation of Stator Coil End of High-Voltage Electrical Machine at High dV/dt
1:00 PM-2:30 PM	TP2208	Chauvicourt, Fabien (1,2,3); Kesavan, Ramakrishnan (4); Cassio, Faria (1); Gustavo, Myrria (1); Gianpiero, Mastinu (4) 1: Siemens Industry Software NV, Belgium; 2: Katholieke Universiteit Leuven, Belgium; 3: Université Libre de Bruxelles, Belgium; 4: Politecnico di Milano, Italy Analytical Multi-physics Methodology for Fast Acoustic Noise Prediction of an External Rotor SPMSM
1:00 PM-2:30 PM	TP2209	Lorenzo-Bonache, Alberto (1); Villena-Ruiz, Raquel (1); Honrubia-Escribano, Andres (1); Molina-Garcia, Angel (2); Gomez-Lazaro, Emilio (1) 1: Renewable Energy Research Institute and DIEEAC-EDII-AB. Universidad de Castilla-La Mancha, Spain; 2: Department of Electrical Engineering, Universidad Politécnica de Cartagena Comparison of a Standard Type 3B WT Model with a Commercial Build-in Model
1:00 PM-2:30 PM	TP2210	Sano, Hiroyuki; Aasanuma, Tatsuya; Katagiri, Hirokatsu; Miwa, Masahiko; Semba, Kazuki; Yamada, Takashi JSOL Corporation, Japan Loss Calculation of Bar-Wound High-Power-Density PMSMs with Massively Parallel Processing

POSTER SESSION TP23

**Tuesday, May 23, 2017
1:00 PM-2:30 PM**

Condition Monitoring, Noise and Vibration IV and Magnetless or Reduced Magnet Machines for Emerging Applications III
Marius Rosu, Ahmed Arshan Khan
(Symphony III)

1:00 PM-2:30 PM	TP2301	Dos Santos, Tiago (1); Ferreira, Fernando J. T. E. (2); Moura Pires, João; Damásio, Carlos 1: Department of Computer Science, FCT/UNL, Portugal; Altran Portugal; 2: Dep. Electrical and Computer Engineering, University of Coimbra, Portugal Stator Winding Short-Circuit Fault Diagnosis in Induction Motors using Random Forest
1:00 PM-2:30 PM	TP2302	Heydarzadeh, Mehrdad; Zafarani, Mohsen; Akin, Bilal; Nourani, Mehrdad The University of Texas at Dallas, United States of America RUL Estimation in Rotary Machines Using Linear Dimension Reduction and Bayesian Inference
1:00 PM-2:30 PM	TP2303	Devillers, Emile (1,2); Hecquet, Michel (2); Le Besnerais, Jean (1); Régniez, Margaux (2) 1: Eomys Engineering; 2: Ecole Centrale de Lille Effect of tangential flux density on radial magnetic force for the vibroacoustic study of induction machines at no-load and load state
1:00 PM-2:30 PM	TP2304	Mohammed, Anees; Sarma, Nur; Djurovic, Sinisa The University of Manchester, United Kingdom Fibre Optic Monitoring of Induction Machine Frame Strain as a Diagnostic Tool
1:00 PM-2:30 PM	TP2305	Bonthu, Sai Sudheer Reddy; Islam, Md. Zakirul; Choi, Seungdeog University of Akron, United States of America Design of a Rare Earth Free External Rotor Permanent Magnet assisted Synchronous Reluctance Motor
1:00 PM-2:30 PM	TP2306	Messenger, Gael; Binder, Andreas Technical University Darmstadt, Germany

		Derivation of forces and force disturbances in a Double Conical High-Speed Bearingless Permanent Magnet Synchronous Motor
1:00 PM-2:30 PM	TP2307	Xu, Shilei (1); Liu, Xiquan (2) 1: Beihang University, China; 2: Institute of Electrical Engineering, Chinese Academy of Sciences, China Magnetic field computation for a high speed surface mounted permanent magnet machine with parallel magnetized magnet segments

ORAL SESSION TO21
Tuesday, May 23, 2017
3:00 PM-5:00 PM

Permanent Magnet Machines VI
Kent Davey, Ronghai Qu
(Symphony I)

3:00 PM-3:25 PM	TO211	Anvari, Bahareh (1); Li, Xiaojun (2); Toliyat, Hamid (1); Palazzolo, Alan (2); Wang, Zhiyang (2); Han, Xu (3) 1: Department of Electrical and Computer engineering, Texas A&M University, College Station, TX 77843; 2: Department of Mechanical Engineering, Texas A&M University, College Station, TX 77843; 3: Ge Global Research, Albany, NY, 12201 A Coreless Permanent-Magnet Machine for A Magnetically Levitated Shaft-Less Flywheel
3:25 PM-3:50 PM	TO212	Ashourianjozdani, Mohammadhossein; A. C Lopes, Luiz; Pillay, Pragasen Concordia University, Canada Converter-Based PMSG Emulator: A Testbed for Renewable Energy Experiments
3:50 PM-4:15PM	TO213	Castro Palavicino, Pablo Eduardo; Bobba, Dheeraj; Sarioglu, Bulent University of Wisconsin-Madison, United States of America Fault index current estimation and analysis for fault diagnostics in IPMSM under inter-turn short circuits
4:15PM-4:40 PM	TO214	Millinger, Jonas Gustav (1); Wallmark, Oskar (1); Soulard, Juliette (2) 1: KTH, Sweden; 2: University of Warwick, United Kingdom Influence of Lamination Thickness on Harmonic Losses in 2-pole Slotless Permanent-Magnet Motors
4:40 PM-5:05 PM	TO215	Zhu, Z.Q.; Zhan, Hanlin; Wu, Z.Z. The University of Sheffield, United Kingdom Electromagnetic Performance of Partitioned Stator Switched Flux Permanent Magnet Synchronous Generator

ORAL SESSION TO22
Tuesday, May 23, 2017
3:00 PM-5:00 PM

Synchronous Motor Drives III
Luca Solero, David Lowther
(Symphony II)

3:00 PM-3:25 PM	TO221	Rovere, Luca; Formentini, Andrea; Lo Calzo, Giovanni; Cox, Tom ; Zanchetta, Pericle University of Nottingham, United Kingdom IGBT-SiC Dual Fed Open End Winding PMSM Drive
3:25 PM-3:50 PM	TO222	Dehez, Bruno (1); Baudart, Francois (1); Perriard, Yves (2) 1: Université catholique de Louvain (UCL), Belgium; 2: Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland Analysis of a new topology of flexible PCB winding for slotless BLDC machines
3:50 PM-4:15PM	TO223	Morya, Ajay; Moosavi, Morteza; Gardner, Mathew C.; Toliyat, Hamid Texas A&M University, United States of America Applications of Wide Bandgap (WBG) Devices in AC Electric Drives: A Technology Status Review
4:15PM-4:40 PM	TO224	Stempfle, Martin Benjamin; Nietzsche, Maximilian; Wöfle, Julian; Zehelein, Matthias ; Xu, Xiaolei ; Roth-Stielow, Jörg University of Stuttgart, Germany Simple but Accurate Loss Modelling of an IPMSM Considering Harmonic Losses and Saturation Effects
4:40 PM-5:05 PM	TO225	Zhan, Hanlin (1); Zhu, Z.Q. (1); Odavic, M. (1); Wu, Zhanyuan (2); Thomas, Arwyn S. (2) 1: The University of Sheffield, United Kingdom; 2: Siemens Wind Power, Sheffield, UK Robust Initial Phase Correction Strategy for Zero Sequence Back EMF Based Sensorless Drive under Transition from Current Regulation Control

ORAL SESSION TO23
Tuesday, May 23, 2017
3:00 PM-5:00 PM

Design Related Problems III
Yang Hu, Nicola Bianchi
(Concerto A)

3:00 PM-3:25 PM	TO231	Taran, Narges (1); Rallabandi, Vandana (1); Ionel, Dan M. (1); Zhou, Ping (2) 1: University of Kentucky, United States of America; 2: ANSYS, Inc., United States of America On the Effect of Design Tolerances on the Performance of Synchronous PM Machines Evaluated According to the IEEE Std 1812
3:25 PM-3:50 PM	TO232	Simpson, Nick; Mellor, Phil University of Bristol, United Kingdom Additive Manufacturing of Shaped Profile Windings for Minimal AC Loss in Gapped Inductors
3:50 PM-4:15PM	TO233	Alwash, Mahmood; Sweet, Mark; Narayanan, E.M.S. The University of Sheffield, United Kingdom Analysis of Voltage Source Converters Under DC Line-to-Line Short-Circuit Fault Conditions
4:15PM-4:40 PM	TO234	Fernando, Nuwantha (1); Romanazzi, Pietro (2); Mcculloch, Malcolm (3) 1: RMIT University, Australia; 2: University of Oxford; 3: University of Oxford Degradation of Mechanical Properties of Class-H Winding Insulation
4:40 PM-5:05 PM	TO235	Xiong, Han; Louie, Alex; Rui, Liu; Zhang, Julia; Von Jouanne, Annette 1: Oregon State University, USA Finite Element Analysis Modeling and Experimental Verification of Reflected Wave Phenomena in Variable Speed Machine Drive Cables

ORAL SESSION TO24
Tuesday, May 23, 2017
3:00 PM-5:00 PM

Bearingless Motors II
Junichi Asama, Wolfgang Gruber
(Concerto B)

3:00 PM-3:25 PM	TO241	Ueno, Satoshi; Mameda, Junichi; Jiang, Changan Ritsumeikan University, Japan Analysis and Control of Radial Force and Tilt Moment for an Axial-Gap Self-Bearing Motor
3:25 PM-3:50PM	TO242	Sugimoto, Hiroya; Ono, Sayaka; Chiba, Akira Tokyo Institute of Technology, Japan A Novel Design of High-Speed Single-Drive Bearingless Motor
3:50 PM-4:15PM	TO243	Kurita, Nobuyuki (1); Ishikawa, Takeo (1); Saito, Naoki (1); Masuzawa, Toru (2); Timms, Daniel (3) 1: Gunma University, Japan; 2: Ibaraki University, Japan; 3: BiVACOR Inc., USA A Double-Sided Stator type Axial Self-bearing Motor Development for Total Artificial Heart
4:15PM-4:40 PM	TO244	Severson, Eric Loren; Mohan, Ned University of Minnesota, United States of America Bearingless Motor System Design for Industrial Applications
4:40 PM-5:05 PM	TO245	Tsunoda, Wataru; Chiba, Akira; Shinshi, Tadahiko Tokyo Institute of Technology, Japan Suppression of Self-Excited Vibration Caused by Oil Film Bearing Using Bearingless Motor
5:05 PM-5:30 PM	TO246	Nair, Sreeju Sreedharan (1); Wang, Jiabin (1); Chen, Liang (1); Chin, Robert (2); Beniakar, Minos (2) 1: The University of Sheffield,UK; 2: ABB Corporate Research,Sweden Prediction of 3D Eddy Current Loss in Retaining Sleeve of Surface Mounted Permanent Magnet Machines

ORAL SESSION TO25
Tuesday, May 23, 2017
3:00 PM-5:00 PM

Optimization for Electrical Machines III
Dionysios Aliprantis, Hiroyuki Sano
(Concerto C)

3:00 PM-3:25 PM	TO251	Angle, Matthew Gates; Lang, Jeffrey H; Kirtley, James L; Kim, Sangbae; Otten, David Massachusetts Institute of Technology, United States of America Optimization of Surface-Mount Permanent Magnet Synchronous Machines for Low Duty-Cycle, High-Torque Applications
3:25 PM-3:50 PM	TO252	Dotz, Boris (1); Gerling, Dieter (2) 1: Feaam GmbH, Germany; 2: Chair of Electrical Drives and Actuators, Universitaet der Bundeswehr Muenchen Windings with Various Numbers of Turns per Phasor
3:50 PM-4:15PM	TO253	Yi, Xuan; Yoon, Andy; Haran, Kiruba University of Illinois Urbana - Champaign, United States of America Multi-Physics Optimization for High-Frequency Air-Core Permanent-Magnet Motor of Aircraft Application
4:15PM-4:40 PM	TO254	Brovont, Aaron Dean

		The University of Alabama, United States of America Exploring the Boundary Element Method for Optimization-Based Machine Design
4:40 PM-5:05 PM	TO255	Zhang, Shen (1); Li, Sufei (1); Harley, Ronald G. (1,2); Habetler, Thomas G. (1) 1: Georgia Institute of Technology, United States of America; 2: University of KwaZulu-Natal, Durban, South Africa A Multi-Objective Analytical Design Approach of Switched Reluctance Machines with Integrated Active Current Profile Optimization

ORAL SESSION TO26
Tuesday, May 23, 2017
3:00 PM-5:00 PM

High Speed Electrical Machines and Drives III
Tarek Yousef, Bulent Sarlioglu
(Picasso)

3:00 PM-3:25 PM	TO261	Burnand, Guillaume; Martins Araujo, Douglas; Perriard, Yves École polytechnique fédérale de Lausanne (EPFL) - LAI, Switzerland Very-High-Speed Permanent Magnet Motors: Mechanical Rotor Stresses Analytical Mode
3:25 PM-3:50 PM	TO262	Zhang, Xiang; Yang, Jiaqiang Zhejiang University, China, People's Republic of A DC-link Voltage Fast Control Strategy for Highspeed PMSM/G in Flywheel Energy Storage System
3:50 PM-4:15PM	TO263	Alani, Mahir (1); Barrans, Simon (2); Carter, Jeff (3) 1: University of Huddersfield, United Kingdom; 2: University of Huddersfield, United Kingdom; 3: BorgWarner Turbo Systems, United Kingdom Rotor Loss Reduction Using Segmented Inverter in Surface-Mounted Permanent Magnet Drive
4:15PM-4:40 PM	TO264	Mohamed, Mohamed Awad S.; Lambert, Simon M.; Mecrow, Barrie C.; Deng, Xu; Ullah, Sana; Smith, Alexander C. University of Newcastle Upon Tyne, United Kingdom Integrating the Magnetics of an LCL Filter into a High Speed Machine with Pre-Compressed Coils
4:40 PM-5:05 PM	TO265	Kisk, Dragos Ovidiu (1); Kisk, Mariana (2); Anghel, Dragos (1) 1: University Politehnica of Bucharest, Faculty of Electrical Engineering, Romania; 2: Cygnus Computer Bucharest, Romania Sensorless Control of High-Speed IPMSM based on Rotor-Flux and Fictitious-Flux Estimation
5:05 PM-5:30 PM	TO266	Karmaker, Haran (1); Guedes-Pinto, Paulo (1); Keck, Jim (1); Chen, Edward (1); Ledezma, Enrique (1); Fox, Curtiss (2) 1: TECO Westinghouse, United States of America; 2: Clemson University, SC, USA High Speed MW-rated Induction Motor Drive System

ORAL SESSION WO11
Wednesday, May 24, 2017
8:00 AM-10:00 AM

Permanent Magnet Machines VII
Mahmoud Amin, Ronghai Qu
(Symphony I)

8:00 AM-8:25 AM	WO111	Gardner, Matthew C.; Jack, Benjamin E.; Johnson, Matthew; Toliyat, Hamid A. Texas A&M University, United States of America Comparison of Coaxial Radial Flux Magnetic Gears Independently Optimized for Volume, Cost, and Mass
8:25 AM-8:50AM	WO112	Jayasankar, Seethal; Maharjan, Lizon; Cosoroaba, Eva; Bostanci, Emine; Fahimi, Babak University of Texas at Dallas, United States of America On the Proximity Effects of High-Energy Magnets on M-19 Magnetic Steel Core
8:50 AM-9:15 AM	WO113	Jeong, Chae-Lim; Hur, Jin Incheon National University, Korea, Republic of (South Korea) Design Technique for PMSM with Hybrid Type Permanent Magnet
9:15 AM-9:40 AM	WO114	Yon, Jason M.; Baker, James L.; Mellor, Phillip H.; Williamson, Samuel J.; Wrobel, Rafal University of Bristol, United Kingdom Test Characterization of a High Performance Fault Tolerant Permanent Magnet Machine
9:40 AM-10:05 AM	WO115	Copt, Florian; Martins Araujo, Douglas; Koechli, Christian; Perriard, Yves Ecole polytechnique fédérale de Lausanne, Switzerland Dynamic winding reconfiguration of a brushless DC motor

ORAL SESSION WO12
Wednesday, May 24, 2017
8:00 AM-10:00 AM

Synchronous Motor Drives IV
Rafal Jastrzebski, Nobuyuki Kurita
(Symphony II)

8:00 AM-8:25 AM	WO121	Manzolini, Virginia; Da Rù, Davide; Bolognani, Silverio University of Padova, Italy A New Control Strategy for High Efficiency Wide Speed Range Synchronous Reluctance Motor Drives
8:25 AM-8:50AM	WO122	Dieterle, Oliver Niklas; Greiner, Thomas Pforzheim University, Germany Impact of the Magnetic Coupling in a Quadruple-Star Permanent Magnet Synchronous Machine with Segmented Stator Windings
8:50 AM-9:15 AM	WO123	Zhan, Hanlin (1); Zhu, Z.Q. (1); Odavic, M. (1); Wu, Zhanyuan (2); Thomas, Arwyn S. (2) 1: The University of Sheffield, United Kingdom; 2: Siemens Wind Power, Sheffield, United Kingdom Performance Evaluation of Adjustable Space-Vector PWM Strategy for Open-Winding PMSM Drives
9:15 AM-9:40 AM	WO124	Liang, Donglai; Li, Jian; Qu, Ronghai Huazhong University of Science and Technology, China, People's Republic of Super-Twisting Algorithm Based Sliding Mode Observer for Wide-Speed Range PMSM Sensorless Control Considering VSI Nonlinearity
9:40 AM-10:05 AM	WO125	Varatharajan, Anantaram (1); Cruz, Sérgio (1); Hadla, Hazem (1); Briz, Fernando (2) 1: University of Coimbra, Instituto de Telecomunicações, Portugal; 2: University of Oviedo, Spain Predictive Torque Control of SynRM Drives With Online MTPA Trajectory Tracking and Inductances Estimation

ORAL SESSION WO13
Wednesday, May 24, 2017
8:00 AM-10:00 AM

Induction Motor Drives II
Somia El Hani, Kazuto Sakai
(Concerto A)

8:00 AM-8:25 AM	WO131	Liu, Zhijun; Skibinski, Gary Rockwell Automation, United States of America Method to Reduce Overvoltage on AC Motor Insulation from Inverters with Ultra-Long Cable
8:25 AM-8:50AM	WO132	Ozturk, Salih Baris (1); Kivanc, Omer Cihan (1); Atila, Berkin (1); Rehman, Saeed Ur (1); Akin, Bilal (2); Toliyat, Hamid A. (3) 1: Okan University, Istanbul, Turkey; 2: University of Texas, Dallas, TX; 3: Texas A&M University, College Station, TX A Simple Least Squares Approach for Low Speed Performance Analysis of Indirect FOC Induction Motor Drive Using Low-Resolution Position Sensor
8:50 AM-9:15 AM	WO133	Gonçalves, Pedro; Cruz, Sérgio; Caseiro, Luís; Abadi, Mohsen; Mendes, André University of Coimbra and Instituto de Telecomunicações, Portugal Predictive Power Control of a DFIG Driven by a Back-to-Back Three-Level Neutral-Point Clamped Converter
9:15 AM-9:40 AM	WO134	He, Jiangbiao (1); Chen, Hao (2); Katebi, Ramin (2); Weise, Nathan (2); Demerdash, Nabeel (2) 1: GE Global Research, United States of America; 2: Marquette University, United States of America Mitigation of Uneven Surge Voltage Stress on Stator Windings of Induction Motors Fed by SiC-MOSFETbased Adjustable Speed Drives
9:40 AM-10:05 AM	WO135	Janabi, Ameer; Wang, Bingsen Michigan State University, United States of America Variable Mode Model Predictive Control for Minimizing the Thermal Stress in Electric Drives

ORAL SESSION WO14
Wednesday, May 24, 2017
8:00 AM-10:00 AM

Bearingless Motors III
Wolfgang Gruber, Hiroya Sugimoto
(Concerto B)

8:00 AM-8:25 AM	WO141	Asama, Junichi (1); Oi, Takumi (1); Oiwa, Takaaki (1); Chiba, Akira (2) 1: Shizuoka University, Japan; 2: Tokyo Institute of Technology, Japan Investigation of Integrated Winding Configuration for a Two-DOF Controlled Bearingless PM Motor Using One Three-Phase Inverter
8:25 AM-8:50AM	WO142	Schuck, Marcel (1); Da Silva Fernandes, Andre (1); Kolar, Johann W. (1); Steinert, Daniel (2) 1: ETH Zurich; 2: Levitronix GmbH A High Speed Millimeter-Scale Slotless Bearingless Slice Motor
8:50 AM-9:15 AM	WO143	Holenstein, Thomas (1); Greiner, Jonas (1); Kolar, Johann W. (1); Steinert, Daniel (2)

		1: ETH Zurich, Power Electronic Systems Laboratory, Zurich, Switzerland; 2: Levitronix GmbH, Zurich, Switzerland A High Torque, Wide Air Gap Bearingless Motor with Permanent Magnet Free Rotor
9:15 AM-9:40 AM	WO144	Mitterhofer, Hubert (1); Jungmayr, Gerald (2); Amrhein, Wolfgang (2) 1: Linz Center of Mechatronics GmbH, Austria; 2: Johannes Kepler University Linz Coaxial Tilt Damping Coil with Additional Active Actuation Capabilities
9:40 AM-10:05 AM	WO145	Gruber, Wolfgang (1,2); Remplbauer, Richard (1); Göbl, Elisabeth (1) 1: Johannes Kepler University Linz, Austria; 2: Linz Center of Mechatronics, Austria Design of a Novel Bearingless Permanent Magnet Vernier Slice Motor with External Rotor

ORAL SESSION WO15
Wednesday, May 24, 2017
8:00 AM-10:00 AM

Optimization for Electrical Machines IV
Babak Fahimi, Katsumi Yamazaki
(Concerto C)

8:00 AM-8:25 AM	WO151	Bramerdorfer, Gerd (1); Cavagnino, Andrea (2); Vaschetto, Silvio (2) 1: Johannes Kepler University Linz, Department of Electrical Drives and Power Electronics, Linz, Austria; 2: Politecnico di Torino, Dipartimento Energia, Turin, Italy Cost-optimal machine designs fulfilling efficiency requirements: a comparison of IMs and PMSMs
8:25 AM-8:50AM	WO152	Kehne, Sebastian; Epple, Alexander; Herfs, Werner Laboratory for Machine Tools and Production Engineering (WZL), Germany Cost- and Vibration-Minimizing Selection of Mechanical Components of Forward-Feed Drive Systems With Modern H²-Optimization
8:50 AM-9:15 AM	WO153	Schneider, Maximilian (1); Schaab, Darian Andreas (2); Rinderknecht, Stephan (1) 1: Technische Universität Darmstadt, Germany; 2: Universität Stuttgart, Germany Loss Models of a PMSM in an Outer Rotor Flywheel Concept
9:15 AM-9:40 AM	WO154	Alibeik, Maryam (2); Nezamuddin, Omar (2); Rubin, Mathew (1); Wheeler, Nathan (2); Silvestri, Stefano (3); Dos Santos, Euzeli (2) 1: Indiana University; 2: Indiana University Purdue University Indianapolis Airgap-less Electric Motor: A Solution for High-Torque Low-Speed Applications
9:40 AM-10:05 AM	WO155	Mirić, Spasoje; Tüysüz, Arda; Kolar, Johann Walter ETH Zurich, Switzerland Comparative Evaluation of Linear-Rotary Actuator Topologies for Highly Dynamic Applications

ORAL SESSION WO16
Wednesday, May 24, 2017
8:00 AM-10:00 AM

High Speed Electrical Machines and Drives IV
Bulent Sarlioglu, Thomas Wu
(Picasso)

8:00 AM-8:25 AM	WO161	Ullah, Zia; Hur, Jin Incheon national university, Korea, Republic of (South Korea) Distortion Voltage Compensation in Field-Weakening Region of IPMSM
8:25 AM-8:50AM	WO162	Butterweck, Daniel; Hombitzer, Marco; Hameyer, Kay Institute of Electrical Machines RWTH Aachen, Germany Multiphysical Design Methodology of a High-Speed Induction Motor for a Kinematic-Electric Powertrain
8:50 AM-9:15 AM	WO163	Peter, Klaus (1); Böcker, Joachim (1); Mink, Fabian (2) 1: Paderborn University, Germany; 2: LTI Motion GmbH, Germany Model-Based Control Structure for High-Speed PM-Synchronous Drives
9:15 AM-9:40 AM	WO164	Aiso, Kohei (1); Akatsu, Kan (2); Aoyama, Yasuaki (3) 1: Shibaura Institute of Technology, Japan; 2: Shibaura Institute of Technology, Japan; 3: Hitachi, Ltd., Research & Development Group, Center for Technology Innovation - Controls, Japan A Novel Magnetic Gear for High Speed Motor System
9:40 AM-10:05 AM	WO165	Gilson, Adrien (1); Verez, Guillaume; Dubas, Frederic (2); Depernet, Daniel (2); Espanet, Christophe (1) 1: Moving Magnet Technologies; 2: FEMTO-ST, CNRS, Univ. Bourgogne Franche-Comte Design of a High-Speed Permanent-Magnet Machine for Electrically-Assisted Turbocharger Applications with Reduced Noise Emissions

POSTER SESSION WP11
Wednesday, May 24, 2017
10:30 AM-12:00 PM

Permanent Magnet Machines VIII
Erick Loren Severson, Keiichiro Kondo
(Symphony III)

10:30 AM-12:00 PM	WP1101	Meirinho, Christian Joezer; De Oliveira, José ; Cavalca, Mariana Santos Matos; Nied, Ademir Santa Catarina State University, Brazil Fault Tolerant Control for Permanent Magnet Synchronous Motor
10:30 AM-12:00 PM	WP1102	Negahdari, Amir; A. Toliyat, Hamid Texas A&M University, United States of America Post-Assembly Magnetization of Rare-Earth Permanent Magnet Materials in Permanent Magnet Assisted Synchronous Reluctance Motors
10:30 AM-12:00 PM	WP1103	Li, H. Y.; Zhu, Z. Q. The University of Sheffield, United Kingdom Influence of Magnet Arrangement on Performance of Flux Reversal Permanent Magnet Machine
10:30 AM-12:00 PM	WP1104	Grübler, Hannes (1); Leitner, Stefan (1); Mütze, Annette (1); Schöner, Gerhard (2) 1: Graz University of Technology, Austria; 2: MSG GmbH, Austria Improved Switching Strategy for a Single Phase Brushless Direct Current Motor and its Impact on Motor Efficiency
10:30 AM-12:00 PM	WP1105	Lee, Sung Gu (1); Kim, Won-Ho (2) 1: Busan University of Foreign Studies, Korea, Republic of (South Korea); 2: Samsung Electronics, Korea, Republic of (South Korea) A Study on the Axial Leakage Magnetic Flux in a Spoke Type Permanent Magnet Synchronous Motor
10:30 AM-12:00 PM	WP1106	Zhang, Hengliang; Hua, Wei; Zhu, Xinkai Southeast University, China, People's Republic of Design of Novel Modular-Spoke-Type Permanent Magnet Machines
10:30 AM-12:00 PM	WP1107	Xia, Bing; Luk, Patrick Chi-Kwong Cranfield University, United Kingdom Analytical Model for the Inductance Calculation of Two-Layer Spoke-Type Ferrite Interior Permanent Magnet Machines
10:30 AM-12:00 PM	WP1108	Pecho, Johann; Hofmann, Wilfried TU Dresden, Germany Analytical Approach and Solution for Start-up Behavior of Line-Start Permanent Magnet Synchronous Machines (LSPSM)
10:30 AM-12:00 PM	WP1109	Bernot, Alix; Cariou, Arnaud IRT Saint-Exupery, France Adaptation of an airliner motor to a 540V network
10:30 AM-12:00 PM	WP1110	Sui, Yi; Zheng, Ping; Fan, Yuhui; Zhao, Jie Harbin Institute of Technology, China, People's Republic of Research on the Vector Control Strategy of Five-Phase Permanent-Magnet Synchronous Machine Based on Third-Harmonic Current Injection

POSTER SESSION WP12
Wednesday, May 24, 2017
10:30 AM-12:00 PM

Synchronous Motor Drives V
Rafal Jastrzebski, David Lowther
(Symphony III)

10:30 AM-12:00 PM	WP1201	Uddin, Mohammad Nasir; Patel, Bhavinkumar; Rahman, Md. Mizanur; Venkatesh, Bala Lakehead University, Canada Performance of a Loss Model Based Nonlinear Controller for IPMSM Drive Incorporating Parameter Uncertainties
10:30 AM-12:00 PM	WP1202	Lu, Hanxiao; Li, Jian; Qu, Ronghai; Ye, Donglin; Lu, Yang; Zhang, Rui Huazhong University of Science and Technology, China Post-Fault Model Predictive Control of Asymmetrical Six-Phase Permanent Magnet Machine with Improved Mathematical Model
10:30 AM-12:00 PM	WP1203	Hussain, Hussain; Bahareh Anvari; Toliyat, Hamid, A. Texas A&M University, United States of America A Control Method for Linear Permanent Magnet Electric Submersible Pumps in a Modified Integrated Drive-Motor System
10:30 AM-12:00 PM	WP1204	Hegde, Shweta; Tallam, Rangarajan M. Rockwell Automation, United States of America Application Issues and Mitigation Methods for Common DC Bus Motor Drive Systems with Active Front-End Rectifier
10:30 AM-12:00 PM	WP1205	Zongxue, Zhang; Limei, Wang; Huifang, Wei Shenyang University of Technology, China, People's Republic of Sliding Mode Robust Synchronous Control for H-type Precision Motion Platform

POSTER SESSION WP13

Design Related Problems IV

Wednesday, May 24, 2017
10:30 AM-12:00 PM

Dingsheng Lin, Thomas Wu
(Symphony III)

10:30 AM-12:00 PM	WP1301	Wan, Zhao; Husain, Iqbal North Carolina State University, United States of America Design of a Flux Switching Transverse Flux Machine Based on Generalized Inductance Analysis
10:30 AM-12:00 PM	WP1302	Sangha, Parminder; Sawata, Tadashi UTC Aerospace Systems, United Kingdom Evaluation of Winding Stray Capacitance in Motors for Aerospace Applications
10:30 AM-12:00 PM	WP1303	Anuchin, Alecksey (1); Shpak, Dmitry (1); Lashkevich, Maxim (1); Briz, Fernando (2) 1: Moscow Power Engineering Institute, Russian Federation; 2: University of Oviedo, Spain PWM Strategy for 3-phase 2-level VSI with Non-idealities Compensation and Switching Losses Minimization
10:30 AM-12:00 PM	WP1304	Lindner, Andreas; Hahn, Ingo University of Erlangen-Nuremberg, Germany Thermal Investigation and Enhancement of Advanced Cooling Techniques for a Large Air-Gap FluxSwitching Permanent Magnet Machine
10:30 AM-12:00 PM	WP1305	Weiss, Hannes Alois (1); Tröber, Philipp (1); Steentjes, Simon (2); Leuning, Nora (2); Hameyer, Kay (2); Golle, Roland (1); Volk, Wolfram (1) 1: Institute of Metal Forming and Casting, Technical University of Munich, Germany; 2: Institute of Electrical Machines, RWTH Aachen University, Germany Loss Reduction due to Blanking Parameter Optimization for Different Non-Grain Oriented Electrical Steel Grades
10:30 AM-12:00 PM	WP1306	Fan, Xinggong; Zhang, Bin; Qu, Ronghai; Li, Jian; Li, Dawei; Huo, Yongsheng Huazhong University of Science and Technology, China, People's Republic of Comparative Thermal Analysis of IPMSMs with Integral-Slot Distributed-Winding (ISDW) and Fractional-Slot Concentrated-Winding (FSCW) for Electric Vehicle Application
10:30 AM-12:00 PM	WP1307	Breining, Patrick; Veigel, Marc; Doppelbauer, Martin; Liu, Yingzhen; Noe, Mathias Karlsruhe Institute of Technology, Germany Iron Loss Measurement of Nonoriented Silicon and Cobalt Iron Electrical Steel Sheets at Liquid Nitrogen Temperature Using Ring Specimen
10:30 AM-12:00 PM	WP1308	M Jaffar, Mohamed Zubair; Husain, Iqbal North Carolina State University, Raleigh, USA Path Permeance Based Analytical Inductance Model for IPMSM Considering Saturation and Slot Leakage
10:30 AM-12:00 PM	WP1309	Fernando, Nuwantha (1); Hanin, Fuad (2) 1: RMIT University, Australia; 2: RMIT University, Australia Magnetic Materials for Electrical Machine Design and Future Research Directions: A Review

POSTER SESSION WP14
Wednesday, May 24, 2017
10:30 AM-12:00 PM

Simulation Technology for Motors III
Xiao Li, Yang Hu
(Symphony III)

10:30 AM-12:00 PM	WP1401	Kapeller, Hansjörg (1); Dvorak, Dominik (1); Gragger, Johannes V. (1); Müllner, Florian (2); Neudorfer, Harald (2) 1: AIT Austrian Institute of Technology GmbH, Austria; 2: TSA Traktionssysteme Austria GmbH Modeling of Iron Losses in an Induction Machine based on a Magnetic Equivalent Circuit in Modelica
10:30 AM-12:00 PM	WP1402	Hannon, Bert; Sergeant, Peter; Dupré, Luc Electrical Energy Laboratory, Ghent University, Belgium Two-dimensional Fourier-based modeling of electric machines
10:30 AM-12:00 PM	WP1403	Wrobel, Rafal; Ayat, Sabrina; Godbehere, Jonathan University of Bristol, United Kingdom A Systematic Experimental Approach in Deriving Stator-Winding Heat Transfer
10:30 AM-12:00 PM	WP1404	Ayat, Sabrina (1,2); Wrobel, Rafal (1); Baker, James (1); Drury, David (1) 1: University of Bristol, United Kingdom; 2: Motor Design Limited, United Kingdom A Comparative Study Between Aluminium and Copper Windings for a Modular-Wound IPM Electric Machine
10:30 AM-12:00 PM	WP1405	Zeng, Jinling; Sun, Xiaoji ;Qian, Zhichao CHINA FAW Co., Ltd R&D CENTER Thermal Simulation of an Oil-cooled Permanent Magnet Synchronous Motor
10:30 AM-12:00 PM	WP1406	Xiao, Yumin; Zhou, Ping; Rosu, Marius ANSYS INC, United States of America

		Decoupled Magnetoelastic Finite Element Method Including Magnetostriction Effects in Electrical Machinery Applications
10:30 AM-12:00 PM	WP1407	Goss, James (1); Sanandres, Unai (1); Afinowi, Ibrahim (2); Michaelides, Alexandros (2); Matharu, Herminder (2) 1: Motor Design Ltd; 2: Jaguar Land Rover A Fourier Approach for Computationally Efficient Modelling of the Operating Envelope in PMSMs
10:30 AM-12:00 PM	WP1408	Holtmann, Christoph; Rinderkencht, Frank; Friedrich, Horst E. German Aerospace Center, Germany Thermal Model of Electric Machines with Correction of Critical Parameters
10:30 AM-12:00 PM	WP1409	Bischof, Wolfgang Michael (1); Chatterjee, Bhaskar (1); Boesing, Matthias (1); Hennen, Martin (1); Kennel, Ralph (2) 1: Robert Bosch GmbH, Germany; 2: Institute for Electrical Drive Systems and Power Electronics, Technical University Munich, Germany Modeling Inverter-Fed Three-Phase Squirrel-Cage Induction Machines including Spatial and Temporal Harmonics
10:30 AM-12:00 PM	WP1410	Popp, Michael; Mathis, Wolfgang; Korolova, Olga; Ponick, Bernd Leibniz Universität Hannover, Germany Modeling and Simulation of Electrical Machines Within a CCM Framework

POSTER SESSION WP15
Wednesday, May 24, 2017
10:30 AM-12:00 PM

Condition Monitoring, Noise and Vibration V
Dan Ionel, Nobuyuki Kurita

(Symphony III)

10:30 AM-12:00 PM	WP1501	Hu, Rongguang (1); Wang, Jiabin (1); Mills, Andrew R (1); Chong, Ellis (2); Sun, Zhigang (2) 1: The University of Sheffield, United Kingdom; 2: Rolls-Royce plc, United Kingdom PWM Currents Based Turn Fault Detection for 3-phase Surface-mounted Permanent Magnet Machines
10:30 AM-12:00 PM	WP1502	Zafarani, Mohsen; Akin, Bilal University of Texas at Dallas, United States of America Comparison of Real Time Motor Fault Signature Analysis Algorithms For Drive Embedded Systems
10:30 AM-12:00 PM	WP1503	Ryu, Younggon; Han, Ki Jin Ulsan National Institute of Science and Technology, Korea, Republic of (South Korea) Improved Transmission Line Model of the Stator Winding Structure of an AC Motor Considering High-frequency Conductor and Dielectric Effects
10:30 AM-12:00 PM	WP1504	Oettl, Fabian (1); Engelen, Christoph; Binder, Erich (2); Kessler, Thomas (3) 1: Omicron electronics, Austria; 2: Consultant; 3: Vorarlberger Illwerke AG A Study of the Propagation Behavior of Partial Discharge Pulses in the High-Voltage Winding of Hydro Generators
10:30 AM-12:00 PM	WP1505	Zhang, Man (1); Mininger, Xavier (1); Bahri, Imen (1); Vlad, Cristina (2) 1: Group of electrical engineering Paris, France; 2: Laboratoire des Signaux et Systèmes, France Improvement of the Variable Turn-off Angle Control for SRM regarding Vibration Reduction
10:30 AM-12:00 PM	WP1506	Zhang, Man (1); Bahri, Imen (1); Mininger, Xavier (1); Vlad, Cristina (2) 1: Group of electrical engineering Paris, France; 2: Laboratoire des Signaux et Systèmes, France A New Vibration Reduction Control Strategy of Switched Reluctance Machine
10:30 AM-12:00 PM	WP1507	Tanzer, Thomas (1); Pregartner, Helmut (1); Riedenbauer, Markus (1); Labinsky, Robert (1); Wiltatschil, Michael (1); Mütze, Annette (2); Krischan, Klaus (2) 1: Siemens AG, Austria; 2: Electric Drives and Machines Institute, Graz University of Technology, Austria Magnetic Properties and Their Relation to the No-Load Noise and No-Load Losses of Large Power Transformers
10:30 AM-12:00 PM	WP1508	Browne, Aidan F. (1); Patel, Snehalbhai (1); Kaloti, Sujay (1); Lopez, Stephen M. (2); Parikh, Prayag (2) 1: University of North Carolina at Charlotte; 2: Electric Power Research Institute (EPRI) Area Acoustic and Electromagnetic Emissions Monitoring of 3-Phase Motors
10:30 AM-12:00 PM	WP1509	Heydarzadeh, Mehrdad; Zafarani, Mohsen; Akin, Bilal; Nourani, Mehrdad The University of Texas at Dallas, United States of America Automatic Fault Diagnosis in PMSM Using Adaptive Filtering and Wavelet Transform
10:30 AM-12:00 PM	WP1510	Wu, Jie (1); Zhuang, Baixing (2); Jin, Nan (1); Yang, Cunxiang (1); Cao, Lingzhi (1) 1: Zhengzhou University of Light Industry, China; 2: Ansys, China A Hybrid Excitation Machine with AC Flux Control Winding
10:30 AM-12:00 PM	WP1511	Tanzer, Thomas (1); Pregartner, Helmut (1); Wiltatschil, Michael (1); Labinsky, Robert (1); Mütze, Annette (2); Krischan, Klaus (2)

		1: Siemens AG, Austria; 2: Electric Drives and Machines Institute, Graz University of Technology, Austria Magnetostriction and its Relation to the No-Load Noise of Power Transformers
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POSTER SESSION WP21
Wednesday, May 24, 2017
1:00 PM-2:30 PM

Permanent Magnet Machines IX
Masatsugu Takemoto, Nicola Bianchi
(Symphony III)

1:00 PM-2:30 PM	WP2101	Park, Jun-Kyu (1); Wellawatta, Thusitha (1); Choi, Sung-Jin (1); Hur, Jin (2) 1: University of Ulsan, Korea, Republic of (South Korea); 2: Incheon National University, Korea, Republic of (South Korea) Shaft-to-Frame Voltage Suppressing Approach by Applying Electromagnetic Shield in IPMSM
1:00 PM-2:30 PM	WP2102	Xia, Bing; Luk, Patrick Chi-Kwong Cranfield University, United Kingdom Analytical Model of Open-Circuit Characteristics of Two-Layer Spoke Type Ferrite Interior Permanent Magnet Machines
1:00 PM-2:30 PM	WP2103	Scuiller, Franck (1); Zahr, Hussein (2); Semail, Eric (2) 1: Naval Academy Research Institute, France; 2: Laboratory of Electrical Engineering and Power Electronics of Lille, France A bi-harmonic five-phase SPM machine with low ripple torque for marine propulsion
1:00 PM-2:30 PM	WP2104	Amin, Mahmoud (1); Abdel Aziz, Ghada A. (2) 1: Manhattan College, United States of America; 2: Electronic Research Institute, Cairo, Egypt A Dynamic Adaptive Observer for Speed Sensorless Intelligent Control of PMSM Drives
1:00 PM-2:30 PM	WP2105	Ghorbanian, Vahid; Hussain, Sajid; Hamidzadeh, Sara; Chromik, Richard; Lowther, David McGill University, Canada Demagnetization Proximity Considerations of Inverter-fed Permanent Magnet Motors
1:00 PM-2:30 PM	WP2106	Poskovic, Emir (1); Ferraris, Luca (1); Franchini, Fausto (1); Cavagnino, Andrea (1); Bramerdorfer, Gerd (2) 1: Politecnico di Torino, Italy; 2: Johannes Kepler University Linz, Austria Application of New Magnetic Materials for Axial Flux Machine Prototypes
1:00 PM-2:30 PM	WP2107	Vaschetto, Silvio (1); Tenconi, Alberto (1); Bramerdorfer, Gerd (2) 1: Politecnico di Torino, Dipartimento Energia, Turin, Italy; 2: Johannes Kepler University Linz, Department of Electrical Drives and Power Electronics, Linz, Austria Sizing Procedure of Surface Mounted PM Machines for Fast Analytical Evaluations
1:00 PM-2:30 PM	WP2108	Gai, Yaohui (1); Kimiabeigi, Mohammad (1); Widmer, James (1); Chong, Yew Chuan (2); Goss, James (2); Sanandres, Unai (2); Staton, Dave (2) 1: Newcastle university, United Kingdom; 2: Motor Design Ltd., United Kingdom Shaft cooling and the influence on the electromagnetic performance of traction motors
1:00 PM-2:30 PM	WP2109	Urbanek, Stefan; Quattrone, Francesco; Ponick, Bernd Leibniz University of Hannover, Germany Implementation and Validation of a New Analytic-Numeric Method for Dynamic Core Loss Calculation
1:00 PM-2:30 PM	WP2110	Wu, Leilei; Qu, Ronghai; Li, Dawei Huazhong University of Science and Technology, China, People's Republic of Analysis of Eddy Current Losses in Surface-Mounted Permanent Magnet Vernier Machines
1:00 PM-2:30 PM	WP2111	Yang, Han (1); Zhu, Z.Q. (1); Liu, Yue (1); Li, Huayang (1); Mipo, Jean-Claude (2) 1: University of Sheffield, United Kingdom; 2: Valeo Powertrain Electric Systems Comparative Study of Doubly Salient Machines With/Without Stator Slot Permanent Magnets

POSTER SESSION WP22
Wednesday, May 24, 2017
1:00 PM-2:30 PM

Reluctance Machines III
Yilmaz Sozer, Luca Solero
(Symphony III)

1:00 PM-2:30 PM	WP2201	Arafat, Akm; Herbert, Joseph; Md. Tawhid Bin Tarek; Choi, Seungdeog University of Akron Study of the Thermal Effects of a Five-Phase Permanent Magnet Assisted Synchronous Reluctance motor under Fault Tolerant Control
1:00 PM-2:30 PM	WP2202	Song-Yan, Kuai (1); Rallabandi, Vandana (2); Ionel, Dan (2) 1: China University of Mining and Technology; 2: University of Kentucky, United States of America Sensorless Control of Three Phase Switched Reluctance Motor Drives Using an Approximate Inductance Model

1:00 PM-2:30 PM	WP2203	Li, Sufei (1); Zhang, Shen (1); Habetler, Thomas G. (1); Harley, Ronald G. (1,2) 1: Georgia Institute of Technology, United States of America; 2: University of KwaZulu-Natal, Durban, South Africa A Survey of Electromagnetic - Thermal Modeling and Design Optimization of Switched Reluctance Machines
1:00 PM-2:30 PM	WP2204	Zimmermann, Marco; Piepenbreier, Bernhard University Erlangen-Nuremberg, Germany Design of a Permanent Magnet assisted Synchronous Reluctance Machine enhanced for Saliency Based Sensorless Control
1:00 PM-2:30 PM	WP2205	Nielsen, Simon Staal (1); Jæger, Rasmus (1); Rasmussen, Peter Omand (1); Kongerslev, Kristian (2) 1: Aalborg University, Denmark; 2: Hydratech Industries, Denmark Development and Analysis of double U-core Switched Reluctance Machine
1:00 PM-2:30 PM	WP2206	Yu, Zixiang; Kong, Wubin; Qu, Ronghai; Jia, Shaofeng; Jiang, Dong Huazhong University of Science and Technology, Switzerland Harmonic Current Suppression Control Strategy For Hybrid Excited Vernier PM Machines
1:00 PM-2:30 PM	WP2207	Chen, Zhihui; Wang, Anqi; Zhang, Changjin Nanjing University of Aeronautics and Astronautics, China, People's Republic of A Conduction Angle Controlled Rectifier for a Wound Field Doubly Salient Generator
1:00 PM-2:30 PM	WP2208	Ze, Qiji; Liang, Deliang; Kou, Peng; Liang, Zhe Xi'an Jiaotong University, China, People's Republic of Dual Closed-loop Control of a Doubly Salient Permanent Magnet Generator based on Gain-Scheduling PI Controller
1:00 PM-2:30 PM	WP2209	Muteba, Mbika; Twala, Bhakisipho; Nicolae, Dan Valentin; Doorsamy, Wesley University of Johannesburg, South Africa Optimal Parameter Inference Method for Effective Design of Synchronous Reluctance Machines
1:00 PM-2:30 PM	WP2210	Jæger, Rasmus; Nielsen, Simon Staal; Rasmussen, Peter Omand Aalborg University, Department of Energy Technology, Denmark Theoretical Evaluation of the Double U-core Switched Reluctance Machine
1:00 PM-2:30 PM	WP2211	Elamin, Mohammed; Yasa, Yusuf; Elrayyah, Ali; Sozer, Yilmaz The University of Akron, United States of America Performance Improvement of the Delta-connected SRM Driven by a Standard Three Phase Inverter

POSTER SESSION WP23
Wednesday, May 24, 2017
1:00 PM-2:30 PM

Special Machines, Sensors and Actuators III
Chris Gerada, Kiruba Haran
(Symphony III)

1:00 PM-2:30 PM	WP2301	Divandari, Mohammad (1); Rezaei, B (1); Amiri, Ebrahim (2) 1: Babol University of technology; 2: University of New Orleans Indirect Speed Estimation of High Speed Brushless DC Motor Drive Using Fuzzy Logic Current Compensator
1:00 PM-2:30 PM	WP2302	Bodrov, Alexey; Poupard, Eduardo; Heath, William; Apsley, Judith The University of Manchester, United Kingdom Minimum Electrical Energy Use in a Multi-Actuator System
1:00 PM-2:30 PM	WP2303	Moghaddami, Masood; Sarwat, Arif Florida International University, United States of America Effective Magnetic Shielding in Electric Arc Furnace Transformers Using Interphase Wall Shunts
1:00 PM-2:30 PM	WP2304	Berg, Nick Ilsø; Christiansen, Alexander Becsei; Holm, Rasmus Koldborg; Rasmussen, Peter Omand Aalborg University, Denmark Design and Test of a Reluctance Based Magnetic Lead Screw PTO System for a Wave Energy Converter
1:00 PM-2:30 PM	WP2305	Taran, Narges (1); Rallabandi, Vandana (1); Heins, Greg (2); Ionel, Dan M. (1) 1: University of Kentucky, United States of America; 2: Regal Beloit Corporation, Australia A Comparative Study of Conventional and Coreless Axial Flux Permanent Magnet Synchronous Motors for Solar Cars
1:00 PM-2:30 PM	WP2306	Custers, C.H.H.M.; Jansen, J.W.; Lomonova, E.A. Eindhoven University of Technology, The Netherlands Static Decoupling of Force and Torque Components in a Moving-Magnet Planar Motor
1:00 PM-2:30 PM	WP2307	Xiaoying, Li; Limei, Wang; Yibiao, Sun Shenyang University of Technology, China, People's Republic of

		Dynamic Surface Backstepping Sliding Mode Position Control of Permanent Magnet Linear Synchronous Motor
1:00 PM-2:30 PM	WP2308	Hu, Hong-Jin; Cao, Guang-Zhong; Huang, Su-Dan; Xu, Zhan-Zhi; Wu, Chao Shen Zhen University, China, People's Republic of A DSP-Based Sliding Mode Controller for The Planar Switched Reluctance Motor
1:00 PM-2:30 PM	WP2309	Passenbrunner, Josef (1); Amrhein, Wolfgang (1); Jungmayr, Gerald (2) 1: Johannes Kepler University, Austria; 2: Linz Center of Mechatronics GmbH Simulation and Optimization of the Starting Behavior of an Active Axial Bearing with Viscoelastic Damping Support
1:00 PM-2:30 PM	WP2310	Desvaux, Melaine (1); Sire, Stéphane (2); Multon, Bernard (1); Ben Ahmed, Hamid (1) 1: SATIE, ENS Rennes, Université Bretagne Loire, CNRS, 35170 Bruz, France; 2: IRDL, Université de Bretagne Occidentale, FRE CNRS 3744, 29238 Brest, France Analytical Iron Loss Model for the Optimization of Magnetic Gear
1:00 PM-2:30 PM	WP2311	Schramm, Andreas (1); Sworowski, Eugen (1); Roth-Stielow, Joerg (2) 1: Robert Bosch Automotive Steering GmbH, Germany; 2: University of Stuttgart, Germany Methods for Measuring Torque Ripples in Electrical Machines

POSTER SESSION WP24
Wednesday, May 24, 2017
1:00 PM-2:30 PM

Induction Motor Drives III
Kazuto Sakai, Rafal Wrobel
(Symphony III)

1:00 PM-2:30 PM	WP2401	Ingalalli, Aravind Rachappa; J, Bapiraju ABB, India Analytical Model for Real Time Simulation of Low Voltage Induction Motor Drive
1:00 PM-2:30 PM	WP2402	Li, Jun (1); Deng, Yi (1); Shin, Kee (1); Viitanen, Tero (2); Huju, Kalle 1: ABB US Corporate Research Center; 2: ABB Oy Power Conversion Thermal Performance Analysis of 3L-ANPC Rotor-Side Converters for DFIG Wind Drivetrain
1:00 PM-2:30 PM	WP2403	Aarniovuori, Lassi; Kärkkäinen, Hannu; Niemelä, Markku; Lindh, Pia; Pyrhönen, Juha Lappeenranta University of Technology, Finland Induction Motor Torque Estimation Accuracy Using Motor Terminal Variables
1:00 PM-2:30 PM	WP2404	Liu, Yiqi; Bazzi, Ali University of Connecticut, United States of America Improved Maximum Torque-per-Ampere Control of Induction Machines by Considering Iron Loss
1:00 PM-2:30 PM	WP2405	Sousa Miranda, Reginaldo; De Carvalho Gomes, Evandro IFMA, Brazil Fault Tolerant Voltage Source Inverter to Six Phase Induction Motor
1:00 PM-2:30 PM	WP2406	Gabbi, Thieli; Osorio, Caio; Volpato, Cesar; Dotto, Douglas; Grundling, Hilton; Vieira, Rodrigo Federal University of Santa Maria, Brazil Speed Estimation Algorithm of Induction Motors Based on Disturbance Observer
1:00 PM-2:30 PM	WP2407	Mediouni, Hamza; El Hani, Soumia; Ouadghiri, Mustapha; Abouddrar, Imad; Ouachtouk, Ilias Mohammed V University of Rabat, ENSET Morocco, Morocco Artificial Intelligence Techniques for Induction Motor Drives
1:00 PM-2:30 PM	WP2408	Kali, Yassine (1); Rodas, Jorge Esteban (2); Saad, Maarouf (3); Gregor, Raul (2); Benjelloun, Khalid (1); Doval-Gandoy, Jesus (4) 1: Mohammed V University, Morocco; 2: Universidad Nacional de Asuncion, Paraguay; 3: École de Technologie Supérieure, Canada; 4: Universidad de Vigo, Spain. Current Control based on Super-Twisting Algorithm with Time Delay Estimation for a Five-Phase Induction Motor Drive
1:00 PM-2:30 PM	WP2409	Chen, Jiahao; Huang, Jin; Ye, Ming Zhejiang University, China, People's Republic of Totally Adaptive Observer for Speed Sensorless Induction Motor Drives: Simply a Cost of Extra Energy Consumption
1:00 PM-2:30 PM	WP2410	Salem, Aboubakr (1); De Belie, Frederik (2); Yousef, Tarek (3); Melkebeek, Jan (2); Mohammed, Osama (3); Abido, M.A. (1) 1: Helwan University, Egypt; 2: Ghent University, Belgium; 3: Florida International University, USA DC Link Capacitor Voltage Balancing of a Dual Three-Level T-Type AC Drive Using Switching State Redundancy
1:00 PM-2:30 PM	WP2411	Ayala, Magno (1); Rodas, Jorge Esteban (1); Gregor, Raul (1); Doval-Gandoy, Jesus (4); Gonzalez, Osvaldo (1); Saad, Maarouf (3); Rivera, Marco (2) 1: Universidad Nacional de Asuncion, Paraguay; 2: Universidad de Talca, Chile; 3: Ecole Technologie Supérieure, Canada; 4: Universidad de Vigo, Spain Comparative Study of Predictive Control Strategies at Fixed Switching Frequency for an Asymmetrical Six-Phase Induction Motor Drive

POSTER SESSION WP25

**High Speed Electrical Machines and Drives V and Condition
Monitoring, Noise and Vibration VI
Hiroyuki Sano, Thomas Wu
(Symphony III)**

**Wednesday, May 24, 2017
1:00 PM-2:30 PM**

1:00 PM-2:30 PM	WP2501	Ma, Jie (1); Wu, Lijian (2); Zhu, Zi-Qiang (1) 1: Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, UK; 2: Institute of Electrical Engineering, Zhejiang University, Hangzhou, China Effect of Magnet Thickness on Electromagnetic Performance of High Speed Permanent Magnet Machines
1:00 PM-2:30 PM	WP2502	Tarek, Md Tawhid Bin; Choi, Seungdeog The University of Akron, United States of America Center Post and Rib Length Optimization of a High Speed Permanent Magnet Assisted Synchronous Reluctance Motor
1:00 PM-2:30 PM	WP2503	Tarek, Md Tawhid Bin; Herbert, Joseph; Choi, Seungdeog The University of Akron, United States of America Analysis of Unbalanced Magnetic Pull of Permanent Magnet Assisted Synchronous Reluctance Motor Based on Uneven Axial Temperature Distribution of Magnets

ORAL SESSION WO21

**Wednesday, May 24, 2017
3:00 PM-5:00 PM**

**Induction Machines IV
Bernd Ponick, Erick Loren Severson
(Symphony I)**

3:00 PM-3:25 PM	WO211	Han, Peng (1); Cheng, Ming (1); Zhu, Xinkai (1); Chen, Zhe (2) 1: Southeast University, China, People's Republic of; 2: Aalborg University, Denmark Multifrequency spiral vector model for the brushless doubly-fed induction machine
3:25 PM-3:50 PM	WO212	Pantea, Alin; Yazidi, Amine; Betin, Franck; Carriere, Sebastien; Sivert, Arnaud; Capolino, Gérard-André University of Picardie, France Fault Tolerant Control of Six-Phase Induction Generator for Wind Turbines
3:50 PM-4:15 PM	WO213	Papini, Luca; Gerada, Chris University of Nottingham, United Kingdom Sensitivity Analysis of Rotor Parameters in Solid Rotor Induction Machine
4:15 PM-4:40 PM	WO214	Masadeh, Mohammad A.; Pillay, Pragasen Concordia University, Canada Three-Phase Induction Motor Emulation Including Main and Leakage Flux Saturation Effects
4:40 PM-5:05 PM	WO215	Fahrner, Walter; Vogelsberger, Markus; Wolbank, Thomas Vienna University of Technology, Austria Advanced Algorithm for Rotor Position Saliency Extraction in Induction Machines using PWM-Induced Transient Excitation

ORAL SESSION WO22

**Wednesday, May 24, 2017
3:00 PM-5:00 PM**

**Reluctance Machines IV
Yilmaz Sozer, Babak Fahimi
(Symphony II)**

3:00 PM-3:25 PM	WO221	Donaghy-Spargo, Christopher (1); Mecrow, Barrie (2); Widmer, James (2) 1: School of Engineering & Computing Sciences, Durham University, United Kingdom; 2: School of Electrical & Electronic Engineering, Newcastle University, United Kingdom Leakage Inductance of a Prototyped Single Tooth Wound Synchronous Reluctance Motor
3:25 PM-3:50 PM	WO222	Wang, Yawei; Bianchi, Nicola University of Padova, Italy Investigation of Self-excitation in Reluctance Generators
3:50 PM-4:15 PM	WO223	Babetto, Cristian; Bacco, Giacomo; Bianchi, Nicola University of Padova, Italy Analytical Approach to Determine the Power Limit of High-Speed Synchronous Reluctance Machines
4:15 PM-4:40 PM	WO224	Pescetto, Paolo; Pellegrino, Gianmario Politecnico di Torino, Italy Sensorless Standstill Commissioning of Synchronous Reluctance Machines with Automatic Tuning
4:40 PM-5:05 PM	WO225	Ralev, Iliya; Klein-Hessling, Annegret; Pariti, Bhaskar; De Doncker, Rik

		RWTH Aachen, Germany Adopting a SOGI Filter for Flux-Linkage based Rotor Position Sensing of Switched Reluctance Machines
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ORAL SESSION WO23 Wednesday, May 24, 2017 3:00 PM-5:00 PM	Special Machines, Sensors and Actuators IV Chris Gerada, Rafal Wrobel (Concerto A)
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3:00 PM-3:25 PM	WO231	Akilor, Jemimah (1); Kaarthik, Sudharshan (1); Wanjiku, John (1); Pillay, Pragasen (1); Merkhof, Arezki (2) 1: Dept. of Electrical and Computer Engineering, Concordia University, Montreal, QC, Canada; 2: Equipment Electrique, L'Institut de recherche d'Hydro-Quebec (IREQ), Canada Closed Loop Control for a Rotational Core Loss Tester
3:25 PM-3:50 PM	WO232	Li, Yingjie; Bobba, Dheeraj; Sarlioglu, Bulent WEMPEC, University of Wisconsin-Madison, United States of America A Novel Dual-Rotor Hybrid Machine with Synchronous Reluctance and Surface Permanent Magnet Rotors
3:50 PM-4:15 PM	WO233	Kim, Ju Hyung; Li, Yingjie; Sarlioglu, Bulent WEMPEC, United States of America Design, Analysis, and Prototyping of Axial Flux- Switching Permanent Magnet Machine
4:15 PM-4:40 PM	WO234	Dragan, Radu (1,2); Clark, Richard (1); Hussain, Essam (2); Atallah, Kais (2); Odavic, Milijana (2) 1: Magnomatics Limited; 2: University of Sheffield Magnetically Geared Pseudo Direct Drive for Safety Critical Applications
4:40 PM-5:05 PM	WO235	Rallabandi, Vandana (1); Taran, Narges (1); Ionel, Dan (1); Boldea, Ion (2) 1: University of Kentucky, United States of America; 2: Universitatea Politehnica Timisoara, Romania Axial-flux PM Synchronous Machines with Air-gap Profiling and Very High Ratio of Spoke Rotor Poles to Stator Concentrated Coils

ORAL SESSION WO24 Wednesday, May 24, 2017 3:00 PM-5:00 PM	Motors for Transportation III Ahmed Arshan Khan, Takashi Kosaka (Concerto B)
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3:00 PM-3:25 PM	WO241	Mellor, Philip H; Yon, Jason; Baker, James L; North, Dominic; Booker, Julian D. University of Bristol, United Kingdom Electromagnetic and thermal coupling within a fault-tolerant aircraft propulsion motor
3:25 PM-3:50 PM	WO242	Dajaku, Gurakuq (1); Bilyi, Volodymyr (2); Dieter, Gerling 1: FEAM, Germany; 2: Universitaet der Bundeswehr Muenchen Feasibility Analysis of an Improved FSCW for Synchronous Reluctance Traction Machines
3:50 PM-4:15 PM	WO243	Roger, Daniel; Iosif, Vadim; Duchesne, Stephane university of Artois, France High temperature motors: investigations on the voltage distribution in windings at a short scale times for a PWM supply
4:15 PM-4:40 PM	WO244	Fabri, Giuseppe (1); Parasiliti, Francesco (1); Tursini, Marco (1); Villani, Marco (1); Castellini, Luca (2) 1: University of L'Aquila, Italy; 2: Umbra Cuscinetti S.p.A., Italy PM Brushless motor for helicopter electric tail rotor drive system
4:40 PM-5:05 PM	WO245	Islam, Md. Zakirul; Bonthu, Sai Sudheer Reddy; Choi, Seungdeog The University of Akron, United States of America Comparison of Two Different Winding Topologies for External-Rotor Five-phase PM-assisted Synchronous Reluctance Motor in Vehicle Applications

ORAL SESSION WO25 Wednesday, May 24, 2017 3:00 PM-5:00 PM	Simulation Technology for Motors IV Katsumi Yamazaki, Hiroyuki Sano (Concerto C)
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3:00 PM-3:25 PM	WO251	Degner, Michael; Wolf, Chris Ford Motor Company, United States of America Transient Analysis of Asymmetric AC Systems Using Complex Vectors
3:25 PM-3:50 PM	WO252	Romanazzi, Pietro (1); Ayat, Sabrina (2,3); Wrobel, Rafal (2,3); Howey, David (1) 1: University of Oxford, United Kingdom; 2: University of Bristol, United Kingdom; 3: Motor Design Ltd., United Kingdom 3D Homogenisation of concentrated windings with rectangular conductors

3:50 PM-4:15 PM	WO253	Wrobel, Rafal; Ayat, Sabrina; Baker, James University of Bristol, United Kingdom Analytical Methods for Estimating Equivalent Thermal Conductivity in Impregnated Electrical Windings Formed Using Litz Wire
4:15 PM-4:40 PM	WO254	Van Beek, T.A.; Curti, M.; Jansen, J.W.; Gysen, B.L.J.; Paulides, J.J.H.; Lomonova, E.A. Eindhoven University of Technology, Netherlands, The Spectral Element Model for 2-D Electrostatic Fields in a Linear Synchronous Motor
4:40 PM-5:05 PM	WO255	Sundaria, Ravi; Lehtikoinen, Antti; Hannukainen, Antti; Arkkio, Antero Aalto University, Finland Higher-Order Finite Element Modeling of Material Degradation Due to Cutting

ORAL SESSION WO26
Wednesday, May 24, 2017
3:00 PM-5:00 PM

Condition Monitoring, Noise and Vibration VII
Dan Ionel, Nicola Bianchi
(Picasso)

3:00 PM-3:25 PM	WO261	Kotter, Philipp (1); Bischof, Wolfgang Michael (1); Kennel, Ralph (2); Zirn, Oliver (3); Wegener, Konrad (3) 1: Robert Bosch GmbH, Germany; 2: Technical University Munich; 3: ETH Zürich Universal NVH-Modeling and Analysis of Electrical Induction Drives in E-Mobility Applications
3:25 PM-3:50 PM	WO262	Liu, Yiqi; Bazzi, Ali; Davis, Bryan University of Connecticut, United States of America Adaptive Modulation Time-Domain Fault Diagnosis of Three-Phase Induction Machines
3:50 PM-4:15 PM	WO263	Cui, Sen; Li, Shan; Chen, Yan; Si, Wenxu Chongqing University of Technology, China, People's Republic of Nonlinear dynamic behavior analysis of high frequency Boost converter
4:15 PM-4:40 PM	WO264	Corne, Bram (1); Vervisch, Bram (1); Derammelaere, Stijn (1); Knockaert, Jos (1); Cruz, Sérgio M. A. (2); Desmet, Jan (1) 1: Ghent University, Belgium; 2: University of Coimbra, Portugal Single Point Outer Race Bearing Fault Severity Estimation using Stator Current Measurements
4:40 PM-5:05 PM	WO265	Torabi, Niloofar; Naghavi, Farid; Toliyat, Hamid Texas A&M University, United States of America Real-Time Fault Isolation in Multiphase Multilevel NPC Converters Using Active Semi-supervised Fuzzy Clustering Algorithm with Pairwise Constraints

5:00 pm - 5:30 pm	Closing Session and Best Poster Award Presentation (Symphony I & II)
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