ICEM'2022 (September 5-8, Valencia)

Updated August 18

			Monday September 5		
Monday September 5	**9:00**	**17:00**	**Registration (Foyer Area)**		
			AUDITORIUM 2	**AUDITORIUM 3A**	**AUDITORIUM 3B**
	10:00	**12:30**	Tutorial I	Tutorial II	Tutorial III
	12:30	**13:30**	**Free time for lunch**		
	13:30	**14:00**	Short presentation company		
	14:00	**16:30**	Tutorial IV	Tutorial V	Tutorial VI
	16:30	**17:00**	**Coffee Break (Exhibition / Foyer Area)**		
	17:00	**19:30**	Tutorial VII	Tutorial VIII	
	20:00	**21:00**	**Welcome Reception (Foyer Area)**		

Tuesday September 6

Tuesday September 6	**8:00**	**17:00**	**Registration (Foyer Area)**			
	9:00	**9:30**	**Opening Ceremony (Auditorium A2)**			
	9:30	**11:00**	**Plenary Session I & II (Auditorium A2)**			
	11:00	**11:30**	**Coffee Break (Exhibition / Foyer Area)**			
	11:30	**13:00**	**Poster Session I (Multipurpose Room I)**			
	13:00	**14:30**	**Lunch (Multipurpose Room II)**			
			AUDITORIUM 2	**ROOM 1+2**	**ROOM 3+4**	**ROOM 6+7**	**ROOM 8**
	14:30	**16:30**	**Rotating machines 1** **Chairs: Christopher Gerada, Antonino Di Gerlando**	**Special Machines 1** **Chairs: Luca Papini, Michelle Degano**	**Thermal and losses issues – Magnetic and insulation materials 1** **Chairs: Michael Galea, Juan Tapia**	**Electrical drives 1** **Chairs: Michele Mengoni, Ioannis Tsoumas**	**Diagnostic and condition monitoring 1** **Chairs: Carlos Platero, Antonio J. Marques-Cardoso**
			ICEM22-000446 Paolo Ragazzo,Gaetano Dilevrano, Simone Ferrari, Gianmario Pellegrino Design of IPM Synchronous Machines Using Fast-FEA Corrected Design Equations Italy	ICEM22-000404 Mauro Andriollo, Enrico Fanton, Michele Forzan, Andrea Tortella Design and Analysis of a Dual Mover Linear Oscillating Actuator for a Totally Artificial Heart Italy	ICEM22-000092 Felix Hoffmann, Maximilian Halwas, Jürgen Fleischer, Martin Doppelbauer Thermal Analysis of Novel Winding Structures for the Usage in Electrical Machines Germany	ICEM22-000482 Eric Giacomo Armando, Aldo Boglietti, Fabio Mandrile, Sandro Rubino Torque Control Accuracy Using Different Techniques for Determination of Induction Motor Rotor Time Constant Italy	ICEM22-000340 Hugo Antunes, Davide Fonseca, Antonio J. Marques Cardoso Stator Faults Diagnostics, under Unbalanced Supply Voltage Conditions, in Symmetrical Six-phase Induction Motors Fed by a Three-phase System Portugal
			ICEM22-000350 Georgios K. Sakkas, Antonios G. Kladas Rotor deformation impact on operating characteristics of IPM Motor under High-Speed conditions Greece	ICEM22-000223 Ali Al-Qarni, Towhid Chowdhury, Ayman EL-Refaie Effect of System Mass on The Design Performance of Double-Sided Thomson Coil Actuator United States of America	ICEM22-000452 Luca Boscaglia, Yujing Liu, Hasan Avsar, Junfei Tang, Massimo Galbiati Convective Heat Transfer Coefficients and Mechanical Loss Evaluation of Oil Splashing in Direct Cooled Electrically Excited Hairpin Motors Sweden	ICEM22-000322 Lauri Tiitinen, Floran Martin, Marko Hinkkanen, Lennart Harnefors Current-Regulated V/Hz Control of Induction Motors Finland	ICEM22-000367 Angela Navarro-Navarro, Vicente Biot-Monterde, Israel Zamudio-Ramirez, Jose Antonino Daviu, Roque Osornio-Rios, Petri Mäki-Ontto, Lauri Salmia, Tomas Fajt Detection of induction motor coupling unbalance through the analysis of electrical quantities under starting and at steady-state Spain
			ICEM22-000236 Konstantina Bitsi,Sjoerd Bosga A Comparative Study of IPM and WICSC Machines for Heavy Vehicle Application Sweden	ICEM22-000445 Jianning Dong, Belkassem Becetti, Pavol Bauer Design of Multi-Mode Linear Electric Machine for Charging and Propulsion of Vacuum Tube Train Netherlands	ICEM22-000313 Luca Cinti, Francesco Nascimben, Chiara Conto, Nicola Bianchi, Giovanna Cavazzini Thermal Analysis of a Permanent Magnet assisted Excitation Motor Italy	ICEM22-000180 Eduardo Rodriguez Montero, Markus Vogelsberger, Thomas Wolbank Robust Saliency-Based Speed Sensorless Control of Induction Machines under Overload Operation Austria	ICEM22-000377 Edna Rocio Ferrucho-Alvarez, Mehdi Taherzadeh, Humberto Henao, Gérard-André Capolino, Eduardo Cabal-Yepez Contrast Feature-Based Approach for Fault Detection in Wound-Rotor Induction Machines France
			ICEM22-000265 Antonino Oscar Di Tommaso, Rosario Miceli, Claudio Nevoloso, Gioacchino Scaglione, Giuseppe Schettino Improved High-Fidelity IPMSM mathematical model Including Saturation, Cross-Coupling, Torque Ripple and Iron Loss effects Italy	ICEM22-000400 Rishabh Raj, Claes Henriksson, Prithivirajan Subramaniyane, Mikael Nybacka Performance Mapping of a Linear Induction Machine for Hyperloop Applications Sweden	ICEM22-000006 Gregorio Cutuli, Davide Barater, Shafigh Nategh, Daniel Ericsson, Mikael Törmänen Aluminum Hairpin Solution for Electrical Machines in E-Mobility Applications, Part II: Thermal and Cooling Aspects Sweden	ICEM22-000304 Pauline Bernard, Thomas Devos, Al Kassem Jebai, Philippe Martin, Laurent Praly A Novel Observer for Induction Motors, with an Application to Soft Starters France	ICEM22-000359 Marcello Minervini, Lucia Frosini, Lorenzo Mantione A Novel Investigation on Multi-Sensor Signal Signatures for Induction Motors Diagnostics Italy
			ICEM22-000266 Mohamed Amine Hebri,Abderrahmane Rebhaoui, Gregory Bauw, Jean-Philippe Lecointe, Stéphane Duchesne, Vincent Mallard, Gianluca Zito, Abdenour Abdelli, Adrien Maier, Electromagnetic Study of High Power Density PMSM for Automotive Application France	ICEM22-000370 Ciro Alosa, Fabio Immovilli, Emilio Lorenzani Design and Optimization of a Magnetic Gear for a Conveyor System Application Italy	ICEM22-000042 David Filusch, Benedikt Stapff, Hans-Georg Herzog, Dieter Gerling Investigation of an Analytical Method for the Dynamical Thermal Behavior of Electrical Machines Germany	ICEM22-000392 Meng-Ju Hsieh, Torbjörn Thiringer, Emma Arfa Grunditz Improved Parametric Representation of IM from FEM for More Accurate Torque Predictions Sweden	ICEM22-000286 Sebastian Bold, Sven Urschel Feature identification for diagnosing misalignment under the influence of parameter variation Germany
			ICEM22-000269 Frédéric Maurer, Jonas Noland An Overview of Circulating Currents in Salient-Pole Synchronous Hydrogenerators Norway	ICEM22-000349 Mehmet Gulec, Metin Aydin, Peter Sergeant Eddy Current Brakes: A Review on Working Principles and Technology Evolution Belgium	ICEM22-000185 An Zhao,Giovanni Zanuso Loss Calculation and Thermal Analysis of an Induction Motor under ITSC Fault Condition Sweden	ICEM22-000436 Angelo Accetta, Marcello Pucci Model Modulated Predictive Control (M2PC) of Induction Motors including Magnetic Saturation and Iron Losses Italy	ICEM22-000021 Vincent Becker, Michael Schneider, Jose Antonino Daviu, Sven Urschel Cloggage detection of a wastewater pump based on motor current analysis Spain
	16:30	**17:00**	**Coffee Break (Exhibition / Foyer Area)**				

		AUDITORIUM 2	ROOM 1+2	ROOM 3+4	ROOM 6+7	ROOM 8
17:00	19:00	**Rotating machines 2** **Chairs: Aldo Boglietti, Ayman El-Refaie**	**Design issues 1** **Chairs: Shafigh Nategh, Noureddine Takorabet**	**Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices** **Chairs: Luca Ferraris, Carole Henaux**	**Vibration and Noise Issues in Electrical Machines 1** **Chairs: Jean Le Besnerais, Javier Poza**	**Diagnostic and condition monitoring 2** **Chairs: Thomas Wolbank, Lucia Frosini**
		ICEM22-000407 Peter. H. Connor, Muhammad Khowja, Antonino La Rocca, Salvatore La Rocca, Tianjie Zou, Gaurang Vakil, Adam Walker, Chris Gerada, Krzysztof Paciura Investigating Synchronous Reluctance Rotor Performance for Traction Applications against a Permanent Magnet Benchmark United Kingdom	ICEM22-000061 Gianvito Gallicchio, Marco Palmieri, Francesco Cupertino, Mauro Di Nardo, Michele Degano, Chris Gerada Design Methodologies of High Speed Synchronous Reluctance Machines Italy	ICEM22-000408 Michele Quercio, Francesco Galbusera, Emir Pošković, Fausto Franchini, Luca Ferraris, Aldo Canova, Giambattista Gruosso, Ali Gökhan Demir, Barbara Previtali Functional characterization of L-PBF produced FeSi2.9 Soft Magnetic Material Italy	ICEM22-000099 Dejan Pejovski, Antonino Di Gerlando, Giovanni Maria Foglia, Roberto Perini Analytical Model of Permanent Magnet Synchronous Machine in/around Resonance Italy	ICEM22-000159 Konstantinos Gyftakis, Syidy AB Rasid, Markus Mueller False Negative Diagnosis of Demagnetization in Direct Drive Permanent Magnet Generators Greece
		ICEM22-000104 Yuancong Gong, Markus Heim, Marcel Waldhof, Wilken Wößner, Julian Fischer, Nejila Parspour, Jürgen Fleischer Improvement of the Mechanical Strength of High Speed Synchronous Reluctance Machines by Fiber Reinforced Support Structures Germany	ICEM22-000012 Kotb B. Tawfiq, Mohamed Ibrahim, Peter Sergeant Analysis of Different Rewinding Configurations of Five-phase Synchronous Reluctance Machines Belgium	ICEM22-000217 Martin Sarap, Ants Kallaste, Payam Shams Ghahfarokhi, Hans Tiismus, Toomas Vaimann The effect of build direction on the thermal conductivity of additively manufactured AlSi10Mg and silicon-steel samples Estonia	ICEM22-000064 Rui Li, Haiyang Fang, Dawei Li, Ronghai Qu, Jianlin Zhou Influence of Winding Structure on Unbalanced Magnetic Pull in Multi-Phase PMSMs China	ICEM22-000339 Unai Galfarsoro, Alex McCloskey, Sergio Zarate, Xabier Hernández, Gaizka Almandoz Influence of manufacturing tolerances and eccentricities on the electromotive force in permanent magnet synchronous motors Spain
		ICEM22-000481 Valerii Abramenko, Ilya Petrov, Janne Nerg, Juha Pyrhönen Design of Synchronous Reluctance Motor With Minimised Torque Ripple Based on Analysis of Flux Density Harmonics Finland	ICEM22-000029 Christian Bratke, Dieter Gerling Design Process of a Hybrid Excited Synchronous Machine with Stator Cage Winding Germany	ICEM22-000254 Xiyun Ma, Juliette Soulard, Carl Slater, Claire Davis Influence of Electrical Steel Grade on Different Types of Traction Motors United Kingdom	ICEM22-000111 Raphaël Pile, Emile Devillers, Zineb Zahar Fast Calculation of Electromagnetic Vibrations Induced by Longitudinally Varying Excitations in Skewed Electrical Machine France	ICEM22-000165 Miguel E. Iglesias Martínez, Pablo M. Velasco Pla, Jose Antonino Daviu, Jose Guerra Carmenate, Larisa Dunai, Jose Alberto Conejero, Pedro Fernandez de Córdoba Multifractal 1-D Wavelet Leader based on Spectral Kurtosis of Armature Currents for Sparking Detection in DC Motors Spain
		ICEM22-000134 Jannik Rituper, Raimund Gottkehaskamp Consideration of the Saturation in a Transient Model of Line-Start Synchronous Reluctance Machines Germany	ICEM22-000225 Théodore Cherrière, Sami Hlioui, Luc Laurent, François Louf, Hamid Ben Ahmed, Mohamed Gabsi Topology optimization of asymmetric PMSM rotor France	ICEM22-000197 Nabeel Ahmed, Glynn Atkinson A review of Soft Magnetic Composite materials and applications United Kingdom	ICEM22-000022 Martin Enno Gerlach, Simon Weber, Bernd Ponick Influence of Hairpin Winding and Insulation on the Vibration Behavior of Electric Machines Germany	ICEM22-000403 Anthony El Hajj, Eric Semail, Abdelmounaïm Tounzi, Darius Vizireanu, Jalal Cheaytani Investigation of Inter-Turn Short Circuit on a 9-Phase Permanent-Magnet Synchronous Machine France
		ICEM22-000474 Liya Tom, Muhammad Khowja, Ramkumar Ramanathan, Gaurang Vakil, Chris Gerada, Param Anpalahan, Krzysztof Wejrzanowski, Neil Brown Comparative Analysis of Synchronous Reluctance Machine against Conventional Induction Machine for Railway Traction United Kingdom	ICEM22-000047 Branko Ban, Andreas Andersson, Stjepan Stipetic Design and Torque Ripple Reduction Methods for Synchronous Reluctance Machine applied in Electric Power Take-off actuation Croatia	ICEM22-000257 Bhuvan Khoshoo, Khan Jazib Islam, Hawke Suen, Patrick Kwon, Jorge Peña Lozano, Shanelle N. Foster Eddy Current Loss Reduction in Binder Jet Printed Iron Silicon Cores United States of America	ICEM22-000348 Fabien Chauvicourt Virtual inverse vibration synthesis for the estimation of magnetic forces during electric machine operation Belgium	ICEM22-000119 Johannes Mühlthaler, Bastian Lehner, Andreas Reeh, Hans-Georg Herzog Search Coil Based Detection of Inter Turn Short Circuit Faults in Permanent Magnet Synchronous Machines Germany
		ICEM22-000388 Yuhang Cheng, Yawei Wang, Nicola Bianchi, Dawei Li, Ronghai Qu, Design of Synchronous Reluctance Machine with Circular Flux-Barriers Based on Different Optimization Algorithms China	ICEM22-000149 Thomas Gauthey, Peter Gangl, Maya Hage Hassan Multi-Material Topology Optimization with Continuous Magnetization Direction for motors design France	ICEM22-000325 Emir Pošković, Federico Carosio, Fausto Franchini, Luca Ferraris Innovative SMC insulation technique applied to axial flux machine prototypes Italy	ICEM22-000056 Sijie Ni, Grégory Bauw, Bertrand Cassoret, Raphaël Romary Analysis of noise variation in PMSM with damper winding under different operating conditions France	EM22-000417 Dominik Krahe, Johannes Kolb, Martin Doppelbauer On the Influence of Eccentricities on Flux Linkages of Permanent Magnet Synchronous Machines Germany
19:30	21:00	**Social Activity**				

Wednesday September 7

			AUDITORIUM 2	ROOM 1+2	ROOM 3+4	ROOM 6+7	ROOM 8
	8:00	17:00	**Registration (Foyer Area)**				
	8:30	10:30	**Rotating machines 3** **Chairs: Andrew Knight, Maarten Kamper**	**Special machines 2** **Chairs: Roman Pechanek, Peter Connor**	**Thermal and losses issues – Magnetic and insulation materials 2** **Chairs: Rafal Wrobel, Nick Simpson**	**Electrical drives 2** **Chairs: Gianmario Pellegrino, Metin Aydin**	**Diagnostic and condition monitoring 3** **Chairs: Raphael Romary, Epaminondas Mitronikas**
			ICEM22-000252 Tuhin Choudhury, Juuso Narsakka, Iikka Martikainen, Eerik Sikanen, Emil Kurvinen, Rafal P. Jastrzebski, Juha Pyrhonen, Jussi Sopanen Design of Thick-Lamination Rotor Configuration for a High-Speed Induction Machine in Megawatt Class Finland	ICEM22-000332 Lino Di Leonardo, Francesco Parasiliti Collazzo, Marco Villani, Moreno D'Andrea, Cecilia D'Angelo, Marco Nucatola PM Synchronous Machine for Hybrid Light Aircraft Italy	ICEM22-000100 Niklas Driendl, Florian Pauli, Kay Hameyer Characterization of Insulation Material Parameters in Low-Voltage Electrical Machines Germany	ICEM22-000193 Robin Krüger, Patricia Penabad Durán, Tobias Gerhard, Kay Hameyer Current Displacement Effects on Copper Losses in PWM Supplied Permanent Magnet Excited Electrical Machines Germany	ICEM22-000397 Luca Vancini, Michele Mengoni, Gabriele Rizzoli, Alberto Bellini, Luca Zarri, Angelo Tani Online Temperature Estimation of Stator Windings and Rotor Magnets for Six-Phase Permanent Magnet Synchronous Motors Italy
			ICEM22-000353 Konstantin Vostrov, Lassi Aarniovuori, Juha Pyrhönen High-Speed Megawatt-Scale Induction-Motor Drives: Efficiency Maps and Drivetrains Finland	ICEM22-000066 Lukas Rabenstein, Michael Schmidt, Armin Dietz, Nejila Parspour Design, Construction and Measurement of a Laminated Transverse Flux Machine Germany	ICEM22-000483 Andreas Carlsson, Viktor Josefsson, Shafigh Nategh, Aldo Boglietti, Rickard Arvidsson Insulation System Design for 800 V Traction Motors Used in E-mobility Applications Sweden	ICEM22-000427 Andrea Credo, Francesco Parasiliti Collazzo, Marco Tursini, Marco Villani A fast estimation of the initial rotor position of Synchronous Reluctance Motors Italy	ICEM22-000020 Eryang Wang, Philip Grabherr, Peter Wieske, Martin Doppelbauer A Low-Order Lumped Parameter Thermal Network of Electrically Excited Synchronous Motor for Critical Temperature Estimation Germany
			ICEM22-000291 Larbi Dahnoun, Thomas Marcand, Rachid Rahouadj, Cedric Laurent, Benjamin Dagusé, Charles-Henri Bonnard, Julien Fontchastagner, Smail Mezani, Noureddine Takorabet Comparison of methods for evaluating mechanical stress in the rotor of high-speed machines France	ICEM22-000267 Nisarg Dave, David Gerada, Gaurang Vakil, He Zhang, Jing Li, Chris Gerada Analytical Model for the Open Circuit Field due to Different Magnetization Patterns of the rotor in the Slotless Machines United Kingdom	ICEM22-000002 Hadi Naderiallaf, Paolo Giangrande, Michael Galea Investigating the Effect of Waveform Characteristics on PDEV, PDIV and RPDIV for Glass Fiber Insulated Wire United Kingdom	ICEM22-000295 Ioannis Tsoumas Back-EMF Induced Grid Harmonics in WECS with Permanent Magnet Synchronous Generators Switzerland	ICEM22-000292 Alvaro Ivan Alvarado-Hernandez, David Checa, Roque Osornio-Rios, Andres Bustillo, Jose Antonino Daviu Design and development of Virtual Reality application based on infrared thermography for the detection of multiple faults in kinematic chains Spain
			ICEM22-000214 Vladimír Bílek, Jan Bárta, Petr Lošák, Iveta Lolová, Martin Kroupa, Gerd Bramerdorfer Design of modular high-speed copper coated solid rotor induction machine Czech Republic	ICEM22-000228 Haidar Diab, Salim Asfirane, Yacine Amara Torque Capability of Shifted Inductances Axes Hybrid Excited Synchronous Machines France	ICEM22-000231 Liguo Yang, Shimin Zhang, Florian Pauli, Catherine Charrin, Kay Hameyer Material Compatibility of Cooling Oil and Winding Insulation System of Electrical Machines Germany	ICEM22-000178 Omer Ikram ul Haq, Sjoerd Bosga Identification of the position estimation error obtained by signal injection in a synchronous machine Sweden	ICEM22-000194 Sebastian Lengsfeld, Florian Rehwald, Hardy Ast, Oliver Schröder Classification of Partial Discharge Patterns in Rotating Electrical Machines Using Machine Learning Germany
			ICEM22-000003 Eric Armando, Aldo Boglietti, Fabio Mandrile, Enrico Carpaneto, Sandro Rubino A Detailed Analysis of the Electromagnetic Phenomena Observed During the Flux-Decay Test Italy	ICEM22-000152 Mauro Andriollo, Andrea Iselle, Andrea Tortella Analytical Procedure for the Performance Prediction of Single-sided Axial Flux PM Machines with Coreless and Slotless Stator Italy	ICEM22-000041 Guillaume Bourhis, Ralph Sindjui, Adrien Gilson, Gianluca Zito Experimental Separation of No-Load Losses of an Electric Motor with Direct Oil Cooling France	ICEM22-000232 Kadir Akgul, Alper Tap, Ali Fuat Ergenc, Murat Yilmaz, Lale Ergene Sensorless Control of PMaSynRM with HFI Method using modified PLL for Low Speeds Turkey	ICEM22-000466 Eoghan Chelmiah, Darren Kavanagh Acoustic Sensor Array Topologies for Partial Discharge Localisation in Electric Machines Ireland
			ICEM22-000211 Iveta Lolová, Jan Barta, Gerd Bramerdorfer, Vladimír Bílek, Ondřej Vítek The Optimization of Single-Phase Line-Start Permanent Magnet Synchronous Motor for Household Applications Czech Republic	ICEM22-000334 Rafal P. Jastrzebski, Atte Putkonen, Eerik Sikanen, Andrei Zhuravlev, Tuhin Choudhury, Emil Kurvinen, Juha Pyrhonen Dynamics of High-Power Multi-Rotor System Finland	ICEM22-000425 Alexandra Tokat, Elisabet Jansson, Kim Bergsro, Torbjorn Thiringer Improvement of the Continuous Performance of a Traction Machine for a Battery Electric Vehicle through Magnet Segmentation Sweden	ICEM22-000284 Paolo Gherardo Carlet, Fabio Tinazzi, Ludovico Ortombina, Nicola Bianchi Sensorless Parameter-Free Predictive Current Control of Synchronous Reluctance Motor Drives Italy	ICEM22-000241 Sayedsajjad Mani, Ebrahim Asadi Route Cause Analysis and Prevention of Unnecessary Outage for an Abnormally Noisy 220MVA 400KV Power Transformer using a Comprehensive Condition Monitoring Framework Iran (Islamic Republic of)
Wednesday September 7	10:30	11:00	**Coffee Break (Exhibition / Foyer Area)**				
	11:00	12:30	**Poster Session II (Multipurpose Room I)**				
	12:30	14:00	**Lunch (Multipurpose Room II)**				

		AUDITORIUM 2	ROOM 1+2	ROOM 3+4	ROOM 6+7	ROOM 8
14:00	16:00	**Rotating machines 4** **Chairs: Nicola Bianchi, Peter Sergeant**	**Design issues 2** **Chairs: Sven Urschel, Barrie Mecrow**	**Thermal Management of Electric Drives for Demanding Applications** **Chairs: Francisco J. Márquez-Fernández, Pia Lindh**	**Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges** **Chairs: Payam Shams Ghahfarokhi, Ants Kallaste**	**Diagnostic and condition monitoring 4** **Chairs: Roque A Osornio-Rios, Hubert Razik**
		ICEM22-000031 Dawei Liang, Zi-Qiang Zhu,Tianran He Analytical Rotor Thermal Modelling Accounting for Retaining Sleeve in High-speed PM Machines United Kingdom	ICEM22-000110 Yerai Moreno, Aritz Egea, Gaizka Almandoz, Gaizka Ugalde, Ander Urdangarin, Roberto Moreno High-Frequency Modelling of Windings Spain	ICEM22-000456 Hrishikesh Joshi, Andreas Held, Yves Burkhardt, Markus Seilmeier, Wilfried Hofmann Error Compensation of Measured Stator Temperature in Electric Motors using Thermal Model of Sensor and Hardware Range-Switch Germany	ICEM22-000336 Nick Simpson, Sai Munagala, Alessandro Catania, Fatos Derguti, Phil Mellor Functionally Graded Electrical Windings Enabled by Additive Manufacturing United Kingdom	ICEM22-000115 Apostolos Lamprocostopoulos, Epaminondas Mitronikas Demagnetization Fault Diagnosis of a PMSG Based on Instantaneous Power Signatures Greece
		ICEM22-000311 Pia Lindh, Hannu Kärkkäinen, Lassi Aarniovuori, Juha Pyrhönen Method to define induction machine efficiency map with rated power value Finland	ICEM22-000167 Karel Hruska, Pavel Dvorak Simplified Analytical Calculation of PM Machines Magnetic Flux Leakage Factor Czech Republic	ICEM22-000218 Nicolas Verbeek, Sylvain Favresse, François Baudart, Bruno Dehez Estimation of equivalent thermal conductivity of PCB airgap windings Belgium	ICEM22-000416 Ali Al-Qarni, Ayman EL-Refaie Additively Manufactured Fractional Slot Concentrated Windings with Integrated Heat Pipes: Single-Layer vs. Double-Layer United States of America	ICEM22-000087 Pedram Quseiri Darbandeh, Mohammad Ardebili, Mahdi Aliyari Shoorehdeli, Christian Kreischer Diagnosis of Partial Demagnetization in Permanent Magnet Synchronous Machine using Wavelet Packet Transform Germany
		ICEM22-000485 Ornella Stiscia, Marco Biasion, Sandro Rubino, Silvio Vaschetto, Alberto Tenconi, Andrea Cavagnino Iron Losses and Parameters Investigation of Multi-Three-Phase Induction Motors in Normal and Open-Phase Fault Conditions Italy	ICEM22-000048 Sebastian Moros, Stephan Tenner, Joachim Kempkes, Uwe Schafer Calculation of Slot Leakage Flux and Current Displacement in Form-Wound Windings of Electric Machines by Magnetic Equivalent Circuit Germany	ICEM22-000423 Pia Lindh, Dmitry Egorov, Andrea Credo, Juha Pyrhönen Thermal Management of an Electric Motor with Novel Materials Finland	ICEM22-000086 Martin Schmid, Jonathan Terfurth, Kim Kaiser, Nejila Parspour Electromagnetic Design of Electrical Machines - New Potentials of Additive Manufacturing with the Example of the Transverse Flux Machine Germany	ICEM22-000366 Rony Ibrahim, Ryad Zemouri, Antoine Tahan, François Lafleur, Bachir Kedjar, Arezki Merkhouf, Kamal Al-Haddad Anomaly Detection for Large Hydrogenerators Using the Variational Autoencoder Based on Vibration Signals Canada
		ICEM22-000463 Fernando J. T. E. Ferreira Power-Based Method for Computation of Induction Motor Per-Phase Equivalent Circuit Parameters Using IEC Nameplate Data Portugal	ICEM22-000271 Leonardo Colombo, Alexandra Tokat, Kostantina Bitsi, Francisco J. Marquez-Fernández, Mats Alakula Performance degradation due to cut edge effect for an Axial-Flux Induction Machine Sweden	ICEM22-000380 Alexander J. Jeffrey, Peter H. Connor, Gaurang Vakil, Paul Evans, Pat Wheeler, Simon Hart Cooling System Sizing using LPTN Analysis and Multiphysics Modelling for an Axial Flux Machine and Integrated Drive United Kingdom	ICEM22-000282 James Pecotich, David Klink, Greg Heins, Behrooz Bahrani Additively Manufactured Electric Machine Conductors with Integrated End Turn Heat Exchangers Australia	ICEM22-000256 Giorgos Skarmoutsos, Konstantinos Gyftakis, Markus Mueller A New Approach to PM Machine Fault Diagnostics Using Two Magnetically-Coupled Search-Coils Greece
		ICEM22-000154 Ahmed Tameemi, Michele Degano, Mauro Di Nardo, Mukhammed Murataliyev, David Gerada, Zeyuan Xu, Chris Gerada Power Loss and Performance Analysis of a Permanent Magnet Synchronous Motor for Actuator Applications Iraq	ICEM22-000308 Jose Enrique Ruiz-Sarrio, Fabien Chauvicourt, Claudia Martis Sensitivity Analysis of a Numerical High-Frequency Impedance Model for Rotating Electrical Machines Romania	ICEM22-000433 Jasper Nonneman, Thomas Schoonjans, Ilya T'Jollyn, Ahmed Selema, Ruud Sprangers, Michel De Paepe Thermal Property Determination of Different Electric Machine Wire Types by Model Variable Fitting on Measurements Belgium	ICEM22-000166 Norman Blanken, Maximilian Bieber, Bernd Ponick Design of Axial End Region of Additively Manufactured Rotors of Synchronous Machines to Reduce the Axial Magnetic Stator Flux Density Germany	ICEM22-000201 Carlos A. Platero, Sang Bin Lee, Pengfei Tian, Jose Manuel Guerrero Diode Monitoring by Field Winding Axial Stray Flux in Brushless Synchronous Machines Spain
		ICEM22-000287 Andrea Credo, Emil Kurvinen, Ilya Petrov, Juha Pyrhonen Investigation of Material Combinations for Axially-Laminated Synchronous Machine Italy	ICEM22-000226 Leonardo de Castro Ferreira dos Santos, Marcelo Verardi, Angelita de Araujo Demarchi Polymeric Enclosures Impact Simulaton: Constitutive Model Optimization Brazil	ICEM22-000398 Vaclav Fiala, Roman Pechanek Determination of the Velocity Field for the Calculation of Wall Heat Transfer Coefficients Czech Republic	ICEM22-000190 Hans Tiismus, Ants Kallaste, Toomas Vaimann, Anton Rassolkin Eddy Current Loss Reduction Prospects in Laser Additively Manufactured Soft Magnetic Cores Estonia	ICEM22-000341 Ibrahim Allafi, Shanelle Foster On the Accuracy of Frequency Based Fault Diagnosis for DTC-driven PMSM United States
16:00	16:30	**Coffee Break (Exhibition / Foyer Area)**				

		AUDITORIUM 2	ROOM 1+2	ROOM 3+4	ROOM 6+7	ROOM 8
16:30	18:30	**Rotating machines 5** **Chairs: Lassi Aarniovuori, Claudia Martis**	**Electrical drives 3** **Chairs: Sandro Rubino, Nuno Freire**	**High-Torque-Density Electrical Machines** **Chairs: Ilya Petrov, Jean Pillipe Lecointe**	**Electrical Machines Fault Diagnosis During Transient Operation** **Chairs: Konstantinos N. Gyftakis, Daniel Moríñigo-Sotelo**	**Hairpin Windings in Electrical Machines for Transportation** **Chairs: Stefano Nuzzo, Bianca Wex**
		ICEM22-000285 Karel Vanthuyne, Mehmet Gulec, Peter Sergeant High-frequency motor modelling: Parameter variation due to manufacturing Belgium	ICEM22-000449 Luca Vancini, Michele Mengoni, Gabriele Rizzoli, Luca Zarri,Angelo Tani Fault-Tolerant Control Strategies of Five-Phase Induction Motor Drives under Open-Switch Fault Italy	ICEM22-000186 Jordi Van Damme, Hendrik Vansompel, Guillaume Crevecoeur Performance comparison of Axial Flux PM machine with Anodised Aluminium Foil and Round Copper Wire Belgium	ICEM22-000454 Jorge Bonet-Jara, Vanesa Fernandez-Cavero, Francisco Vedreno-Santos, Joan Pons-Llinares, Very accurate time-frequency representation of induction motors harmonics for fault diagnosis under arbitrary load variations. Spain	ICEM22-000346 Gaia Petrelli, Mengmeng Cui, Tianjie Zou, Giacomo Sala, Antonino La Rocca,Davide Barater, Giovanni Franceschini, David Gerada, Michele Degano, Chris Gerada Comparison of Aluminium and Copper Conductors in Hairpin Winding Design for High Power Density Traction Motors United Kingdom
		ICEM22-000124 Abdelhakim Sahnoune, Maya Hage-Hassan, Guillaume Krebs, Claude Marchand, Julien Guihaire, Olaf Mercier Design of a Circulatory Assistance Benchmark Actuator for an Artificial Lung France	ICEM22-000133 Maximilian Clauer, Andreas Binder Automated Fast Semi-Analytical Calculation Approach for the Holistic Design of a PMSM in a Novel Two-Drive Transmission Germany	ICEM22-000142 Runar Mellerud, Jonas Nøland, Christian Hartmann Preliminary Design of a 2.5-MW Superconducting Propulsion Motor for Hydrogen-Powered Aviation Norway	ICEM22-000025 Konstantinos Gyftakis, Carlos A. Platero, Jonas Kristiansen Noland Multi-Parametric Monitoring of Medium-Power Generators with Brushless Exciters under Mechanical Faults Greece	ICEM22-000063 Marco Pastura, Stefano Nuzzo, Davide Barater, Giovanni Franceschini Analysis of Voltage Distribution and Connections within a High-Frequency Hairpin Winding Model Italy
		ICEM22-000172 Amedeo Vannini, Claudia Simonelli, Alessandro Marfoli, Luca Papini, Paolo Bolognesi, Chris Gerada Modelling, Analysis, and Design of a Line-Start Permanent Magnet Synchronous Motor United Kingdom	ICEM22-000013 Kotb B. Tawfiq, Mohamed Ibrahim, Peter Sergeant Analysis of Reliability, Cost and Performance of Three and Five-phase Synchronous Reluctance Machine Drive Systems Belgium	ICEM22-000051 Christoph Schmidt, Thomas Schabbach, Martin Doppelbauer Numerical investigations on the effects of slot openings on friction losses in the air gap of electrical machines Germany	ICEM22-000364 Vicente Biot-Monterde, Angela Navarro-Navarro, Israel Zamudio-Ramirez, Jose Antonino Daviu, Roque Osornio-Rios, Petri Mäki-Ontto, Lauri Salmia, Tomas Fajt Effect of the misalignment level on the analyses of current and stray flux signals in induction motors Spain	ICEM22-000160 Silvan Scheuermann, Martin Doppelbauer, Bjorn Hagemann, Antoine Jarosz, Benedikt Schmitz-Rode Validation of a slot-based High-Frequency Model of a Hairpin Winding Stator in Time-Domain Germany
		ICEM22-000450 Junfei Tang, Bowen Jiang,Luca Boscaglia, Hao Chen, Yujing Liu Observations of Field Current and Field Winding Temperature in Electrically Excited Synchronous Machines with Brushless Excitation Sweden	ICEM22-000184 Ximeng Wu, Zi-Qiang Zhu, Nuno. M. A. Freire Sensorless Based Model Predictive Current Control with PM Flux-linkage Immunity for Permanent Magnet Synchronous Machines United Kingdom	ICEM22-000442 Matias F. Troncoso C., Gianmario Pellegrino Six Phase Fractional Slot Surface Permanent Magnet Motor for High Torque Density and High Speed Italy	ICEM22-000372 Pablo Marino Velasco Pla, Jose Antonino Daviu Sparking detection in brushed dc motors through the analysis of the armature current under the starting Spain	ICEM22-000174 Giada Venturini, Matteo Carbonieri, Lino Di Leonardo, Mircea Popescu Hairpin Windings for Traction Machines: Analysis and Comparison United Kingdom
		ICEM22-000037 Cesar Gallardo, Juan A. Tapia, Michele Degano, Hanafy Mahmoud, Alvaro E. Hoffer Rotor Asymmetry Impact on Synchronous Reluctance Machines Performance Chile	ICEM22-000054 Filip Jukic, Luka Pravica, Stjepan Stipetic Sensorless Synchronization Method For a Grid-Side Converter With an LCL Filter Based On a Sliding Mode Observer and Discontinuous Operating Mode Croatia	ICEM22-000419 Huseyin Tayyer Canseven, Ilya Petrov, Juha Pyrhonen Magnetic Asymmetry in Stator Tooth Tips of a High Specific Power PMSM Finland	ICEM22-000227 Tomás Garcia-Calva, Daniel Morinigo-Sotelo, Arturo Garcia-Perez, René Romero-Troncoso A Comparative Analysis of Monitoring Signals for Bearing Wear Detection in VSI-fed Induction Motors During Startup Transient Mexico	ICEM22-000230 Bianca Wex, Bernhard Pötzelberger, Wolfgang Gruber, Siegfried Silber Performance Comparison between Hairpin and Round Wire Winding for a 17,000 rpm PMSM Austria
		ICEM22-000044 Giampaolo Devito, Stefano Nuzzo, Davide Barater, Mohammad Soltani, Giovanni Franceschini Combined magnet shaping and asymmetries in surface-mounted permanent magnet machines for improved torque performance Italy	ICEM22-000033 Moritz Benninger, Marcus Liebschner, Christian Kreischer Automated parameter identification for multiple coupled circuit modeling of induction machines Germany	ICEM22-000490 Saeid Saeidabadi, Christopher Kovacs, Adil Usman, Timothy J. Haugan, Keith Corzine, Leila Parsa Flux Switching Machines- for All-Electric Aircraft Applications United States	ICEM22-000249 Tomás Garcia-Calva, Konstantinos Gyftakis, Giorgios Skarmoutsos, Markus Muller, Daniel Morinigo-Sotelo, René Romero-Troncoso Advanced Signal Processing Techniques for Demagnetization Detection in PM Generators at Variable Speed Mexico	ICEM22-000213 Penelope Quassolo, Federico Togni, Eraldo Preci, Alessandro Acquaviva Design considerations for high power density traction PM motors with hairpin windings Italy
18:30	19:30	**IES Electrical machines Technical Committee Meeting (Auditorium A2)**				
20:00	23:30	**Gala Dinner (Multipurpose Rooms I & II)**				

Thursday September 8

8:00	10:00	Student Forum (Multipurpose Room I)	
8:00	10:00	Technical Talk COMSOL, WEG (auditorium A2)	
10:00	10:30	Coffee Break (Exhibition / Foyer Area)	

AUDITORIUM 2	ROOM 1+2	ROOM 3+4	ROOM 6+7	ROOM 8
Electrical Machines for Renewable Energy Generation 1 **Chairs: Narayan Kar, Toomas Vaimann**	**Special Machines 3** **Chair: Francesco Parasility, Emil Kurvinen**	**Thermal and losses issues – Magnetic and insulation materials 3** **Chairs: Anouar Belahcen, Sandra Eriksson**	**Electrical Drives 4** **Chairs: Davide Barater, Alexander Stock**	**Motor and Generator Windings: Design, Performance and Manufacturing** **Chairs: Fernando Ferreira, Yujing Liu**
ICEM22-000475 Morris Mugyema, Maarten Kamper, Rong-Jie Wang Performance Evaluation of a Linear Vernier Hybrid Machine for Use in Dry Gravity Storage South Africa	ICEM22-000067 Amedeo Vannini, Luca Papini, Alessandro Marfoli, Chris Gerada, Paolo Bolognesi Concept and Preliminary Sizing of a Dual DC-Bus Homopolar Generator Using Diode Rectifiers United Kingdom	ICEM22-000387 Patrick Breining, Martin Doppelbauer Magnetic Characterization of Stator Segments Considering Mechanical Stress Germany	ICEM22-000354 Luca Cinti, Paolo Gherardo Carlet, Ludovico Ortombina, Nicola Bianchi Maximization of Sensorless Capabilities of Hybrid Excited Permanent Magnet Motors Italy	ICEM22-000205 Panagiotis Panagiotou, Alexis Lambourne, Geraint W. Jewell Survey of Insulation in Electrical Machines for Aerospace: Systems, Materials & Inspection United Kingdom
ICEM22-000343 Salman Abdi Jalebi, Ehsan Abdi, H. Toshani Rotational Iron Losses in Brushless Doubly Fed Machines United Kingdom	ICEM22-000435 Chiara Conto, Nicola Bianchi Dual polarity reluctance-permanent magnet synchronous motor Italy	ICEM22-000411 Sima Soltanipour, Torbjörn Thiringer, Joachim Lindström Battery electric vehicle performance evaluation by considering punching effect on PMSM iron cores Sweden	ICEM22-000079 Cara-Nastasja Behrendt, Jochen Dittmann, Benjamin Knebusch, Bernd Ponick An Investigation into the Trade-Off Between Full Machine and Single-Slot FEM Simulations for Electrical Machine Modeling at High Frequencies With Respect to Inter-Wire Couplings Germany	ICEM22-000161 Yatai Ji, Paolo Giangrande, Vincenzo Madonna, Weiduo Zhao, Michael Galea, Jing Li, He Zhang Investigation on Humidity Effect on Partial Discharge Considering Thermal Aging China
ICEM22-000394 Jean-Claude Baziruwiha, Maarten Kamper Triple Three-Phase High-Pole Number Non-Overlap Winding Reluctance Synchronous Wind Generator South Africa	ICEM22-000222 Jan Potter, Martin Pfost, Gernot Schullerus Experimental Analysis of a New Type of Harmonic-Excited Synchronous Machine with Special Consideration of the Core Losses Germany	ICEM22-000157 Zhaoqiang Zhang, Arne Nysveen, Robert Nilssen, Børge Johannes Fagermyr, Anyuan Chen, Hossein Ehya Material Characterization and Stator Core Loss Computation of Synchronous Generators with Stacking Force Accounted Norway	ICEM22-000238 Ahmed F. Abouzeid, Juan M. Guerrero, Iban Vicente, Iker Muniategui, Aitor Endemano, Fernando Briz Remagnetization Strategies for Induction Machines Operating with Reduced Flux Levels Spain	ICEM22-000384 Panagiotis Panagiotou, Alexis Lambourne, Geraint W. Jewell Ex-situ Inspection of Concentrated Stator Coils by Means of Impedance Spectroscopy United Kingdom
ICEM22-000233 Shruti Singh, Ilya Petrov, Juha Pyrhonen, Peter Sergeant Conceptual Design of High-Speed Permanent-Magnet Generator for a Micro Gas Turbine Finland	ICEM22-000264 Nisarg Dave, David Gerada, Gaurang Vakil, He Zhang, Bowen Shi, Fengyu Zhang, Jing Li, Chris Gerada Fast Sizing Tool and Optimization Technique for Concentrated Wound Slotless Outer Rotor Motor for eVTOL Application United Kingdom	ICEM22-000329 Ronan Corin, Jean-Philippe Lecointe, Cristian Demian, Jonathan Blaszkowski Grades layout impact on performance of mixed grade magnetic cores France	ICEM22-000219 Giuseppe Galati, Ludovico Ortombina, Luigi Alberti, Matteo Berto Investigation on the Self-Sensing Capability of a Dual Three-Phase Synchronous Reluctance Machine Italy	ICEM22-000430 Ahmed Hebala, Stefano Nuzzo, Peter H. Connor, Chris Gerada, Michael Galea On the fault tolerance and PM demagnetisation of a high-performance aircraft propulsion motor United Kingdom
ICEM22-000246 Maxime Bonnet, Jean Francois Llibre, Dominique Harribey, Yvan Lefèvre Ironless Axial Flux Wind Turbine Motor with Two Cylindrical Magnet Rings France	ICEM22-000374 Gaizka Almandoz, Imanol Eguren, Aritz Egea, Sergio Zarate, Gaizka Ugalde, Ander Urdangarin Design of a Multipole Line Start Permanent Magnet Machine Spain	ICEM22-000139 Bassam S. Abdel-Mageed, Mohanraj Muthusamy, Pragasen Pillay Effect of Airgap Symmetry on Rotational Iron Losses produced by an Assembled Stator Core Canada	ICEM22-000189 Johann Bacher, Annette Mütze The Effects of the Damper Winding and the Eddy Currents in the Solid-Rotor of an Inverter-Fed Turbo Generator Austria	ICEM22-000484 Mourad Aitakkache, Philippe Enrici, Daniel Matt, Carole Henaux Comparison of two cylindrical Bar Windings for Low Voltage Permanent Magnet Synchronous Motor. Application for Electric Boat France
ICEM22-000486 Amina Bensalah, Georges Barakat, Yacine Amara Comparative Design Optimization of 15 MW Rare-Earth Permanent Magnet Synchronous Generators for Offshore Semi-Direct Wind Turbines France	ICEM22-000258 Dorsa Talebi, Matthew Gardner, S. Mehdi Seyedi, Hamid A. Toliyat An Asynchronously Excited Brushless Wound Field Synchronous Machine United States of America	ICEM22-000447 Walid Mohamed Amine Mohand Oussaid, Abdelmounaim Tounzi, Raphael Romary, Abdelkader Benabou, Daniel Laloy, Walid Boughanmi Investigation of Losses in Fingers and Clamping Plates of High-Power Electrical Machines France	ICEM22-000032 Alexander Stock Highly Dynamic Power Analysis for Inverter-Fed Electric Drives during Non-Steady State Operation Germany	ICEM22-000153 Dimosthenis Verginadis, George Falekas, Vasseilios Mavrommatis, Athanasios Karlis, Michael Danikas Jose Antonino Daviu Investigation of How Partial Discharges Affect Mica and Epoxy Resin: Simulations and Reference on Electrical Machines' Insulation Greece

12:30	14:00	Lunch (Multipurpose Room II)	
14:00	15:30	Poster Session III (Multipurpose Room I)	

Thursday

September 8

		AUDITORIUM 2	ROOM 1+2	ROOM 3+4	ROOM 6+7	ROOM 8
15:30	17:30	**Electrical Machines for Renewable Energy Generation 2** **Chairs: Georges Barakat, Alexandra Tokat**	**Design Issues 3** **Chairs: Yacine Amara, Jose E. Ruiz Sarrió**	**Vibration and Noise Issues in Electrical Machines 2** **Chairs: Hossein Ehya, Fabien Chauvicourt**	**High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques** **Chairs: Antonios Kladas, Rafal Jastrzebski**	**Advances in Real-Time Simulation for Electric Powertrain Development** **Chairs: Sabin Carpiuc, Carlos Villegas**
		ICEM22-000444 Huseyin Tayyer Canseven, Ali Bakbak, Murat Ayaz, Mert Altıntas, Erkan Mese, Juha Pyrhonen Determination Power Rate of Winding Sets Considering Extreme Wind Speeds for Double-fed PMSG-based WECS Finland	ICEM22-000314 Oguz Korman, Mauro Di Nardo, Michele Degano, Chris Gerada, Gianvito Gallicchio, Francesco Cupertino On the Pole Pair Selection of Synchronous Reluctance Machines for Traction Applications United Kingdom	ICEM22-000389 Dejan Pejovski, Antonino Di Gerlando, Giovanni Maria Foglia, Roberto Perini Electrical Drive in/around Torsional Resonance: Analytical Model Italy	ICEM22-000148 Maxime Ployard, Préscillia Dupont, Olivier Maloberti Design of Segmented Grain-Oriented Induction Motors Considering Cutting Effects France	ICEM22-000455 Armita Fatemimoghadam, Ye Yan, Lakshmi Varaha Iyer, Narayan C. Kar Permanent Magnet Synchronous Motor Drive Using Deep-Neural-Network-Based Vector Control for Electric Vehicle Applications Canada
		ICEM22-000464 Mahmoud Yousefian, Hossein Abootorabi Zarchi, Salman Abdi Jalebi, Hamed Gorginpour Design Parameters Determination for Brushless Doubly Fed Induction Machines United Kingdom	ICEM22-000239 Samuel Estenlund, Alexandra Tokat, Jonas Engqvist, Mats Alaküla Dovetail design for direct cooled rotor: Design and manufacturing Sweden	ICEM22-000074 Allan de Barros, Martin Enno Gerlach, Xudong Huang, Markus Langfermann, Bernd Ponick, Amir Ebrahimi Calculation of Electric Machines Vibration using an Analytical Beam Element Model Germany	ICEM22-000298 Maria Sofia Pechlivanidou, Antonios G. Kladas Winding structure impact on High Speed Permanent Magnet Motor efficiency Greece	ICEM22-000469 Hadi Mohajerani, Adam Hassan, Mohammad Sedigh Toulabi, Uday Deshpande, Narayan C. Kar Artificial Neural Network-Based PMSM Modeling for the Electric Motor Emulation Canada
		ICEM22-000120 Mohamed-Amine Yahiaoui, Michel Kinnaert, Johan Gyselinck Sensorless Vector Control for Grid Synchronization of Doubly-Fed Induction Generators Belgium	ICEM22-000413 Haiteng Sun, Guillaume Krebs, Imen Bahri, Pedro Rodriguez-Ayerbe, Mohamed Khanchoul Dovetail design solution of PMSM using Stainless Steel for sensorless performance improvement France	ICEM22-000312 Mikel Mendizabal, Alex McCloskey, Sergio Zarate, Javier Poza Fast and Accurate Vibration Response Calculation Procedure for Permanent Magnet Synchronous Machines Spain	ICEM22-000108 Uwe Schuffenhauer, Sören Miersch, Thomas Schuhmann, David Schmitz, Michael Breuckmann, Florian Herget, Karsten Machalitza Realization of High-Speed Cast Copper Cage Induction Machines for Electric Mobility Germany	ICEM22-000069 Anton Suchan, Bernd Ponick Time Efficient Calculation of Current Harmonics in Inverter-Fed Permanent Magnet Excited Synchronous Machines Germany
		ICEM22-000129 Alexandra Tokat, Torbjörn Thiringer Comparison of Cobalt-Iron and Silicon-Iron Laminations for a Wave Energy Application Sweden	ICEM22-000220 Juuso Narsakka, Konstantin Vostrov, Tuhin Choudhury, Emil Kurvinen, Jussi Sopanen, Juha Pyrhonen Method for Mechanical Design of Squirrel Cage Slitted Solid Rotor Finland	ICEM22-000187 Andreas Langheck, Christian Digel, Johannes Liebertseder, Steffen Reuter, Martin Doppelbauer Vibration optimization in high power electric machines with lightweight plastic stator housing Germany	ICEM22-000221 Lorenzo Mantione, Lucia Frosini, Marcello Minervini Evaluation of Different Magnet Materials and Skewed Geometries for IPMSM at High Speed Italy	ICEM22-000362 Sabin Carpiuc Model-Based Control and Real-Time Simulation of a Four-Phase PMSM Traction Drive United Kingdom
		ICEM22-000479 Siew Yan Goh, Ahmad Fawzal, Syidy Rasid, Markus Mueller, Konstantinos Gyftakis Losses Analysis of Direct Drive PM Generators Suffering from Demagnetization Greece	ICEM22-000007 Bharadwaj Raghuraman, Shafigh Nategh, Aldo Boglietti, Torbjorn Thiringer, Kim Bergsro Design and Optimization of Induction Machines for E-mobility Applications Sweden	ICEM22-000073 Mehmet Gulec, Joachim Druant, Peter Sergeant A Fast and Simple Analytical Approach for Prediction of Vibration in Interior Permanent Magnet Motors for Traction Applications Belgium	ICEM22-000062 Julius Kesten, Felix Frölich, Florian Wittemann, Jonathan Knirsch, Florian Bechler, Luise Kärger, Peter Eberhard, Frank Henning, Martin Doppelbauer Design Approach for a Novel Multi Material Variable Flux Synchronous Reluctance Machine without Rare Earth Magnets Germany	ICEM22-000356 Mahmoud Ibrahim,Viktor Rjabtsikov, Anton Rassölkin, Toomas Vaimann, Ants Kallaste Validation of an EV-Permanent Magnet Synchronous Motor Model Based on Analytical Dynamic Approach Estonia
		ICEM22-000206 Marcin Morawiec, Krzysztof Blecharz, Arkadiusz Lewicki Non-Adaptive Speed and Position Observer of Doubly-Fed Induction Generator Poland	ICEM22-000470 Siamak Pourkeivannour, Uwe Drofenik, Mitrofan Curti, Elena A. Lomonova Design Trade-Off Analysis of Dry-Type Medium Frequency Transformers with Parallel Foil Windings Netherlands	ICEM22-000125 Jianlin Zhou, Haiyang Fang, Rui Li, Ronghai Qu, Dawei Li Research on Sensitivity of Slot-Pole Combination to Unbalanced Electromagnetic Force Introduced by Rotor Eccentricity China	ICEM22-000327 Maksim Sitnikov, Anouar Belahcen Carbon Fiber Homogenization for Modelling Sleeve of High-Speed Electrical Machines Finland	ICEM22-000480 Tarik Uzunovic, Francisco G. Montoya, Adnan Osmanovic, Francisco M. Arrabal-Campos, Alfredo Alcayde, Ahmad H. Eid, Asif Sabanovic Combining Real-time Parameter Identification and Robust Control Algorithms for Effective Control of Electrical Machines Bosnia and Herzegovina
17:30	18:30	**Awards and Closing Ceremony (Auditorium A2)**				

POSTER SESSION I TUESDAY 6 SEPT

Chairs: **Mauro Di Nardo, Alex Mccloskey, Jonas Nøland, Jose E Ruiz Sarrió**

Rotating Machine

transaction	authors	title	contactAffilCountry
ICEM22-000477	Haidar Diab, Yacine Amara, Georges Barakat	End-Effects Modeling in an Axial Field Flux Focusing Magnetic Gear using a Quasi-3D Reluctance Network Model	France
ICEM22-000378	Doga Ceylan, Reza Zeinali, Bram Daniels, Konstantin O. Boynov, Elena A. Lomonova	Significance of Vector Hysteresis Modeling in the Analysis of Variable Flux Reluctance Machines	Netherlands
ICEM22-000106	Jinlin Gong, Benteng Zhao, Fei Tan, Eric Semail, Ngac-Ky Nguyen, Nicolas Bracikowski	Seven-phase axial and radial flux in-wheel machine with three active air gaps	China
ICEM22-000299	Abderrahmane Rebhaoui, Mohamed Amine Hebri, Jean-Philippe Lecointe, Cristian Demian, Sid Ali Randi	Exploiting the High Saturation Flux Density of the GOES in Radial Flux PMSM	France
ICEM22-000355	Haolan Zhan, Yidong Du, Lijian Wu, Youtong Fang	Investigation of Post-Demagnetization Torque Ripple in Fractional-Slot Surface-Mounted PM Wind Power Generators after Short Circuit Faults	China
ICEM22-000001	Shun Feng, Ronghai Qu	NVH Analysis of Integrated Motor and Two-Speed Gearbox System for Electric Vehicle	China
ICEM22-000409	Takeshi Okada, Mitsuru Saito, Toru Aikoh, Takashi Kosaka, Hiroaki Matsumori, Nobuyuki Matsui	Design Optimization Study on HEFSM with Flat Aspect Ratio for Enhancing Power Density and Efficiency	Japan
ICEM22-000080	Hao Zhou, Dieter Gerling	Axially Superimposed Windings with Different Radial Lengths to Increase Torque Capacity of Axial Flux Machines	Germany
ICEM22-000103	Angel González-Prieto, Ignacio González Prieto, Mario J. Durán, Juan Jose Aciego	A Memory-based Model Predictive Control for Multiphase Electric Drives Using SiC Switches	Spain
ICEM22-000113	Oliver Tweedy, Yusuf Akcay, Paolo Giangrande, Michael Galea, Seamus Garvey	Electromechanical Analysis of Low Voltage Faults in a Magnetically Coupled Synchronous Generator Set	United Kingdom
ICEM22-000016	Mohamed. N. Ibrahim, Peter Sergeant	Energy Efficient Electric Drivetrain Employing Magnetic Spring for Weaving Loom Applications	Belgium
ICEM22-000344	Danilo Riquelme, Carlos Madariaga, Werner Jara, Juan Tapia, Gerd Bramerdorfer, Javier Riedemann	Impact of Axial-Varying Eccentricity on the Performance of PMSM with Segmented Stator Core	Chile
ICEM22-000243	Abraham Botes, Maarten J. Kamper, Mkhululi Mabhula	Optimisation Technique for DC-Excited Vernier Reluctance Synchronous Condensers	South Africa
ICEM22-000360	Hongwei Xu, Jian Li, Kai Yang, Yang Lu, Pengfei Zhang	Vibration Suppression of Active Magnetic Bearing System with Precise Frequency Estimation Method	China
ICEM22-000195	Diego Carlos de Lima Teles, Christian Chillet, Lauric Garbuio, Laurent Gerbaud	Convergence Algorithm for a Nonlinear Subdomain Model of a Parallel Halbach Permanent Magnet Synchronous Motor	France
ICEM22-000030	Yuki Hidaka	High-Torque Magnet-Assisted Wound Field Motor using a Field-Unit-Type Rotor Structure	Japan
ICEM22-000107	Kosuke Izumiya, Ren Tsunata, Masatsugu Takemoto, Jun Imai, Tatsuya Saito, Tomoyuki Ueno	Axial-Flux Machine Using Ferrite PM and Round Wire Competitive to Radial-Flux Machine Using Nd-Fe-B PM for HEV Traction	Japan
ICEM22-000272	Rebecca Mazloum, Sami Hlioui, Luc Laurent, M'Hamed Belhadi Guillaume Mermaz-Rollet, Mohamed Gabsi	Wound Field Synchronous Drive Cycle Control Parameter Optimization: A Metamodel-Based Approach	France

ICEM22-000393	Nosimilo Siphepho, Karen Garner	Design and Performance Analysis Of A Dual Three Phase Large Scale Wound Rotor Synchronous Machine	South Africa
ICEM22-000091	Daisuke Sato, Ryoto Maejima, Wataru Kitagawa, Takaharu Takeshita	Cogging Torque Reduction by Using Double Skew of Permanent Magnets in Axial Gap Motor	Japan
ICEM22-000478	Simon Bernier, Olivier Kokoko, Arezki Merkhouf, Kamal Al-Haddad	Magnetic Flux Analysis Of Synchronous Machines With Salient Poles	Canada
ICEM22-000438	Hamza Farooq, Nicolas Bracikowski, Patricio La Delfa, Michel Hecquet	Modelling of Starting and Steady-State performance of Line Start Permanent Magnet Synchronous Motor using Reluctance Network	France
ICEM22-000396	Saleh Edhah, Jamal Alsawalhi	A General Airgap Permeance Model Applicable to Integer and Fractional Slot Permanent Magnet AC Machines	United Arab Emirates
ICEM22-000204	Nozomu Takemura, Katsuhiro Hirata, Noboru Niguchi, Hironori Suzuki	Development of a 12/10 Hex Connection SRM for Electric Vehicle Traction Motors	Japan
ICEM22-000306	Jiří Dražan, Jan Laksar	Estimation of Eddy Current Losses in SPMSM Based on Harmonic Decomposition	Czech Republic
ICEM22-000405	Mehdi Djami, Maya Hage Hassan, Claude Marchand, Guillaume Krebs, Philippe Dessante, Lamya Abdeljalil Belhaj	Kriging Metamodel for Electric Machines: A Drive Cycle Approach	France
ICEM22-000382	Bachir Kedjar, Arezki Merkhouf, Kamal Al-Haddad	Co-simulation for Finite Element Model Calibration of Synchronous Generators Connected to an Infinite Bus	Canada
ICEM22-000275	Mbika Muteba	Analysis of a Nine-Phase Tangential-Flux PM Synchronous Motor with Skewed Stator and Dual Rotor Hubs for Electric Vehicles	South Africa
ICEM22-000274	Mabushu Sikhonde, Mbika Muteba	Effect of Number of Slots on the Starting Torque of a Line-Start Three-Phase Synchronous Reluctance Motor with Double Rotor Cage Bars	South Africa
ICEM22-000135	Matteo Leandro, Jonas Kristiansen Nøland	A Penalty-Based PSO Algorithm for Demagnetization Risk-Free Design of Slotless Halbach PM Machines	Norway
ICEM22-000168	Marius Schubert, Constantin Wohlers, Bernd Ponick	Efficient determination of the behavior of permanent magnet synchronous machines using magnetic equivalent circuits	Germany
ICEM22-000418	Andrei Zhuravlev, Sadjad Madanzadeh, Rafal P. Jastrzebski	A Model-Based Direct Force Technique Adopting Force Mapping for a Twin Self-Bearing Motor Control	Finland

ICEM22-000251	Koua Malick Cissé, André Nasr, Baptiste Chareyron, Abdenour Abdelli, Misa Milosavljevic	Surrogate model-based optimization methodology for high torque and power density Permanent Magnet assisted Synchronous Reluctance motor	France
ICEM22-000122	Marcelo Silva, Sandra Eriksson	On the Mitigation of Leakage Flux in Spoke Type Permanent Magnet Synchronous Machines	Sweden
ICEM22-000318	Fei Tan, Jinlin Gong, Qiuyue Zhao, Ngac-ky Nguyen, Eric Semail, Nicolas Bracikowski, Frederic Gillon	Optimal Design of a Five-phase External Rotor Permanent Magnet Machine for Convey Application	China
ICEM22-000459	Danyang Cui, Lena Max, Cecilia Boström, Boel Ekergard	Design of Spoke Type Traction Motor with Ferrite Material for EV Application	Sweden
ICEM22-000281	David Rura, Jan Barta, Petr Klima	Design and analysis of radial homopolar electrodynamic bearing with radial magnets	Czech Republic
ICEM22-000114	Poonam Sharma, Sashidhar Sampathirao	Permanent Magnet Vernier Generator with Surface Ferrite Magnets for a Direct-Drive Wind Generator	India
ICEM22-000173	Luis Serrano-Iribarnegaray, Jorge Bonet-Jara	Physical meaning of the multiphase instantaneous symmetrical components and their relation to the space phasor theory	Spain
ICEM22-000208	Gabor Kovács	Influence of the Rotor Slot Numbers on the Parasitic Torques and the Radial Magnetic Forces of the Squirrel Cage Induction Motor; an Analytic Approach	Hungary
ICEM22-000379	Joël Pedneault-Desroches, Arezki Merkhouf, Kamal Al-Haddad	Shaft Current Diagnostics in Large Salient-Pole Generators	Canada
ICEM22-000279	Makoto Ito, Tetsuya Suto, Akeshi Takahashi, Takafumi Hara, Ryuichiro Iwano	Development of a high power density in-wheel motor using Halbach array magnets	Japan
ICEM22-000093	Wataru Suzuki, Kazuto Sakai	A Variable-Magnetization IPM Motor for EVs with High Performance and Magnet Volume Reduction	Japan
ICEM22-000179	Akeshi Takahashi, Shinji Sugimoto, Kazuo Nishihama, Satoshi Sumita, Shun Taniguchi, Katsuhiro Hoshino, Noriyuki Maekawa	Mechanical Winding Changeover System of Induction Motors for Vehicle Applications	Japan
ICEM22-000390	Sarbajit Paul, Jae-Gil Lee, Vu-Khanh Tran, Pil-Wan Han, Junghwan Chang, Yon-Do Chun	Electromagnetic Design and Thermal Analysis of Totally Enclosed Air Over Cooled Permanent Magnet Synchronous Motor for High-Speed Railway Distributed Traction	Korea (Republic of)

Diagnostic and condition monitoring **2**

ICEM22-000209	Manés Fernández Cabanas, Francisco Pedrayes González, Manuel García Melero, Andrés Suárez Rodríguez	Accurate Detection and Location of Insulation Faults and Free Bulk Deformations in Power Transformers	Spain
ICEM22-000307	Manés Fernández Cabanas, Francisco Pedrayes González, Manuel García Melero, Andrés Suárez Rodríguez	Analysis of the Fault Causes in a 132 kV-180 MVA Transformer: A Real-Life Case Study	Spain

Electrical Machines for Renewable Energy Generation **4**

ICEM22-000078	Mohamed Almozayen, Andrew Knight	Modeling Grid-Connected DFIG under System Disturbances using Dynamic Phasor FEM	Canada
ICEM22-000075	Omar Bouyahia, Amine Yazidi, Franck Betin	Comparative Study of Robust Current Control Strategies for Multiphase Induction Generator	France
ICEM22-000429	Hannu Kärkkäinen, Lassi Aarniovuori, Sami Makkonen, Markku Niemelä, Juha Pyrhönen	Determination of High-Frequency Harmonic Power in Converter-Fed Motors	Finland
ICEM22-000328	Lucky Dube, Karen Garner, Maarten Kamper	Performance of Multi Three-Phase Converter-Fed Non-Overlapping Winding Wound Rotor Synchronous Wind Generator	South Africa

Total **51**

POSTER SESSION II WEDNESDAY 7 SEPT

Chairs: **Luca Papini, Simone Ferrari, Panagiotis Panagiotou, Roque A Osornio-Rios**

Special machines

ICEM22-000283	Lijiu Peng, Lihua Zhou, Ruiwu Cao	Magnetic Pole Optimization of Singular Pole Permanent Magnet Linear Synchronous Motor	China
ICEM22-000123	Shaofeng Jia, Ziwei Liu, Shuai Feng, Deliang Liang	Design and Control of a Novel Fault-tolerant Dual-armature Winding Flux Modulated Permanent Magnet Machine	China
ICEM22-000473	Zhenyu Wang, Jiangtao Yang, Hang Chen, Caiyong Ye, Shoudao Huang	Electromagnetic Performance Analysis of a Dual-rotor Ironless Permanent Magnet Machine	China
ICEM22-000055	Takaaki Toda, Kazuto Sakai	Magnetic Resonance Coupling Motors with Magnetic Rings for Enhanced Power Generation	Japan
ICEM22-000202	Yiming Shen, Yanxin Li, Qinfen Lu	Performance Analysis of Asymmetric-Excited Flux Reversal Permanent Magnet Linear Machines	China
ICEM22-000288	Jiongjiong Cai, Yan Wu, Yufei Wang, Hui Wen	Investigation of The Gas Separation Force Balancing EM Mechanism for A Micro-Scroll machine	China
ICEM22-000023	Rundong Huang, Zaixin Song, Zhiping Dong, Yuxin Liu, Chunhua Liu	Design of A New Double Side Axial-Flux Actuator for Robot Dog	China
ICEM22-000170	Zhengzhou Ma, Ming Cheng, Honghui Wen	Optimization Method for Rotor Salient Pole Reluctance of Magnetically−Geared Machine	China
ICEM22-000127	Robin Köster, Andreas Binder	Medium-Speed Wind Turbine Generators with HTS Excitation Winding	Germany
ICEM22-000371	Claudio Bianchini, Giada Sala, Ambra Torreggiani, Nicola Giannotta, Matteo Davoli, Elena Macrelli, Fabio Immovilli, Alberto Bellini	Synchronous Reluctance Tubular Machine by Means of Additive Manufacturing	Italy
ICEM22-000060	Gianvito Gallicchio, Marco Palmieri, Francesco Cupertino, Mauro Di Nardo	Influence of the Cost Function on the Optimal Design of Magnetic Hysteresis Couplings	Italy
ICEM22-000420	Andrea Floris, Alfonso Damiano, Alessandro Serpi	Design of High-Speed/High-Power PM Synchronous Machines for an Adiabatic Compressed Air Storage System	Italy
ICEM22-000471	Matthijs Kleijer, Helm Jansen, Elena Lomonova	Optimization of Quasi-Halbach Topologies to Maximize the Acceleration of Moving-Magnet Planar Motors	Netherlands
ICEM22-000070	Gustaf Falk Olson, Luca Peretti	Parameter Estimation of Multiphase Machines Applicable to Variable Phase-Pole Machines	Sweden
ICEM22-000059	Víctor Ballestín-Bernad, Jesús Sergio Artal-Sevil, José Antonio Domínguez-Navarro	Co-simulation of a two-phase axial-gap transverse flux machine	Spain
ICEM22-000357	Sylvain Bougnoux, Rémy Bendahan, Kevin Buchicchio, Yuta Nakano, Ahmad Abduallah, Yoshiyuki Komi, Philippe Martin	Control of an Air-Cored Resonant Induction Motor	France

ICEM22-000277	Giacomo Sala, Alessandro Marfoli, Mauro Di Nardo, Michele Degano, Member, Angelo Tani	Analysis of Bearingless Multi-Sector and Multi-Three-Phase Permanent Magnet Motors	Italy
ICEM22-000117	Rishabh Raj, Prithivirajan Subramaniyane, Luca Peretti	Design of a Variable Phase-Pole Induction Machine for Electric Vehicle Applications	Sweden
ICEM22-000276	Franck Scuiller, Florent Becker	Sensorless controls of a 7-phase bi-harmonic Surface-mounted PM Machine	France

Design Issues **12**

ICEM22-000018	Flyur Ismagilov, Ayman EL-Refaie, Vyacheslav Vavilov, Alexey Zherebtsov, Aibulat Miniyarov, Egor Pronin	Obtaining a Non-Magnetic Phase of a Dual-Phase Magnetic Material Based on Cobalt Steel	Russian Federation
ICEM22-000008	Wasiq Ullah, Faisal Khan, Udochukwu B. Akuru, Shahid Hussain, Muhammad Yousuf, Siddique Akbar	Design of a Low-Cost Dual Rotor Field Excited Flux Switching Generator for Wind Turbine Applications	Pakistan
ICEM22-000358	Ilya Petrov	Two permanent magnet rotors controlled independently using single stator	Finland
ICEM22-000412	Felix Rehm, Patrick Breining, Marc Hiller	Determination of Electromagnetic Material Properties of Ferromagnetic Stainless Steel Used in Domestic Induction Heating Cookware	Germany
ICEM22-000212	Bingnan Wang, Khaled Talukder, Yusuke Sakamoto	Topological Data Analysis for Image-based Machine Learning: Application to Electric Motors	United States
ICEM22-000263	Petr Klima, David Rura, Ondřej Vítek	Analysis and Reduction of Eddy Current Losses in High-Speed Solid Outer Rotor Induction Machine	Czech Republic
ICEM22-000451	Simon Röschner, Wilfried Hofmann	Multiplanar Eddy Current Analysis of Interior Permanent Magnets in Synchronous Machines	Germany
ICEM22-000090	Nicolas Schneider, Masahiro Kanamaru, Hiroyuki Sano, Takashi Yamada	Solving geometry conflicts in GA Optimizations with large numbers of geometric parameters	Japan
ICEM22-000250	Lijian Wu, Wenting Wang	Influence of Key Parameters on Torque to Mass Ratio in Surface-Mounted PM Machines with Non-Overlapping Windings	China
ICEM22-000234	Junci Cao, Xiaoqing Deng, Dong Li, Bo Jia	Comparative Analysis of the Performance of High-speed Maglev Trains Based on Normal Conductive and Superconductive Magnetic poles	China
ICEM22-000321	Antoine Mattern, Damien Flieller, J-B. Kammerer, F. Depasse, L. Roch, J. Peuch	Study of the use of an axial flux permanent magnet motor for electric coolant pumps	France
ICEM22-000176	Antonino Di Gerlando, Claudio Ricca	Design Modeling and Sizing Equations of V-shape IPM Motors	Italy

Electrical Drives **7**

ICEM22-000453	Gabriele Rizzoli, Michele Mengoni, Luca Vancini, Luca Zarri, Angelo Tani	Five-to-Three Phase Doubly-Fed Induction Machine for Wireless Energy Transfer in Rotary Assembly Stations	Italy
ICEM22-000130	Yi Liu, Yizheng Zhang, Wei Xu, Juncai Jiang	Cooperative Compensation Strategy Based on Dual Power Converters for Standalone BDFIGs with Heavy Load Disturbance	China
ICEM22-000094	Giulia Urgera, Barrie Mecrow, Melanie Michon, Xu Deng, Mircea Popescu	3D Effects in Static Flux-linkage Characterisation of Switched Reluctance Drives	United Kingdom
ICEM22-000421	Michael Heroth, Helmut C. Schmid, Wilfried Hofmann	Efficient Sampling Algorithm for Electric Machine Design Calculations incorporating Empirical Knowledge	Germany

ICEM22-000034	Yan Jia, Zi-Qiang Zhu, Dawei Liang, Jianghua Feng, Shuying Guo, Yifeng Li, Liang Hu	A Novel Magnetization State Control Method to Eliminate the Unintentional Demagnetization of Low-coercive Force Permanent Magnet for a Hybrid Magnet Memory Motor	United Kingdom
ICEM22-000363	Marco Tursini, Lino Di Leonardo, Federico Verna, Davide Angrilli	Rapid Control Prototyping of Synchronous Reluctance Motor Drives by Matlab/Simulink	Italy
ICEM22-000026	Xu Deng, Barrie Mecrow	An Energy Control Strategy for DC-link Energy Ripple Reduction in a Grid Connected Permanent Magnet Synchronous Motor Drive System	United Kingdom

Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices **2**

ICEM22-000293	Mohanraj Muthusamy, Bassam S. Abdel-Mageed, Pragasen Pillay	Impact of Soft Magnetic Composite Material for Traction Applications using 3D FEA	Canada
ICEM22-000049	Daichi Azuma, Yuta Enokizono, Tatsuya Saito, Tomoyuki Ishimine, Tomoyuki Ueno	Investigation of the Influence of Harmonics on Iron loss of Soft Magnetic Composites	Japan

Hairpin Windings in Electrical Machines for Transportation **8**

ICEM22-000472	David Philipp Morisco, Marco Silberberger, Holger Rapp, Andreas Mockel	Eddy Currents in the End-Windings of High Power Density Traction Machines	Germany
ICEM22-000309	Saverio Giulio Barbieri, Valerio Mangeruga, Matteo Giacopini, Sara Mantovani	Structural Analysis of the Forming Process for Hairpin Windings for Electric Motor Applications: Torsional-Flexural Instability Issues	Italy
ICEM22-000046	Riccardo Notari, Marco Pastura, Stefano Nuzzo, Davide Barater, Giovanni Franceschini, Christopher Gerada	AC losses reduction in Hairpin Windings produced via Additive Manufacturing	Italy
ICEM22-000270	Marco Pastura, Riccardo Notari, Stefano Nuzzo, Davide Barater, Giovanni Franceschini	On the AC Losses in the End Conductors of Hairpin Windings	Italy
ICEM22-000386	Ciro Alosa, Fabio Immovilli, Emilio Lorenzani	Hairpin-Wound Rim-Driven Propeller for Electric Boats on Inland Waterways	Italy
ICEM22-000290	Antonino La Rocca, Salvatore La Rocca, Tianjie Zou, Chuan Liu, Mohsen Moslemin, Chris Gerada, Alasdair Cairns	Performance Assessment of Standard Cooling Strategies for Hairpin Windings	United Kingdom
ICEM22-000040	Adolfo Dannier, Francesco Di Bruno, Francesco Fiume, Emanuele Fedele, Gianluca Brando	Hairpin Winding Technology for Electric Traction Motor: Design, Prototype and Connection Rules	Italy
ICEM22-000182	Andre Nasr, Gianluca Zito, Abdenour Abdelli, Koua Malick Cisse	A methodology to design Hairpin Winding for improved thermal performances in a Permanent Magnet assisted Synchronous Reluctance motor	France

Total **48**

POSTER SESSION III THURSDAY 8 SEPT

Chairs: **Gabor Kovacs, Konstantinos N. Gyftakis, Miguel E Inglesias-Martinez, José Antonio Domínguez Navarro**

Thermal and losses issues – Magnetic and insulation materials **5**

ICEM22-000280	Andreas Bauer, Christian Schumann, Sven Urschel	Analytical Calculation of Eddy Current related Losses and Parasitic Torque in PCB Windings	Germany
ICEM22-000102	Max Hullmann, Bernd Ponick	General Analytical Description of the Effects of Segmentation on Eddy Current Losses in Rectangular Magnets	Germany
ICEM22-000014	Ahmed Selema, Mohamed Ibrahim, Hendrik Vansompel, Peter Sergeant	Development of Yokeless Axial-Flux Machine Using 3D-Printed Shape-Profiled Core	Belgium
ICEM22-000005	Gregorio Cutuli, Davide Barater, Shafigh Nategh, Bharadwaj Raghuraman	Aluminum Hairpin Solution for Electrical Machines in E-Mobility Applications, Part I: Electromagnetic Aspects	Sweden
ICEM22-000028	Alena Babl, Dieter Gerling	Study of Eddy Current Losses in a Stator Steel Sheet of a Machine with Radial Stator Lamination	Germany

Diagnostic and condition monitoring **12**

ICEM22-000385	Jose Antonino-Daviu, Elias G. Strangas	Fault Diagnosis, Prognosis, and Reliability of Electric Motors and Drives: Open Questions, Challenges and Perspectives	Spain
ICEM22-000335	Ricardo Junckes, Cezar Varnier, Eric Nakirimoto, Lucas Tavares	Digital Twin Application in Thermal System with a Heat Source Unknown	Brazil
ICEM22-000428	Kareem A. Nour Al-Deen, Hussain A. Hussain	Analysis and Comparison of Bearing Current Models for Wind Turbine Generators	Kuwait
ICEM22-000191	Haolan Zhan, Lijian Wu, Yidong Du, Zekai Lyu	Detecting Eccentricity Fault in Dual Three-Phase Permanent Magnet Machines by Means of Zero-Sequence Voltage Component	China
ICEM22-000199	Jonathan Cureño-Osornio, Juan Jose Saucedo-Dorantes, David Alejandro Elvira-Ortiz, Arturo Yosimar Jaen-Cuellar, Israel Zamudio-Ramirez, Jose Antonino-Daviu, Roque Osornio-Rios	Gradual fault condition detection in the outer race of induction motor hybrid bearings based on stray flux and LDA-FFNN approaches	Mexico
ICEM22-000365	David Alejandro Elvira-Ortiz, Juan Jose Saucedo-Dorantes, Arturo Yosimar Jaen-Cuellar, Jose Antonino-Daviu, Roque Osornio-Rios	Analysis and detection of broken rotor bars in induction motor under fluctuating load by means of stray flux signals	Mexico
ICEM22-000245	Muhammad Faizan Shaikh, Hyeonjun Lee, Byambasuren Battulga, Sang Bin Lee, Greg C. Stone	Offline Common-Mode Voltage Based VFD-Embedded Groundwall Insulation Testing for Motors	Korea (Republic of)
ICEM22-000146	Gerardo Avalos, Sarahi Aguayo, Jose Rangel-Magdaleno, Mario.R.A. Paternina	Bearing fault detection in Induction Motors usingDigital Taylor Fourier Transform	Mexico
ICEM22-000024	George Falekas, Dimosthenis Verginadis, Athanasios Karlis, Jose Antonino-Daviu	Data Mining Visual Inspection Information in Electrical Machine Maintenance Reports	Greece
ICEM22-000434	Gurkan Kucukyildiz, Hasan Ocak, Ersin Yolacan, Metin Aydin	Detection of Radial and Axial Magnet Defects in PM Synchronous Motors	Turkey
ICEM22-000368	Helene Bechara, Ryad Zemouri, Antoine Tahan, Bachir Kedjar, Arezki Merkhouf, Kamal Al-Haddad	Non-Invasive Anomaly Diagnosis for Hydro Electrical Generators Rotor Inter-Turn Short-Circuit Detection Using Stray Flux and the VAE	Canada
ICEM22-000439	Christoph Cheshire, Felix Gliese, Felix Bertele, Ulrich Ammann	Overview of a Multifunctional Sensor Module for Electric Drives based on Contactless Measurement Techniques	Germany

High-Torque-Density Electrical Machines 7

ICEM22-000259	Pengcheng Sun, Shaofeng Jia, Shuai Feng, Deliang Liang, Xiaozhuang Dong	Stator DC-excited Vernier Reluctance Machines for Aviation Starter/Generator Application	China
ICEM22-000068	Yuting Zheng, Youtong Fang	Analysis of a Flux Reversal Machine with Consequent-Pole Evenly Distributed PM	China
ICEM22-000401	Pengcheng Sun, Shaofeng Jia, Shuai Feng, Deliang Liang, Ziwei Liu	Novel Dual Winding Dual PM Flux Modulated Machines with Array Type Torque	China
ICEM22-000468	Udochukwu Akuru, Wasiq Ullah, Hillary C. Idoko, Faisal Khan	Comparative Performance Evaluation and Prototyping of Double-Stator Wound-Field Flux Modulation Machines	South Africa
ICEM22-000361	Yuting Gao, Takashi Kosaka, Ronghai Qu	Comparative Study of High-Current-Density High-Speed Vernier Permanent Magnet Machines for Electric Vehicle Traction Application	Japan
ICEM22-000467	Hua Li, Mengmeng Cui, Tianjie Zou, Xiaochen Zhang, He Zhang, Zeyuan Xu, David Gerada, Christopher Gerada	Radial Force Analysis and Optimization of Interior Permanent Magnet Traction Motor for Reduction of Electromagnetic Vibration	China
ICEM22-000169	Zhitong Ran, Zi-Qiang Zhu, Fangrui Wei, Emrah Cetin	Comparative Study of Yokeless Dual-rotor and External-rotor Radial-Flux Fractional-Slot PM Machines	United Kingdom

Thermal Management of Electric Drives for Demanding Applications 3

ICEM22-000381	Towhid Chowdhury, Salar Koushan, Ali Al-Qarni, Ayman EL-Refaie, Kevin Bennion, Emily Cousineau, Xuhui Feng, Bidzina Kekelia	Thermal Management System for an Electric Machine with Additively Manufactured Hollow Conductors with Integrated Heat Pipes	United States
ICEM22-000317	Mohd Azri Hizami Rasid, Muhammad Nor Azril Zulkafli, Daing Nafiz, Nurul Fatimah Abdullah	Experimental Evaluation of Temperature Distribution in Armature of a Brushed DC Machine Using Thermal Imaging	Malaysia
ICEM22-000422	Ilya T'Jollyn, Jasper Nonneman, Steven Vanhee, Michel De Paepe	Measurements on thermal buffering of electric machine peak loads with phase change materials	Belgium

Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges 5

ICEM22-000460	Salar Koushan, Sina Vahid, Ayman EL-Refaie	Study of the Current Ripple Effect of a Modular Machine Drive on Torque Ripple and Losses for an SPM Machine with Additively Manufactured Hollow Conductor Coils	United States of America
ICEM22-000414	Sina Vahid, Salar Koushan, Towhid Chowdhury, Ayman EL-Refaie	A Comprehensive Characterization of Hollow Conductor Additively Manufactured Coils and Thermal Management System for a 250kW SPM Machine	United States of America
ICEM22-000369	Praveen Kumar, Ayman M. EL-Refaie	Effect of Slot-Pole Combination on Performance of a Dual Rotor Halbach-Array Axial Flux Permanent Magnet Machine Enabled by Additively Manufactured Winding	United States of America
ICEM22-000198	Muhammad Usman Naseer, Ants Kallaste, Bilal Asad, Toomas Vaimann, Anton Rassõlkin	Modified Initial Design Procedure for Synchronous Reluctance Motor	Estonia
ICEM22-000248	Ekaterina Andriushchenko, Mohammad Hossain Mohammadi, David Alister Lowther, Hamidreza Heidari, Ants Kallaste, Arbaaz Khan	Topology Optimization of a 3D-Printed Switched Reluctance Motor	Estonia

Motor and Generator Windings: Design, Performance and Manufacturing 2

ICEM22-000462	Fernando J. T. E. Ferreira, José M. Alberto, Aníbal T. de Almeida	Induction Motor Tolerance to Supply Voltage Unbalance for Different Dual-Winding Configurations	Portugal
ICEM22-000163	Dmitry Egorov, Pia Lindh, Juha Pyrhönen	Model for Nonlinear Electric Field Control in End-Winding Region of an Electrical Machine	Finland

Vibration and Noise Issues in Electrical Machines 5

ICEM22-000050	Jaime Maravi-Nieto, Zi-Qiang Zhu, Arwyn Thomas, Ziad Azar, Richard Clark, Edom Lemma Demissie	Effect of Slot and Pole Number Combinations on No-Load Airgap Vibration Forces of PMSM	United Kingdom
ICEM22-000072	Mingchuan Liu, Jibin Zou, Yongxiang Xu, Hua Lan, Guodong Yu	Vibration Performance Analysis of Permanent Magnet Synchronous Motor with Modular Winding	China
ICEM22-000255	Jianfeng Hong, Lin Gui, Junci Cao	An Investigation of Tangential Force and Radial Force in PM motor by means of FEM-simulation	China
ICEM22-000289	Shanming Wang, Zhanqi Gu, Jianfeng Hong, Zhanlu Yang	Electromagnetic and Mechanical Transmission Role of Poles in vibration of PMDC motor	China
ICEM22-000076	Zhanlu Yang, Shanming Wang	Vibration Characteristics of Slotless Rotating Armature Permanent Magnet Motors	China

High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques 8

ICEM22-000207	Masato Enokizono, Daisuke Wakabayashi, Mohachiro Oka, Naoya Soda, Mitsuru Takai, Tsuyoshi Kajiya, Kozo Okamoto, Kay Hameyer, Martin Nell	Dual-Axial Gap High-Speed Induction Motor based on Wound Ultra-thin Steel Strip Core	Japan
ICEM22-000175	Marek Furmanik, Michal Staňo, Pavol Rafajdus	Analytical Exploration of Harmonics Behavior in Multiphase Machines	Slovakia
ICEM22-000171	Mohachiro Oka, Masato Enokizono, Daisuke Wakabayashi, Naoya Soda, Mitsuru Takai, Tsuyoshi Kajiya	Magnetic Property Distribution of a Wound Laminated Stator Core Made of Ultra-thin Electrical Steel Strip for a Dual-Axial Gap High-Speed Induction Motor	Japan
ICEM22-000242	Naoya Soda, Yuki Onizawa, Daisuke Wakabayashi, Mohachiro Oka, Masato Enokizono, Mitsuru Takai, Tsuyoshi Kajiya, Kay Hameyer, Martin Nell	Analytical Investigation on 3D Structure of Dual Axial Gap Induction Motor	Japan
ICEM22-000039	Emil Kurvinen, Juuso Narsakka, Tuhin Choudhury, Rafal P. Jastrzebski, Jussi Sopanen	Active Magnetic Bearing Positioning in the Conceptual Design Phase of a High-Speed Electric Machine	Finland
ICEM22-000057	Vyacheslav Vavilov, Flur Ismagilov, Evelina Zaynagutdinova, Elizabeth Pestereva, Alexander Podguzov, Zemfira Baisheva	Experience in conducting research tests of windings of electrical machines made using additive technologies from AlSi10Mg with the addition of carbon nanotubes	Russian Federation
ICEM22-000210	Hiroyuki Sano, Kazuki Semba, Yusaku Suzuki, Takashi Yamada	Investigation in the accuracy of FEA Based Efficiency Maps for PMSM traction machines	Japan
ICEM22-000105	Linnan Sun, Hendrik Vansompel, Zhuoran Zhang, Peter Sergeant	Winding Configurations of a Switched Reluctance Generator System Excited by Circulating Current	Belgium

Total 47