

ICEM 2022 VALENCIA
Preliminary Proram

Rotating machines

Oral

Rotating machines 1

transaction	authors	title	contactAffilC ountry	track
ICEM22-000446	Paolo Ragazzo, Simone Ferrari, Gaetano Dilevrano, Gianmario Pellegrino	Design of IPM Synchronous Machines Using Fast-FEA Corrected Design Equations	Italy	Rotating machines
ICEM22-000350	Georgios Sakkas	Rotor deformation impact on operating characteristics of IPM Motor under High-Speed conditions	Greece	Rotating machines
ICEM22-000236	Konstantina Bitsi, Sjoerd Bosga	A Comparative Study of IPM and WICSC Machines for Heavy Vehicle Application	Sweden	Rotating machines
ICEM22-000265	Giuseppe Schettino, Claudio Nevoloso, Antonino Oscar Di Tommaso, Gioacchino Scaglione, Rosario Miceli	Improved High-Fidelity IPMSM mathematical model Including Saturation, Cross-Coupling, Torque Ripple and Iron Loss effects	Italy	Rotating machines
ICEM22-000093	Kazuto Sakai, Wataru Suzuki	A Variable-Magnetization IPM Motor for EVs with High Performance and Magnet Volume Reduction	Japan	Rotating machines
ICEM22-000053	Ankan Dey, Sreeju S Nair, Sundaram M, P Varunraj	Inset Permanent Magnet Machine for Direct Wheel Drive Applications	India	Rotating machines

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Rotating machines 2

transaction	authors	title	contactAffilC ountry	track
ICEM22-000407	Tianjie Zou, Chris Gerada, Salvatore La Rocca, Antonino La Rocca, Gaurang Vakil, Peter Connor, Muhammad Khawja, Adam Walker	Investigating Synchronous Reluctance Rotor Performance for Traction Applications against a Permanent Magnet Benchmark	United Kingdom	Rotating machines
ICEM22-000104	Nejila Parspour, Yuancong Gong, Markus Heim, Wilken Wößner, Julian Fischer, Jürgen Fleischer, Marcel Waldhof	Improvement of the Mechanical Strength of High Speed Synchronous Reluctance Machines by Fiber Reinforced Support Structures	Germany	Rotating machines
ICEM22-000481	Juha Pyrhönen, Ilya Petrov, Janne Nerg, Valerii Abramenko	Design of Synchronous Reluctance Motor With Minimised Torque Ripple Based on Analysis of Flux Density Harmonics	Finland	Rotating machines
ICEM22-000134	Jannik Rituper, Raimund Gottkehaskamp	Consideration of the Saturation in a Transient Model of Line-Start Synchronous Reluctance Machines	Germany	Rotating machines
ICEM22-000474	Chris Gerada, Gaurang Vakil, Muhammad Khawja, Liya Tom, Ramkumar Ramanathan	Comparative Analysis of Synchronous Reluctance Machine against Conventional Induction Machine for Railway Traction	United Kingdom	Rotating machines
ICEM22-000388	Nicola Bianchi, Dawei Li, Ronghai Qu, Yuhang Cheng, Yawei Wang	Design of Synchronous Reluctance Machine with Circular Flux-Barriers Based on Different Optimization Algorithms	China	Rotating machines

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Rotating machines 3

transaction	authors	title	contactAffilC ountry	track
ICEM22-000252	Emil Kurvinen,Tuhin Choudhury,Rafal .Jastrzebski,Jussi Sopanen,Juuso Narsakka,Iikka Martikainen,Juha Pyrhönen,Eerik Sikanen	Design of Thick-Lamination Rotor Configuration for a High-Speed Induction Machine in Megawatt Class	Finland	Rotating machines
ICEM22-000353	Lassi Aarniovuori,Juha Pyrhönen,Konstantin Vostrov	High-Speed Megawatt-Scale Induction-Motor Drives: Efficiency Maps and Drivetrains	Finland	Rotating machines
ICEM22-000179	Shinji Sugimoto,Kazuo Nishihama,Satoshi Sumita,Shun Taniguchi,Katsuhiko Hoshino,Noriyuki Maekawa,Akeshi Takahashi	Mechanical Winding Changeover System of Induction Motors for Vehicle Applications	Japan	Rotating machines
ICEM22-000291	Noureddine TAKORABET,Thomas Marcand,Larbi Dahnoun,Smail Mezani,Rachid Rahouadj,Cedric Laurent,Benjamin Dagusé,Julien Fontchastagner,Charles-Henri Bonnard	Comparison of methods for evaluating mechanical stress in the rotor of high-speed machines	France	Rotating machines
ICEM22-000214	Jan Bárta,Iveta Lolová,Petr Ložák,Martin Kroupa,Gerd Bramerdorfer,Vladimír Bílek	Design of modular high-speed copper coated solid rotor induction machine	Czech Republic	Rotating machines
ICEM22-000003	Aldo Boglietti,Fabio Mandrile,Sandro Rubino,Eric Armando	A Detailed Analysis of the Electromagnetic Phenomena Observed During the Flux-Decay Test	Italy	Rotating machines

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Rotating machines 4

transaction	authors	title	contactAffilC ountry	track
ICEM22-000031	Zi-Qiang Zhu,Tianran He,Dawei Liang	Analytical Rotor Thermal Modelling Accounting for Retaining Sleeve in High-speed PM Machines	United Kingdom	Rotating machines
ICEM22-000311	Lassi Aarniovuori,Juha Pyrhönen,Pia Lindh,Hannu Kärkkäinen	Method to define induction machine efficiency map with rated power value	Finland	Rotating machines
ICEM22-000485	Sandro Rubino,Silvio Vaschetto,Ornella Stiscia,Marco Biasion,Alberto Tenconi,Andrea Cavagnino	Iron Losses and Parameters Investigation of Multi-Three-Phase Induction Motors in Normal and Open-Phase Fault Conditions	Italy	Rotating machines
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	Rotating machines
ICEM22-000154	David Gerada,Michele Degano,Zeyuan Xu,Ahmed Tameemi,Chris Gerada,Mauro Di nardo,Mukhammed Murataliyev	Power Loss and Performance Analysis of a Permanent Magnet Synchronous Motor for Actuator Applications	Iraq	Rotating machines
ICEM22-000287	Emil Kurvinen,Juha Pyrhönen,Andrea Credo,Ilya Petrov	Investigation of Material Combinations for Axially-Laminated Synchronous Machine	Italy	Rotating machines

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transaction	authors	title	contactAffilC ountry	track
ICEM22-000285	Mehmet Gulec,Peter Sergeant,Karel Vanthuyne	High-frequency motor modelling: Parameter variation due to manufacturing	Belgium	Rotating machines
ICEM22-000124	Julien Guihaire,Olaf MERCIER,Maya Hage Hassan,Claude MARCHAND,Guillaume KREBS,Abdelhakim SAHNOUNE	Design of a Circulatory Assistance Benchmark Actuator for an Artificial Lung	France	Rotating machines
ICEM22-000172	Amedeo Vannini,Luca Papini,Alessandro Marfoli,Paolo Bolognesi,Chris Gerada,Claudia Simonelli	Modelling, Analysis, and Design of a Line-Start Permanent Magnet Synchronous Motor	United Kingdom	Rotating machines
ICEM22-000450	Bowen Jiang,Yujing Liu,Luca Boscaglia,Junfei Tang,Hao Chen	Observations of Field Current and Field Winding Temperature in Electrically Excited Synchronous Machines with Brushless Excitation	Sweden	Rotating machines
ICEM22-000037	Alvaro Hoffer,César Gallardo,Michele Degano,Hanafy Mahmoud,Juan Tapia	Rotor Asymmetry Impact on Synchronous Reluctance Machines Performance	Chile	Rotating machines
ICEM22-000390	Jaegil Lee,Vu-Khanh Tran,Pil-Wan Han,Yon-Do Chun,Sarbajit Paul	Electromagnetic Design and Thermal Analysis of Totally Enclosed Air Over Cooled Permanent Magnet Synchronous Motor for High-Speed Railway Distributed Traction	Korea (Republic of)	Rotating machines

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Poster

transaction	authors	title	contactAffilC ountry	track
ICEM22-000477	Haidar Diab,Georges BARAKAT,Yacine Amara	End-Effects Modeling in an Axial Field Flux Focusing Magnetic Gear using a Quasi-3D Reluctance Network Model	France	Rotating machines
ICEM22-000378	Elena Lomonova,Reza Zeinali,Bram Daniels,Konstantin Boynov,Doga Ceylan	Significance of Vector Hysteresis Modeling in the Analysis of Variable Flux Reluctance Machines	Netherlands	Rotating machines
ICEM22-000106	Jinlin Gong,BENTENG ZHAO,YOUXI HUANG,Ngac Ky NGUYEN,ERIC SEMAIL	Seven-phase axial and radial flux in-wheel machine with three active air gaps	China	Rotating machines
ICEM22-000269	Jonas Noland,Frédéric Maurer	An Overview of Circulating Currents in Salient-Pole Synchronous Hydrogenerators	Norway	Rotating machines
ICEM22-000299	Hebri Mohamed Amine,Randi Sid Ali,Demian Cristian,Abderrahmane Rebhaoui,Lecoointe Jean-Philippe	Exploiting the High Saturation Flux Density of the GOES in Radial Flux PMSM	France	Rotating machines
ICEM22-000355	Youtong Fang,Lijian Wu,yidong du	Investigation of Post-Demagnetization Torque Ripple in Fractional-Slot Surface-Mounted PM Wind Power Generators after Short Circuit Faults	China	Rotating machines
ICEM22-000001	Shun Feng,Ronghai Qu	NVH Analysis of Integrated Motor and Two-Speed Gearbox System for Electric Vehicle	China	Rotating machines
ICEM22-000409	HIROAKI MATSUMORI,Takeshi Okada,Mitsuru Saito,Toru Aikoh,Nobuyuki Matsui,Takashi Kosaka	Design Optimization Study on HEFSM with Flat Aspect Ratio for Enhancing Power Density and Efficiency	Japan	Rotating machines
ICEM22-000080	Dieter Gerling,Hao Zhou	Axially Superimposed Windings with Different Radial Lengths to Increase Torque Capacity of Axial Flux Machine	Germany	Rotating machines

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ICEM22-000103	Ignacio González Prieto,Angel Gonzalez-Prieto,Juan Jose Aciego,Mario J. Duran	A Memory-based Model Predictive Control for Multiphase Electric Drives Using SiC Switches	Spain	Rotating machines
ICEM22-000113	Michael Galea,Oliver Tweedy,Paolo Giangrande,Yusuf Akcay,Seamus Garvey	Electromechanical Analysis of Low Voltage Faults in a Magnetically Coupled Synchronous Generator Set	United Kingdom	Rotating machines
ICEM22-000016	Mohamed Ibrahim,Peter Sergeant	Electric Drivetrain Considering Magnetic Springs for Weaving Loom Applications	Belgium	Rotating machines
ICEM22-000344	Gerd Bramerdorfer,Juan Tapia,Danilo Riquelme,Werner Jara,Carlos Madariaga,Javier Riedemann	Impact of Axial-Varying Eccentricity on the Performance of PMSM with Segmented Stator Core	Chile	Rotating machines
ICEM22-000243	Maarten Kamper,Mkhululi Mabhula,Abraham Botes	Optimisation Technique for DC-Excited Vernier Reluctance Synchronous Condensers	South Africa	Rotating machines
ICEM22-000360	Jian Li,Kai Yang,Yang Lu,Pengfei Zhang,hongwei xu	Vibration Suppression of Active Magnetic Bearing System with Precise Frequency Estimation Method	China	Rotating machines
ICEM22-000211	Ondřej Vitek,Jan Barta,Iveta Lolová,Gerd Bramerdorfer,Vladimír Bílek	The Optimization of Single-Phase Line-Start Permanent Magnet Synchronous Motor for Household Applications	Czech Republic	Rotating machines
ICEM22-000195	Diego Carlos DE LIMA TELES	Convergence Algorithm for a Nonlinear Subdomain Model of a Parallel Halbach Permanent Magnet Synchronous Motor	France	Rotating machines
ICEM22-000030	Yuki Hidaka	High-Torque Magnet-Assisted Wound Field Motor using a Field-Unit-Type Rotor Structure	Japan	Rotating machines
ICEM22-000107	Tomoyuki Ueno,Tatsuya Saito,Ren Tsunata,Masatsugu Takemoto,Jun Imai,Kosuke Izumiya	Axial-Flux Machine Using Ferrite PM and Round Wire Competitive to Radial-Flux Machine Using Nd-Fe-B PM for HEV Traction	Japan	Rotating machines
ICEM22-000272	Mohamed Gabsi,Sami Hlioui,M'Hamed Belhadi,Guillaume Mermaz-Rollet,Rebecca Mazloum,Luc Laurent	Wound Field Synchronous Drive Cycle Control Parameter Optimization : A Metamodel-Based Approach	France	Rotating machines
ICEM22-000393	Nosimilo Siphepho,Karen Garner	Design and Performance Analysis Of A Dual Three Phase Large Scale Wound Rotor Synchronous Machine	South Africa	Rotating machines
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	Rotating machines
ICEM22-000478	Kamal Al-Haddad,Arezki Merkhouf,Simon Bernier,Olivier Kokoko	Magnetic Flux Analysis Of Synchronous Machines With Salient Poles	Canada	Rotating machines
ICEM22-000266	Mohamed Amine HEBRI,Abderrahmane Rebhaoui,Vincent Mallard,Abdenour Abdelli,Gregory Bauw,Adrien Maier,Gianluca Zito,Jean-Philippe Lecoïnte,Stéphane Duchesne	Electromagnetic Study of High Power Density PMSM for Automotive Application	France	Rotating machines
ICEM22-000438	Nicolas BRACIKOWSKI,Hamza Farooq,Patricio La Delfa,Michel Hecquet	Modelling of Starting and Steady-State performance of Line Start Permanent Magnet Synchronous Motor using Reluctance Network	France	Rotating machines
ICEM22-000396	Jamal Alsawalhi,Saleh Edhah	A General Airgap Permeance Model Applicable to Integer and Fractional Slot Permanent Magnet AC Machines	United Arab Emirates	Rotating machines
ICEM22-000204	Nozomu Takemura,Katsuhiko Hirata,Noboru Niguchi,Hironori Suzuki	Development of a 12/10 Hex Connection SRM for Electric Vehicle Traction Motors	Japan	Rotating machines

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ICEM22-000044	DAVIDE BARATER,Stefano Nuzzo,Mohammad Soltani,Giampaolo Devito,Giovanni Franceschini	Combined magnet shaping and asymmetries in surface-mounted permanent magnet machines for improved torque performance	Italy	Rotating machines
ICEM22-000306	Jiří Dražan,Jan Laksar	Estimation of Eddy Current Losses in SPMSM Based on Harmonic Decomposition	Czech Republic	Rotating machines
ICEM22-000405	Maya Hage Hassan,Claude Marchand,Guillaume Krebs,Mehdi DJAMI,Philippe Dessante,Lamya Abdeljalil Belhaj	Kriging Metamodel for Electric Machines: A Drive Cycle Approach	France	Rotating machines
ICEM22-000326	Seyedmehdi Kazemisangdehi	Optimization of a Switched Flux Permanent Magnet Machine Using Segmented Rotor with Multi-layer Flux Barriers	Iran (Islamic Republic of)	Rotating machines
ICEM22-000382	Kamal Al-Haddad,Bachir Kedjar,Arezki Merkhouf	Co-simulation for Finite Element Model Calibration of Synchronous Generators Connected to an Infinite Bus	Canada	Rotating machines
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	Rotating machines
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	Rotating machines
ICEM22-000135	Jonas Kristiansen Nøland,Matteo Leandro	A Penalty-Based PSO Algorithm for Demagnetization Risk-Free Design of Slotless Halbach PM Machines	Norway	Rotating machines
ICEM22-000168	Bernd Ponick,Constantin Wohlers,Marius Schubert	Efficient determination of the behavior of permanent magnet synchronous machines using magnetic equivalent circuits	Germany	Rotating machines
ICEM22-000418	Rafal Jastrzebski,Andrei Zhuravlev,Sadjad Madanzadeh	Force mapping for model-based direct force control of twin bearingless rotor	Finland	Rotating machines
ICEM22-000251	Abdenour Abdelli,Andre Nasr,Koua Malick CISSE,Baptiste Chareyron,Milosavljevic Misa	Surrogate model-based optimization methodology for high torque and power density Permanent Magnet assisted Synchronous Reluctance motor	France	Rotating machines
ICEM22-000122	Marcelo Silva,Sandra Eriksson	On the Mitigation of Leakage Flux in Spoke Type Permanent Magnet Synchronous Machines	Sweden	Rotating machines
ICEM22-000318	Jinlin Gong,NGAC-KY NGUYEN,Fei Tan,ERIC SEMAIL,QIUYUE ZHAO,HUADONG WANG,frederic gillon,nicolas bracikowski	Optimal Design of a Five-phase External Rotor Permanent Magnet Machine for Convey Application	China	Rotating machines
ICEM22-000459	Danyang Cui,Lena Max,Cecilia Boström,Boel Ekergård	Design of Spoke Type Traction Motor with Ferrite Material for EV Application	Sweden	Rotating machines
ICEM22-000281	Jan Barta,Petr Klima,David Rura	Design and analysis of radial homopolar electrodynamic bearing with radial magnets	Czech Republic	Rotating machines
ICEM22-000114	Poonam Sharma,Sashidhar Sampathirao	Permanent Magnet Vernier Generator with Surface Ferrite Magnets for a Direct-Drive Wind Generator	India	Rotating machines

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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	Rotating machines
ICEM22-000208	Gabor Kovacs	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	Rotating machines
ICEM22-000379	Kamal Al-Haddad,Joël Pedneault-Desroches,Arezki Merkhouf	Shaft Current Diagnostics in Large Salient-Pole Generators	Canada	Rotating machines
ICEM22-000279	Akeshi Takahashi,Makoto Ito,Tetsuya Suto,Takafumi Hara,Ryuichiro Iwano	Development of a high power density in-wheel motor using Halbach array magnets	Japan	Rotating machines

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Design issues

**Oral
Design issues 1**

transaction	authors	title	contactAffilCountry	track
ICEM22-000061	Michele Degano,Francesco Cupertino,Gianvito Gallicchio,Chris Gerada,Mauro Di Nardo,Marco Palmieri	Design Methodologies of High Speed Synchronous Reluctance Machines	Italy	Design issues
ICEM22-000012	Kotb B. Tawfiq,Mohamed Ibrahim,Peter Sergeant	Analysis of Different Rewinding Configurations of Five-phase Synchronous Reluctance Machines	Belgium	Design issues
ICEM22-000029	Dieter Gerling,Christian Bratke	Design Process of a Hybrid Excited Synchronous Machine with Stator Cage Winding	Germany	Design issues
ICEM22-000225	Hamid Ben Ahmed,François Louf,Théodore Cherrière,Mohamed Gabsi,Sami Hlioui,Luc Laurent	Topology optimization of asymmetric PMSM rotor	France	Design issues
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	Design issues
ICEM22-000176	Antonino Di Gerlando,Claudio Ricca	Design Modeling and Sizing Equations of V-shape IPM Motors	Italy	Design issues

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Design issues 2

transaction	authors	title	contactAffilCountry	track
ICEM22-000110	Yerai Moreno,Roberto Moreno,Aritz Egea,Gaizka Almandoz,Ander Urdangarin,Gaizka Ugalde	High-Frequency Modelling of Windings	Spain	Design issues
ICEM22-000167	Pavel Dvorak,Karel Hruska	Simplified Analytical Calculation of PM Machines Magnetic Flux Leakage Factor	Czech Republic	Design issues
ICEM22-000048	Stephan Tenner,Joachim Kempkes,Uwe Schäfer,Sebastian Moros	Calculation of Slot Leakage Flux and Current Displacement in Form-Wound Windings of Electric Machines by Magnetic Equivalent Circuit	Germany	Design issues

ICEM22-000271	Francisco Marquez-Fernandez,Leonardo Colombo,Alexandra Tokat,Konstantina Bitsi,Mats Alaküla	Performance degradation due to cut edge effect for an Axial-Flux Induction Machine	Sweden	Design issues
ICEM22-000308	Jose Enrique Ruiz Sarrio,Fabien Chuvicourt,Claudia Martis	Sensitivity Analysis of a Numerical High-Frequency Impedance Model for Rotating Electrical Machines	Romania	Design issues
ICEM22-000226	Angelita Demarchi,Leonardo Santos,Marcelo Verardi	Polymeric Enclosures Impact Simulaton: Constitutive Model Optimization	Brazil	Design issues

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Design issues 3

transaction	authors	title	contactAffilCountry	track
ICEM22-000314	Michele Degano,Francesco Cupertino,Gianvito Gallicchio,Chris Gerada,Mauro Di Nardo,Oguz Korman	Optimal Design of Synchronous Reluctance Machines for Traction Applications	United Kingdom	Design issues
ICEM22-000239	Samuel Estenlund,Alexandra Tokat,Jonas Engqvist,Mats Alaküla	Dovetail design for direct cooled rotor: Design and manufacturing	Sweden	Design issues
ICEM22-000413	Haiteng SUN	Dovetail design solution of PMSM using Stainless Steel for sensorless performance improvement	France	Design issues
ICEM22-000220	Emil Kurvinen,Tuhin Choudhury,Jussi Sopanen,Juha Pyrhönen,Juuso Narsakka,Konstantin Vostrov	Method for Mechanical Design of Squirrel Cage Slitted Solid Rotor	Finland	Design issues
ICEM22-000007	Aldo Boglietti,Shafigh Nategh,Torbjörn Thiringer,Bharadwaj Raghuraman	Design and Optimization of Induction Machines for E-mobility Applications	Sweden	Design issues
ICEM22-000470	Elena A. Lomonova,Siamak Pourkeivannour,Uwe Drofenik,Mitrofan Curti	DESIGN TRADE-OFF ANALYSIS OF DRY-TYPE MEDIUM FREQUENCY TRANSFORMERS WITH FOIL WINDINGS	Netherlands	Design issues

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Poster

ICEM22-000018	Ayman EL-Refaie,Egor Pronin,Vyacheslav Vavilov,Alexey Zherebtsov,Aibulat Miniyarov,Flyur Ismagilov	Obtaining a Non-Magnetic Phase of a Dual-Phase Magnetic Material Based on Cobalt Steel	Russian Federation	Design issues
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ICEM22-000008	Faisal Khan,Siddique Akbar,Wasiq Ullah,Shahid Hussain,Muhammad Yousuf	Design of a Low-Cost Dual Rotor Field Excited Flux Switching Generator for Wind Turbine Applications	Pakistan	Design issues
ICEM22-000358	Ilya Petrov	Two permanent magnet rotors controlled independently using single stator	Finland	Design issues
ICEM22-000412	Patrick Breining,Felix Rehm,Marc Hiller	Determination of Electromagnetic Material Properties of Ferromagnetic Stainless Steel Used in Domestic Induction Heating Cookware	Germany	Design issues
ICEM22-000212	Bingnan Wang,Khaled Talukder,Yusuke Sakamoto	Topological Data Analysis for Image-based Machine Learning: Application to Electric Motors	United States	Design issues
ICEM22-000263	Ondřej Vítek,David Rura,Petr Klima	Analysis and Reduction of Eddy Current Losses in High-Speed Solid Outer Rotor Induction Machine	Czech Republic	Design issues
ICEM22-000451	Simon Röschner,Wilfried Hofmann	Multiplanar Eddy Current Analysis of Interior Permanent Magnets in Synchronous Machines	Germany	Design issues
ICEM22-000149	Thomas Gauthey,Peter Gangl,Maya Hage Hassan	Multi-Material Topology Optimization with Continuous Magnetization Direction for motors design	France	Design issues
ICEM22-000090	Takashi Yamada,Hiroyuki Sano,Nicolas Schneider,Masahiro Kanamaru	Solving Geometry Conflicts in Optimizations with Large Numbers of Geometric Parameters	Japan	Design issues
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	Design issues
ICEM22-000234	Xiaoqing Deng,Dong Li,Bo Jia,Junci Cao	Comparative Analysis of the Performance of High-speed Maglev Trains Based on Normal Conductive and Superconductive Magnetic poles	China	Design issues
ICEM22-000321	Antoine Mattern,Damien Flieller	Study of the use of an axial flux permanent magnet motor for electric coolant pumps	France	Design issues

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Special machines

**Oral
Special machines 1**

transaction	authors	title	contactAffilCountry	track
ICEM22-000404	Andrea Tortella, Mauro Andriollo, Michele Forzan, Enrico Fanton	Design and Analysis of a Dual Mover Linear Oscillating Actuator for a Totally Artificial Heart	Italy	Special machines
ICEM22-000223	Ayman EL-Refaei, Ali Al-Qarni, Towhid Chowdhury	Effect of System Mass on The Design Performance of Double-Sided Thomson Coil Actuator	United States of America	Special machines
ICEM22-000445	Pavol Bauer, Jianning Dong, Belkasssem Becetti	Design of Multi-Mode Linear Electric Machine for Charging and Propulsion of Vacuum Tube Train	Netherlands	Special machines
ICEM22-000400	Rishabh Raj, Prithvirajan Subramaniyane, Claes Henriksson, Mikael Nybacka	Performance Mapping of a Linear Induction Machine for Hyperloop Applications	Sweden	Special machines
ICEM22-000370	Emilio Lorenzani, Fabio Immovilli, Ciro Alosa	Design and Optimization of a Magnetic Gear for a Conveyor System Application	Italy	Special machines
ICEM22-000349	Mehmet Gulec, Peter Sergeant, Metin Aydin	Eddy Current Brakes: A Review on Working Principles and Technology Evolution	Belgium	Special machines

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Special machines 2

transaction	authors	title	contactAffilCountry	track
ICEM22-000332	Lino Di Leonardo, Francesco Parasiliti Collazzo, Moreno D'Andrea, Cecilia D'Angelo, Marco Nucatola, Marco Villani	PM Synchronous Machine for Hybrid Light Aircraft	Italy	Special machines
ICEM22-000066	Lukas Rabenstein, Michael Schmidt, Armin Dietz, Nejila Parspour	Design, Construction and Measurement of a Laminated Transverse Flux Machine	Germany	Special machines
ICEM22-000267	David Gerada, Jing Li, Chris Gerada, He Zhang, Nisarg Dave, Gaurang Vakil	Analytical Model for the Open Circuit Field due to Different Magnetization Patterns of the rotor in the Slotless Machines	United Kingdom	Special machines
ICEM22-000228	Yacine AMARA	Torque Capability of Shifted Inductances Axes Hybrid Excited Synchronous Machines	France	Special machines
ICEM22-000152	Andrea Tortella, Mauro Andriollo, Andrea Iselle	Analytical Procedure for the Performance Prediction of Single-sided Axial Flux PM Machines with Coreless and Slotless Stator	Italy	Special machines
ICEM22-000334	Tuhin Choudhury, Rafal Jastrzebski, Juha Pyrhonen, Eerik Sikanen, Atte Putkonen, Andrei Zhuravlev, Emil Kurvinen	Modelling and control of multi-megawatt AMB-rotor coupled to external load	Finland	Special machines

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Special machines 3

transaction	authors	title	contactAffilCount ry	track
ICEM22-000067	Amedeo Vannini, Luca Papini, Alessandro Marfoli, Paolo Bolognesi, Chris Gerada	Concept and Preliminary Sizing of a Dual DC-Bus Homopolar Generator Using Diode Rectifiers	United Kingdom	Special machines
ICEM22-000435	Nicola Bianchi, Chiara Conto	Dual polarity reluctance-permanent magnet synchronous motor	Italy	Special machines
ICEM22-000222	Martin Pfost, Jan Pötter, Gernot Schullerus	Experimental Analysis of a New Type of Harmonic-Excited Synchronous Machine with Special Consideration of the Core Losses	Germany	Special machines
ICEM22-000264	David Gerada, Jing Li, Chris Gerada, He Zhang, Nisarg Dave, Bowen Shi, Gaurang Vakil, Fengyu Zhang	Fast Sizing Tool and Optimization Technique for Concentrated Wound Slotless Outer Rotor Motor for eVTOL Application	United Kingdom	Special machines
ICEM22-000258	Dorsa Talebi, Matthew Gardner, Mehdi Seyedi, Hamid Toliyat	An Asynchronously Excited Brushless Wound Field Synchronous Machine	United States of America	Special machines
ICEM22-000374	Aritz Egea, GAIZKA ALMANDOZ, Ander Urdangarin, Gaizka Ugalde, Sergio Zarate, Imanol Eguren	Design of a Multipole Line Start Permanent Magnet Machine	Spain	Special machines

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Poster

transaction	authors	title	contactAffilCount ry	track
ICEM22-000283	Lijiu Peng	Magnetic Pole Optimization of Singular Pole Permanent Magnet Linear Synchronous Motor	China	Special machines
ICEM22-000123	Liu Ziwei, Shuai Feng, Deliang Liang, Shaofeng Jia	Design and Control of a Novel Fault-tolerant Dual-armature Winding Flux Modulated Permanent Magnet Machine	China	Special machines
ICEM22-000473	Jiangtao Yang, Caiyong Ye, Shoudao Huang, zhengyu Wang	Electromagnetic Performance Analysis of a Dual-rotor Ironless Permanent Magnet Machine	China	Special machines
ICEM22-000055	Takaaki Toda, Kazuto Sakai	Magnetic Resonance Coupling Motors with Magnetic Rings for Enhanced Power Generation	Japan	Special machines
ICEM22-000297	Farha Siddique, Bhim Singh, Sharankumar Shastri	Surrogate Model Based Design and Optimization of Sine-fed Mutually Coupled SRM for 2W-Electric Vehicle	India	Special machines
ICEM22-000202	Yanxin Li, Yiming Shen, Qinfen Lu	Performance Analysis of Asymmetric-Excited Flux Reversal PM Linear Machines	China	Special machines
ICEM22-000288	yan wu, yufei wang, HUI Wen, Jiongjiong Cai	Investigation of The Gas Separation Force Balancing EM Mechanism for A Micro-Scroll machine	China	Special machines
ICEM22-000023	Zaixin Song, Zhiping Dong, Chunhua Liu, Yuxin Liu, Rundong Huang	Design of A New Double Side Axial-Flux Actuator for Robot Dog	China	Special machines
ICEM22-000330	Guilherme Matioli, Julio Teixeira, Walter Kuchenbecker	3D Cross Coupled Flux Control in Permanent Magnet Machines	Brazil	Special machines
ICEM22-000170	Zhengzhou Ma, Ming Cheng, Honghui Wen	Optimization Method for Rotor Salient Pole Reluctance of Magnetically-Geared Machine	China	Special machines

ICEM22-000127	Robin Köster,Andreas Binder	Medium-Speed Wind Turbine Generators with HTS Excitation Winding	Germany	Special machines
ICEM22-000371	Fabio Immovilli,Elena Macrelli,Giada Sala,Nicola Giannotta,Alberto Bellini,Claudio Bianchini,Ambra Torreggiani,Matteo Davoli	Synchronous Reluctance Tubular Machine by Means of Additive Manufacturing	Italy	Special machines
ICEM22-000060	Francesco Cupertino,Gianvito Gallicchio,Mauro Di Nardo,Marco Palmieri	Influence of the Cost Function on the Optimal Design of Magnetic Hysteresis Couplings	Italy	Special machines
ICEM22-000420	Alfonso Damiano,Andrea Floris,Alessandro Serpi	Design of High-Speed/High-Power PM Synchronous Machines for an Adiabatic Compressed Air Storage System	Italy	Special machines
ICEM22-000471	Elena Lomonova,Matthijs Kleijer,Helm Jansen	Optimization of Quasi-Halbach Topologies to Maximize the Acceleration of Moving-Magnet Planar Motors	Netherlands	Special machines
ICEM22-000070	Luca Peretti,Gustaf Falk Olson	Parameter Estimation of Multiphase Machines Applicable to Variable Phase-Pole Machines	Sweden	Special machines
ICEM22-000059	VICTOR BALLESTIN BERNAD,JOSE ANTONIO DOMINGUEZ NAVARRO,JESUS SERGIO ARTAL-SEVIL	Co-simulation of a two-phase axial-gap transverse flux machine	Spain	Special machines
ICEM22-000357	Philippe Martin,Sylvain Bougnoux,Kevin Buchicchio,Yuta Nakano,Ahmad Abduallah,Yoshiyuki Komi,Rémy Bendahan	Control of an Air-Cored Resonant Induction Motor	France	Special machines
ICEM22-000277	Michele Degano,Alessandro Marfoli,Giacomo Sala,Angelo Tani,Mauro Di Nardo	Analysis of Bearingless Multi-Sector and Multi-Three-Phase Permanent Magnet Motors	Italy	Special machines
ICEM22-000117	Luca Peretti,Rishabh Raj,Prithvirajan Subramaniyane	Design of a Variable Phase-Pole Induction Machine for Electric Vehicle Applications	Sweden	Special machines
ICEM22-000276	Florent Becker,Franck Scuiller	Sensorless controls of a 7-phase bi-harmonic Surface-mounted PM Machine	France	Special machines

Thermal and losses issues – Magnetic and insulation materials

Oral

Thermal and losses issues – Magnetic and insulation materials 1

transaction	authors	title	contactAffilCountry	track
ICEM22-000092	Maximilian Halwas,Felix Hoffmann,Jürgen Fleischer,Martin Doppelbauer	Thermal Analysis of Novel Winding Structures for the Usage in Electrical Machines	Germany	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000452	Yujing Liu,Junfei Tang,Hasan Avsar,Massimo Galbiati,Luca Boscaglia	Convective Heat Transfer Coefficients and Mechanical Loss Evaluation of Oil Splashing in Direct Cooled Electrically Excited Hairpin Motors.	Sweden	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000313	Nicola Bianchi,Francesco Nascimben,Giovanna Cavazzini,Luca Cinti,Chiara Conto	Thermal Analysis of a Permanent Magnet assisted Excitation Motor	Italy	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000006	Shafigh Nategh,Gregorio Cutuli,Daniel Ericsson,Mikael Törmänen,Davide Barater	Aluminum Hairpin Solution for Electrical Machines in E-Mobility Applications, Part II: Thermal and Cooling Aspects	Sweden	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000042	Dieter Gerling,Benedikt Stapff,Hans-Georg Herzog,David Filusch	Investigation of an Analytical Method for the Dynamical Thermal Behavior of Electrical Machines	Germany	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000185	An Zhao,Giovanni Zanuso,	Loss Calculation and Thermal Analysis of an Induction Motor under ITSC Fault Condition	Sweden	Thermal and losses issues – Magnetic and insulation materials

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Thermal and losses issues – Magnetic and insulation materials 2

transaction	authors	title	contactAffilCountry	track
ICEM22-000100	Niklas Driendl,Kay Hameyer,Florian Pauli	Characterization of Insulation Material Parameters in Low-Voltage Electrical Machines	Germany	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000483	Aldo Boglietti,Shafigh Nategh,Andreas Carlsson,Viktor Josefsson,Rickard Arvidsson	Insulation System Design for 800 V Traction Motors Used in E-mobility Applications	Sweden	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000002	Michael Galea,Hadi Naderiallaf,Paolo Giangrande	Investigating the Effect of Waveform Characteristics on PDEV, PDIV and RPDIV for Glass Fiber Insulated Wire	United Kingdom	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000231	Catherine Charrin,Liguo Yang,Kay Hameyer,Shimin Zhang,Florian Pauli	Material Compatibility of Cooling Oil and Winding Insulation System of Electrical Machines	Germany	Thermal and losses issues – Magnetic and insulation materials

ICEM22-000041	Ralph Sindjui,Adrien Gilson,Guillaume Bourhis,Gianluca Zito	Experimental Separation of No-Load Losses of an Electric Motor with Direct Oil Cooling	France	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000425	Torbjörn Thiringer,Alexandra Tokat,Elisabet Jansson,Kim Bergsro	Improvement of the Continuous Performance of a Traction Machine for a Battery Electric Vehicle through Magnet Segmentation	Sweden	Thermal and losses issues – Magnetic and insulation materials

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Thermal and losses issues – Magnetic and insulation materials 3

transaction	authors	title	contactAffilCountry	track
ICEM22-000387	Martin Doppelbauer,Patrick Breining	Magnetic Characterization of Stator Segments Considering Mechanical Stress	Germany	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000411	Torbjörn Thiringer,Joachim Lindström,Sima Soltanipour	Battery electric vehicle performance evaluation by considering punching effect on PMSM iron cores	Sweden	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000157	Arne Nysveen,Robert Nilssen,Børge Johannes Fagermyr,Anyuan Chen,Zhaoqiang Zhang,Hossein Ehya	Material Characterization and Stator Core Loss Computation of Synchronous Generators with Stacking Force Accounted	Norway	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000329	Cristian Demian,Jean-Philippe Lecoite,Jonathan Blaszkowski,Ronan Corin	Grades layout impact on performance of mixed grade magnetic cores	France	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000139	Mohanraj Muthusamy,Pragasen Pillay,Bassam Samy	Effect of Airgap Symmetry on Rotational Iron Losses produced by an Assembled Stator Core	Canada	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000447	Raphael ROMARY,Walid Mohamed Amine MOHAND OUSSAID,Daniel Laloy,Walid Boughanmi,Abdelmounaim Tounzi,Abdelkader Benabou	Investigation of Losses in Fingers and Clamping Plates of High-Power Electrical Machines	France	Thermal and losses issues – Magnetic and insulation materials

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transaction	authors	title	contactAffilCountry	track
ICEM22-000009	Zihang Song,Christian Lehrmann,Markus Henke,Nijan Yogal	Measurement of Eddy Current Loss in Permanent Magnets of Inverter-Fed Permanent Magnet Synchronous Machine During Normal Operation	Germany	Thermal and losses issues – Magnetic and insulation materials
ICEM22-000280	Sven Urschel,Andreas Bauer,Christian Schumann	Analytical Calculation of Eddy Current related Losses and Parasitic Torque in PCB Windings	Germany	Thermal and losses issues – Magnetic and insulation materials

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

Electrical drives**Oral****Electrical drives 1**

transaction	authors	title	contactAffilCountry	track
ICEM22-000482	Aldo Boglietti,Fabio Mandrile,Sandro Rubino,Eric Giacomo Armando	Torque Control Accuracy Using Different Techniques for Determination of Induction Motor Rotor Time Constant	Italy	Electrical drives
ICEM22-000322	Lauri Tiitinen,Marko Hinkkanen,Lennart Harnefors,Floran Martin	Current-Regulated V/Hz Control of Induction Motors	Finland	Electrical drives
ICEM22-000180	Markus Vogelsberger,Thomas Wolbank,Eduardo Rodriguez Montero	Robust Saliency-Based Speed Sensorless Control of Induction Machines under Overload Operation	Austria	Electrical drives
ICEM22-000304	Philippe Martin,Pauline Bernard,Thomas Devos,Al Kassem Jebai,Laurent Praly	A Novel Observer for Induction Motors, with an Application to Soft Starters	France	Electrical drives
ICEM22-000392	Torbjörn Thiringer,Meng-Ju Hsieh,Emma Arfa Grunditz	Improved Parametric Representation of IM from FEM for More Accurate Torque Predictions	Sweden	Electrical drives
ICEM22-000436	Angelo Accetta,Marcello Pucci	Model Modulated Predictive Control (M2PC) of Induction Motors including Magnetic Saturation and Iron Losses	Italy	Electrical drives

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Electrical drives 2

transaction	authors	title	contactAffilCountry	track
ICEM22-000193	Kay Hameyer,Patricia Penabad Durán,Tobias Gerhard,Robin Krüger	Current Displacement Effects on Copper Losses in PWM Supplied Permanent Magnet Excited Electrical Machines	Germany	Electrical drives
ICEM22-000427	Andrea Credo,Francesco Parasiliti Collazzo,Marco Villani,Marco Tursini	A fast estimation of the initial rotor position of Synchronous Reluctance Motors	Italy	Electrical drives
ICEM22-000295	Ioannis Tsoumas	Back-EMF Induced Grid Harmonics in WECS with Permanent Magnet Synchronous Generators	Switzerland	Electrical drives
ICEM22-000178	Omer Ikram ul Haq,Sjoerd Bosga	Identification of the position estimation error obtained by signal injection in synchronous machine	Sweden	Electrical drives
ICEM22-000232	Murat Yilmaz,LALE ERGENE,Kadir Akgul,Alper TAP,Ali Fuat ERGENC	Sensorless Control of PMSynRM with HFI Method using modified PLL for Low Speeds	Turkey	Electrical drives
ICEM22-000284	Ludovico Ortombina,Nicola Bianchi,Paolo Gherardo Carlet,Fabio Tinazzi	Sensorless Parameter-Free Predictive Current Control of Synchronous Reluctance Motor Drives	Italy	Electrical drives

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Electrical drives 3

transaction	authors	title	contactAffilCountry	track
ICEM22-000449	Luca Zarri,Angelo Tani,Michele Mengoni,Luca Vancini,Gabriele Rizzoli	Fault-Tolerant Control Strategies of Five-Phase Induction Motor Drives under Open-Switch Fault	Italy	Electrical drives

ICEM22-000294	Guillaume Nendaz,Samuel Chevailler,Alain Germanier	Design and Control of a Fault-Tolerant Five-Phase Permanent Magnet Motor Using a HIL-Based Digital Twin	Switzerland	Electrical drives
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	Electrical drives
ICEM22-000184	Zi-Qiang Zhu,Nuno. M. A. Freire,Ximeng Wu	Sensorless Based Model Predictive Current Control with PM Flux-linkage Immunity for Permanent Magnet Synchronous Machines	United Kingdom	Electrical drives
ICEM22-000054	Filip Jukic,Stjepan Stipetic,Luka Pravica	Sensorless Synchronization Method For a Grid-Side Converter With an LCL Filter Based On a Sliding Mode Observer and Discontinuous Operating Mode	Croatia	Electrical drives
ICEM22-000033	Marcus Liebschner,Moritz Benninger,Christian Kreischer	Automated parameter identification for multiple coupled circuit modeling of induction machines	Germany	Electrical drives

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Electrical drives 4

transaction	authors	title	contactAffilCountry	track
ICEM22-000354	Ludovico Ortombina,Nicola Bianchi,Paolo Gherardo Carlet,Luca Cinti	Maximization of Sensorless Capabilities of Hybrid Excited Permanent Magnet Motors	Italy	Electrical drives
ICEM22-000079	Cara-Nastasja Behrendt,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	Electrical drives
ICEM22-000238	Ahmed Abouzeid,Juan Guerrero,Iban Vicente,Iker Muniategui,Aitor Endemaño,Fernando Briz	Remagnetization Strategies for Induction Machines Operating with Reduced Flux Levels	Spain	Electrical drives
ICEM22-000219	Ludovico Ortombina,Giuseppe Galati,Luigi Alberti,Matteo Berto	Investigation on the Self-Sensing Capability of a Dual Three-Phase Synchronous Reluctance Machine	Italy	Electrical drives
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	Electrical drives
ICEM22-000032	Alexander Stock	Highly Dynamic Power Analysis for Inverter-Fed Electric Drives during Non-Steady State Operation	Germany	Electrical drives

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ICEM22-000035	Chris Bingham,Argyrios Zolotas,Tim Smith,Xiaowen Liao	Speed control of magnetic drive-trains without actuation induced pole-slipping	China	Electrical drives
ICEM22-000215	Pere Andrada,Balduino Blanqué,Marcel Torrent,Pol Kobeaga	Segmented Stator SRM Drive for Light Electric Vehicle	Spain	Electrical drives
ICEM22-000453	Luca Zarri,Angelo Tani,Michele Mengoni,Luca Vancini,Gabriele Rizzoli	Five-to-Three Phase Doubly-Fed Induction Machine for Wireless Energy Transfer in Rotary Assembly Stations	Italy	Electrical drives
ICEM22-000130	Yi Liu,Wei Xu,Yizheng Zhang,Juncai Jiang	Cooperative Compensation Strategy Based on Dual Power Converters for Standalone BDFIGs with Heavy Load Disturbance	China	Electrical drives
ICEM22-000133	Maximilian Clauer,Andreas Binder	Automated Fast Semi-Analytical Calculation Approach for a Holistic Design of a PMSM in Hybrid Electric Vehicles	Germany	Electrical drives

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	Electrical drives
ICEM22-000421	Michael Heroth,Helmut Schmid,Wilfried Hofmann	Efficient Sampling Algorithm for Electric Machine Design Calculations incorporating Empirical Knowledge	Germany	Electrical drives
ICEM22-000034	Zi-Qiang Zhu,Jianghua Feng,Shuying Guo,Yifeng Li,Liang Hu,Yan Jia,Dawei Liang	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	Electrical drives
ICEM22-000363	Lino Di Leonardo,Federico Verna,Davide Angrilli,Marco Tursini	Rapid Control Prototyping of Synchronous Reluctance Motor Drives by Matlab/Simulink	Italy	Electrical drives
ICEM22-000026	Xu(Daisy) Deng	An Energy Control Strategy for DC-link Energy Ripple Reduction in a Grid Connected Permanent Magnet Synchronous Motor Drive System	United Kingdom	Electrical drives

Diagnostic and condition monitoring

Oral

Diagnostic and condition monitoring 1

transaction	authors	title	contactAffilCountry	track
ICEM22-000340	Antonio J. Marques Cardoso,Hugo Antunes,Davide Fonseca	Stator Faults Diagnostics, under Unbalanced Supply Voltage Conditions, in Symmetrical Six-phase Induction Motors Fed by a Three-phase System	Portugal	Diagnostic and condition monitoring
ICEM22-000367	Jose Antonino Daviu,Vicente Biot-Monterde,Angela Navarro-Navarro,Roque Osornio-Rios,Petri Mäki-Ontto,Lauri Salmia,Tomas Fajt,Israel Zamudio-Ramirez	Detection of induction motor coupling unbalance through the analysis of electrical quantities under starting and at steady-state	Spain	Diagnostic and condition monitoring
ICEM22-000377	Gerard-Andre Capolino,Humberto Henao,Mehdi TAHERZADEH,Eduardo Cabal-Yepez,Edna Rocio Ferrucho-Alvarez	Contrast Feature-Based Approach for Fault Detection in Wound-Rotor Induction Machines	France	Diagnostic and condition monitoring
ICEM22-000359	Lucia Frosini,Lorenzo Mantione,Marcello Minervini	A Novel Investigation on Multi-Sensor Signal Signatures for Induction Motors Diagnostics	Italy	Diagnostic and condition monitoring
ICEM22-000245	Sang Bin Lee,Muhammad Faizan Shaikh,Hyeonjun Lee,Greg C. Stone	Offline Common-Mode Voltage Based VFD-Embedded Groundwall Insulation Testing for Motors	Korea (Republic of)	Diagnostic and condition monitoring
ICEM22-000021	Jose Antonino Daviu,Michael Schneider,Vincent Becker,Sven Urschel	Cloggage detection of a wastewater pump based on motor current analysis	Spain	Diagnostic and condition monitoring

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Diagnostic and condition monitoring 2

transaction	authors	title	contactAffilCountry	track
ICEM22-000159	Konstantinos Gyftakis,Markus Mueller,Syidy AB Rasid	False Negative Diagnosis of Demagnetization in Direct Drive Permanent Magnet Generators	Greece	Diagnostic and condition monitoring
ICEM22-000339	Gaizka Almandoz,Sergio Zarate,Unai Galfarsoro,Leire Irazu,Alex McCloskey	Influence of manufacturing tolerances and eccentricities on the electromotive force in permanent magnet synchronous motors	Spain	Diagnostic and condition monitoring
ICEM22-000417	Martin Doppelbauer,Dominik Krahe,Johannes Kolb	On the Influence of Eccentricities on Flux Linkages of Permanent Magnet Synchronous Machines	Germany	Diagnostic and condition monitoring
ICEM22-000403	Anthony El Hajj,Abdelmounaim Tounzi,Jalal Cheaytani,Vizireanu Darius,Eric Semail	Investigation of Inter-Turn Short Circuit on a 9-Phase Permanent-Magnet Synchronous Machine	France	Diagnostic and condition monitoring
ICEM22-000119	Johannes Mühlthaler	Search Coil Based Detection of Inter Turn Short Circuit Faults in Permanent Magnet Synchronous Machines	Germany	Diagnostic and condition monitoring

ICEM22-000385	Jose Antonino Daviu,Elias Strangas	Fault Diagnosis, Prognosis, and Reliability of Electric Motors and Drives: Open Questions, Challenges and Perspectives	Spain	Diagnostic and condition monitoring
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Diagnostic and condition monitoring 3

transaction	authors	title	contactAffilCountry	track
ICEM22-000397	Luca Zarri,Angelo Tani,Alberto Bellini,Michele Mengoni,Luca Vancini,Gabriele Rizzoli	Online Temperature Estimation of Stator Windings and Rotor Magnets for Six-Phase Permanent Magnet Synchronous Motors	Italy	Diagnostic and condition monitoring
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	Diagnostic and condition monitoring
ICEM22-000292	Jose Antonino Daviu,Roque Osornio-Rios,Alvaro Ivan Alvarado-Hernandez,Andres Bustillo,David Checa	Design and development of Virtual Reality application based on infrared thermography for the detection of multiple faults in kinematic chains	Spain	Diagnostic and condition monitoring
ICEM22-000194	Sebastian Lengsfeld,Florian Rehwald,Hardy Ast,Oliver Schröder	Classification of Partial Discharge Patterns in Rotating Electrical Machines Using Machine Learning	Germany	Diagnostic and condition monitoring
ICEM22-000466	Eoghan Chelmiah,Darren Kavanagh	Acoustic Sensor Array Topologies for Partial Discharge Localisation in Electric Machines	Ireland	Diagnostic and condition monitoring
ICEM22-000146	Gerardo Avalos,Sarahi Aguayo,Jose Rangel-Magdaleno,Mario Arrieta-Paternina	Bearing fault detection in Induction Motors using Digital Taylor Fourier Transform	Mexico	Diagnostic and condition monitoring

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Diagnostic and condition monitoring 4

transaction	authors	title	contactAffilCountry	track
ICEM22-000115	Epaminondas Mitronikas,Apostolos Lamprocostopoulos	Demagnetization Fault Diagnosis of a PMSG Based on Instantaneous Power Signatures	Greece	Diagnostic and condition monitoring
ICEM22-000087	Pedram Quseiri Darbandeh,Mahdi Aliyari shoorehdeli,Mohammad Ardebili,Christian Kreischer	Diagnosis of Partial Demagnetization in Permanent Magnet Synchronous Machine using Wavelet Packet Transform	Germany	Diagnostic and condition monitoring
ICEM22-000366	Kamal Al-Haddad,Rony Ibrahim,Bachir Kedjar,Ryad Zemouri,François Lafleur,Antoine Tahan,Arezki Merkhouf,Mathieu Kirouac	Anomaly Detection for Large Hydrogenerators Using the Variational Autoencoder Based on Vibration Signals	Canada	Diagnostic and condition monitoring
ICEM22-000256	Konstantinos Gyftakis,Markus Mueller,Giorgos Skarmoutsos	A New Approach to PM Machine Fault Diagnostics Using Two Magnetically-Coupled Search-Coils	Greece	Diagnostic and condition monitoring
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	Diagnostic and condition monitoring

ICEM22-000341	Shanelle Foster,Ibrahim Allafi	On the Accuracy of Frequency Based Fault Diagnosis for DTC-driven PMSM	United States	Diagnostic and condition monitoring
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Poster

transaction	authors	title	contactAffilCountry	track
ICEM22-000241	Ebrahim Asadi,sayedsajjad mani	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)	Diagnostic and condition monitoring
ICEM22-000335	Ricardo Junckes,Eric Nakirimoto,Lucas Tavares,CEZAR VARNIER	Digital Twin Application in Thermal System with a Heat Source Unknown	Brazil	Diagnostic and condition monitoring
ICEM22-000428	Hussain Hussain,Kareem Nour Al-Deen	Analysis and Comparison of Bearing Current Models for Wind Turbine Generators	Kuwait	Diagnostic and condition monitoring
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	Diagnostic and condition monitoring
ICEM22-000199	Jose Antonino Daviu,Juan Jose Saucedo-Dorantes,Roque Osornio-Rios,Jonathan Osornio-Cureño,Israel Zamudio-Ramirez,David Alejandro Elvira-Ortiz,Arturo Yosimar Jaen-Cuellar	Gradual fault condition detection in the outer race of induction motor hybrid bearings based on stray flux and LDA-FFNN approaches	Mexico	Diagnostic and condition monitoring
ICEM22-000365	Jose Antonino Daviu,Juan Jose Saucedo-Dorantes,Roque Osornio-Rios,David Alejandro Elvira-Ortiz,Arturo Yosimar Jaen-Cuellar	Analysis and detection of broken rotor bars in induction motor under fluctuating load by means of stray flux signals	Mexico	Diagnostic and condition monitoring
ICEM22-000286	Sven Urschel,Sebastian Bold	Feature identification for diagnosing misalignment under the influence of parameter variation	Germany	Diagnostic and condition monitoring
ICEM22-000165	Jose Antonino Daviu,Miguel E. Iglesias Martínez,Jose Guerra Carmenate,Jose A. Conejero,Pedro Fernandez de Córdoba,Dunai Larisa,Pablo M. Velasco Pla	Multifractal 1-D Wavelet Leader based on Spectral Kurtosis of Armature Currents for Sparking Detection in DC Motors	Spain	Diagnostic and condition monitoring
ICEM22-000209	Manes cabanas,Manuel García,Francisco Pedrayes González,Andrés Suárez González	Accurate Detection and Location of Insulation Faults and Free Bulk Deformations in Power Transformers	Spain	Diagnostic and condition monitoring
ICEM22-000024	Jose Antonino Daviu,Athanasios Karlis,Dimosthenis Verginadis,George Falekas	Data Mining Visual Inspection Information in Electrical Machine Maintenance Reports	Greece	Diagnostic and condition monitoring

ICEM22-000434	Metin Aydin,Ersin Yolacan,Gurkan Kucukyildiz,Hasan Ocak	Detection of Radial and Axial Magnet Defects in PM Synchronous Motors	Turkey	Diagnostic and condition monitoring
ICEM22-000368	Kamal Al-Haddad,Ryad Zemouri,Helene Bechara,Antoine Tahan,Bachir Kedjar,Arezki Merkhoul	Non-Invasive Anomaly Diagnosis for Hydro Electrical Generators Rotor Inter-Turn Short-Circuit Detection Using Stray Flux and the VAE	Canada	Diagnostic and condition monitoring
ICEM22-000439	Ulrich Ammann,Christoph Cheshire,Felix Bertele	Overview of a Multifunctional Sensor Module for Electric Drives based on Contactless Measurement Techniques	Germany	Diagnostic and condition monitoring
ICEM22-000307	Manes cabanas,Manuel García,Francisco Pedrayes González,Andrés Suárez González	Analysis of the Fault Causes in a 132 kV-180 MVA Transformer: A Real-Life Case Study	Spain	Diagnostic and condition monitoring

High-Torque-Density Electrical Machines

Oral

transaction	authors	title	contactAffilCountry	track
ICEM22-000361	Yuting Gao,Ronghai Qu,Takashi Kosaka	Comparative Study of High-Current-Density High-Speed Vernier Permanent Magnet Machines for Electric Vehicle Traction Application	Japan	High-Torque-Density Electrical Machines
ICEM22-000142	Runar Møllerud,Christian Hartmann,Jonas Nøland	Preliminary Design of a 2.5-MW Superconducting Propulsion Motor for Hydrogen-Powered Aviation	Norway	High-Torque-Density Electrical Machines
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	High-Torque-Density Electrical Machines
ICEM22-000442	Matias F. Troncoso C.,Gianmario Pellegrino	Six Phase Fractional Slot Surface Permanent Magnet Motor for High Torque Density and High Speed	Italy	High-Torque-Density Electrical Machines
ICEM22-000419	Juha Pyrhönen,Hüseyin Tayyer CANSEVEN,Ilya Petrov	Magnetic Asymmetry in Stator Tooth Tips of a High Specific Power PMSM	Finland	High-Torque-Density Electrical Machines
ICEM22-000490	Leila Parsa,Saeid Saeidabadi,Adil Usman,Christopher Kovacs,Timothy Haugan,Keith Corzine	Flux Switching Machines- for All-Electric Aircraft Applications	United States	High-Torque-Density Electrical Machines

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Poster

transaction	authors	title	contactAffilCountry	track
ICEM22-000259	Xiaozhuang Dong,Pengcheng Sun,Shaofeng Jia,Shuai Feng,Deliang Liang	Stator DC-excited Vernier Reluctance Machines for Aviation Starter/Generator Application	China	High-Torque-Density Electrical Machines
ICEM22-000068	Zheng Yuting,Youtong Fang	Analysis of a Flux Reversal Machine with Consequent-Pole Evenly Distributed PM	China	High-Torque-Density Electrical Machines

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	High-Torque-Density Electrical Machines
ICEM22-000468	Faisal Khan,Wasiq Ullah,Hillary C. Idoko,Udochukwu Akuru	Comparative Performance Evaluation and Prototyping of Double Stator Wound-Field Flux Modulation Machines	South Africa	High-Torque-Density Electrical Machines
ICEM22-000186	Hendrik Vansompel,Jordi Van Damme,Guillaume Crevecoeur	Performance comparison of Axial Flux PM machine with Anodised Aluminium Foil and Round Copper Wire	Belgium	High-Torque-Density Electrical Machines
ICEM22-000467	David Gerada,Tianjie Zou,Xiaochen Zhang,Zeyuan Xu,Christopher Gerada,He Zhang,Mengmeng Cui,Hua Li	Radial Force Analysis and Optimization of Interior Permanent Magnet Traction Motor for Reduction of Electromagnetic Vibration	China	High-Torque-Density Electrical Machines
ICEM22-000169	Zi-Qiang Zhu,Fangrui Wei,Emrah Cetin,Zhitong Ran	Comparative Study of Yokeless Dual-rotor and External-rotor Radial-Flux Fractional-Slot PM Machines	United Kingdom	High-Torque-Density Electrical Machines

Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges

Oral

transaction	authors	title	contactAffilCountry	track
ICEM22-000336	Nick Simpson,Sai Munagala,Alessandro Catania,Fatos Derguti,Phil Mellor	Functionally Graded Electrical Windings Enabled by Additive Manufacturing	United Kingdom	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000416	Ayman EL-Refae,Ali Al-Qarni	Additively Manufactured Fractional Slot Concentrated Windings with Integrated Heat Pipes: Single-Layer vs. Double-Layer	United States of America	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000086	Nejila Parspour,Martin Schmid,Jonathan Terfurth,Kim Kaiser	Electromagnetic Design of Electrical Machines - New Potentials of Additive Manufacturing with the Example of the Transverse Flux Machine	Germany	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000282	David Klink,Greg Heins,Behrooz Bahrani,James Pecotich	Additively Manufactured Electric Machine Conductors with Integrated End Turn Heat Exchangers	Australia	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000190	Hans Tiismus,Ants Kallaste,Toomas Vaimann,Anton Rassolkin	Eddy Current Loss Reduction Prospects in Laser Additively Manufactured Soft Magnetic Cores	Estonia	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000166	Maximilian Bieber,Norman Blanken,Bernd Ponick	Design of Axial End Region of Additively Manufactured Rotors of Synchronous Machines to Reduce the Axial Magnetic Stator Flux Density	Germany	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges

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Poster

transaction	authors	title	contactAffilCountry	track
ICEM22-000460	Ayman EL-Refae,Salar Koushan,Sina Vahid	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	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000414	Ayman EL-Refae,Towhid Chowdhury,Salar Koushan,Sina Vahid	A Comprehensive Characterization of Hollow Conductor Additively Manufactured Coils and Thermal Management System for a 250kW SPM Machine	United States of America	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000369	Ayman EL-Refae,Praveen Kumar	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	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges

ICEM22-000198	Ants Kallaste, Muhammad Usman Naseer, Bilal Asad, Toomas Vaimann, Anton Rassõlkin	Modified Initial Design Procedure for Synchronous Reluctance Motor	Estonia	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges
ICEM22-000248	Ants Kallaste, Mohammad Hossain Mohammadi, David Alister Lowther, Hamidreza Heidari, Arbaaz Khan, Ekaterina Andriushchenko	Topology Optimization of a 3D-Printed Switched Reluctance Motor	Estonia	Additive Manufacturing Approach in Electric Motor Design: Opportunities and Challenges

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Thermal Management of Electric Drives for Demanding Applications

Oral

transaction	authors	title	contactAffilCountry	track
ICEM22-000456	Hrishikesh Joshi,Wilfried Hofmann,Andreas Held,Yves Burkhardt,Markus Seilmeier	Error Compensation of Measured Stator Temperature in Electric Motors using Thermal Model of Sensor and Hardware Range-Switch	Germany	Thermal Management of Electric Drives for Demanding Applications
ICEM22-000218	Sylvain Favresse,François Baudart,Nicolas Verbeek,Bruno Dehez	Estimation of equivalent thermal conductivity of PCB airgap windings	Belgium	Thermal Management of Electric Drives for Demanding Applications
ICEM22-000423	Juha Pyrhönen,Dmitry Egorov,Pia Lindh,Andrea Credo	Thermal Management of an Electric Motor with Novel Materials	Finland	Thermal Management of Electric Drives for Demanding Applications
ICEM22-000380	Alexander Jeffrey,Paul Evans,Pat Wheeler,Simon Hart,Gaurang Vakil,Peter Connor	Cooling System Sizing using LPTN Analysis and Multiphysics Modelling for an Axial Flux Machine and Integrated Drive	United Kingdom	Thermal Management of Electric Drives for Demanding Applications
ICEM22-000433	Ahmed Selema,Ilya T'Jollyn,Michel De Paepe,Jasper Nonneman,Thomas Schoonjans,Ruud Sprangers	Thermal Property Determination of Different Electric Machine Wire Types by Model Variable Fitting on Measurements	Belgium	Thermal Management of Electric Drives for Demanding Applications
ICEM22-000398	Vaclav Fiala,Roman Pechanek	Determination of the Velocity Field for the Calculation of Wall Heat Transfer Coefficients	Czech Republic	Thermal Management of Electric Drives for Demanding Applications

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Poster

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

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Electrical Machines Fault Diagnosis During Transient Operation

Oral

transaction	authors	title	contactAffilCountr	track
ICEM22-000454	Jorge Bonet-Jara,Joan Pons-Llinares,Vanesa Fernandez-Cavero,Francisco Vedreno-Santos	Very accurate time-frequency representation of induction motors harmonics for fault diagnosis under arbitrary load variations.	Spain	Electrical Machines Fault Diagnosis During Transient Operation
ICEM22-000025	Carlos A. Platero,Konstantinos Gyftakis,Jonas Kristiansen Noland	Multi-Parametric Monitoring of Medium-Power Generators with Brushless Exciters under Mechanical Faults	Greece	Electrical Machines Fault Diagnosis During Transient Operation
ICEM22-000227	Daniel Morinigo-Sotelo,TOMAS GARCIA-CALVA,RENE DE JESUS ROMERO TRONCOSO,ARTURO GARCIA PEREZ	A Comparative Analysis of Monitoring Signals for Bearing Wear Detection in VSI-fed Induction Motors During Startup Transient	Mexico	Electrical Machines Fault Diagnosis During Transient Operation
ICEM22-000249	Konstantinos Gyftakis,Daniel Morinigo-Sotelo,TOMAS ALBERTO GARCIA-CALVA,RENE DE JESUS ROMERO TRONCOSO,Giorgios Skarmoutsos	Advanced Signal Processing Techniques for Demagnetization Detection in PM Generators at Variable Speed	Mexico	Electrical Machines Fault Diagnosis During Transient Operation
ICEM22-000364	Jose Antonino Daviu,Vicente Biot-Monterde,Angela Navarro-Navarro,Roque Osornio-Rios,Israel Zamudio-Ramirez,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	Electrical Machines Fault Diagnosis During Transient Operation
ICEM22-000372	Jose Antonino Daviu,Pablo Marino Velasco Pla	Sparking detection in brushed dc motors through the analysis of the armature current under the starting	Spain	Electrical Machines Fault Diagnosis During Transient Operation

Hairpin Windings in Electrical Machines for Transportation

Oral

transaction	authors	title	contactAffilCountry	track
ICEM22-000346	Tianjie Zou, DAVIDE BARATER, David Gerada, Michele Degano, Giovanni Franceschini, Chris Gerada, Giacomo Sala, Antonino La Rocca, Mengmeng Cui, Gaia Petrelli	Comparison of Aluminium and Copper Conductors in Hairpin Winding Design for High Power Density Traction Motors	United Kingdom	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000063	DAVIDE BARATER, Stefano Nuzzo, Giovanni Franceschini, Marco Pastura	Analysis of Voltage Distribution and Connections within a High-Frequency Hairpin Winding Model	Italy	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000160	Silvan Scheuermann, Martin Doppelbauer, Antoine Jarosz, Björn Hagemann, Benedikt Schmitz-Rode	Validation of a slot-based High-Frequency Model of a Hairpin Winding Stator in Time-Domain	Germany	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000174	Matteo Carbonieri, Giada Venturini, Mircea Popescu, Lino Di Leonardo	Hairpin Windings for Traction Machines: Analysis and Comparison	United Kingdom	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000230	Bianca Wex, Bernhard Poetzelberger, Siegfried Silber, Wolfgang Gruber	Performance Comparison between Hairpin and Round Wire Winding for a 17,000 rpm PMSM	Austria	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000213	Preci Preci, Penelope Matilde Quassolo, Federico Togni, Alessandro Acquaviva	Design considerations for high power density traction PM motors with hairpin windings	Italy	Hairpin Windings in Electrical Machines for Transportation

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transaction	authors	title	contactAffilCountry	track
ICEM22-000472	David Morisco, Marco Silberberger, Andreas Möckel, Holger Rapp	Eddy Currents in the End-Windings of High Power Density Traction Machines	Germany	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000309	Saverio Giulio Barbieri, Sara Mantovani, Valerio Mangeruga, Matteo Giacomini	Structural analysis of the forming process for hairpin windings for electric motor applications: torsional-flexural instability issues	Italy	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000046	DAVIDE BARATER, Stefano Nuzzo, Riccardo Notari, Marco Pastura, Giovanni Franceschini, Christopher Gerada	AC losses reduction in Hairpin Windings produced via Additive Manufacturing	Italy	Hairpin Windings in Electrical Machines for Transportation

ICEM22-000270	DAVIDE BARATER,Stefano Nuzzo,Riccardo Notari,Giovanni Franceschini,Marco Pastura	On the AC Losses in the End Conductors of Hairpin Windings	Italy	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000386	Emilio Lorenzani,Fabio Immovilli,Ciro Alosa	Hairpin-Wound Rim-Driven Propeller for Electric Boats on Inland Waterways	Italy	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000290	Tianjie Zou,Chris Gerada,Salvatore La Rocca,Chuan Liu,Antonino La Rocca,Mohsen Moslemin,Alasdair Cairns	Performance Assessment of Standard Cooling Strategies for Hairpin Windings	United Kingdom	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000040	Adolfo Dannier,Gianluca Brando,Francesco Di Bruno,Francesco Fiume	Hairpin Winding Technology for Electric Traction Motor: Design, Prototype and Connection Rules	Italy	Hairpin Windings in Electrical Machines for Transportation
ICEM22-000182	Abdenour Abdelli,Andre Nasr,Koua Malick Cisse,Gianluca Zito	A methodology to design Hairpin Winding for improved thermal performances in a Permanent Magnet assisted Synchronous Reluctance motor	France	Hairpin Windings in Electrical Machines for Transportation

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Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices

Oral

transaction	authors	title	contactAffilCountry	track
ICEM22-000408	Luca FERRARIS,Emir Poskovic,Fausto Franchini,MICHELE QUERCIO,Francesco Galbusera,Aldo Canova,Giambattista Grusso,ALI GÖKHAN DEMIR,Barbara Previtali	Functional characterization of L-PBF produced FeSi _{2.9} Soft Magnetic Material	Italy	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices
ICEM22-000217	Payam Shams Ghahfarokhi,Hans Tiismus,Ants Kallaste,Toomas Vaimann,Martin Sarap	The effect of build direction on the thermal conductivity of additively manufactured AlSi10Mg and silicon-steel samples	Estonia	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices
ICEM22-000254	Xiyun Ma,Carl Slater,Claire Davis,Juliette Soulard	Influence of Electrical Steel Grade on Different Types of Traction Motors	United Kingdom	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices
ICEM22-000049	Tomoyuki Ueno,Daichi Azuma,Yuta Enokizono,Tomoyuki Ishimine,Tatsuya Saito	Investigation of the Influence of Harmonics on Iron loss of Soft Magnetic Composites	Japan	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices
ICEM22-000197	Glynn Atkinson,Nabeel Ahmed	A review of Soft Magnetic Composite materials and applications	United Kingdom	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices
ICEM22-000257	Shanelle Foster,Bhuvan Khoshoo,Khan Islam,Hawke Suen,Patrick Kwon,Jorge Lozano	Eddy Current Loss Reduction in Binder Jet Printed Iron Silicon Cores	United States of America	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices

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transaction	authors	title	contactAffilCountry	track
ICEM22-000293	Pragasen Pillay,Bassam Samy,Mohanraj Muthusamy	Impact of Soft Magnetic Composite Material for Traction Applications using 3D FEA	Canada	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices
ICEM22-000325	Luca FERRARIS,Emir Poskovic,Federico Carosio,Fausto Franchini	Innovative SMC insulation technique applied to axial flux machine prototypes	Italy	Innovative Magnetic Materials and 3D Printing for Electromagnetic Devices

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**Motor and Generator Windings: Design,
Performance and Manufacturing**

Oral

transaction	authors	title	track	contactAffilCountry
ICEM22-000205	PANAGIOTIS PANAGIOTOU,ALEXIS LAMBOURNE,GERAINT JEWELL	Survey of Insulation in Electrical Machines for Aerospace: Systems, Materials & Inspection	Motor and Generator Windings: Design, Performance and Manufacturing	United Kingdom
ICEM22-000161	Jing Li,Paolo Giangrande,Yatai Ji,He Zhang,Michael Galea,Vincenzo Madonna,Weiduo Zhao	Investigation on Humidity Effect on Partial Discharge Considering Thermal Aging	Motor and Generator Windings: Design, Performance and Manufacturing	China
ICEM22-000384	PANAGIOTIS PANAGIOTOU,Alexis Lambourne,Geraint Jewell	Ex-situ Inspection of Concentrated Stator Coils by Means of Impedance Spectroscopy	Motor and Generator Windings: Design, Performance and Manufacturing	United Kingdom
ICEM22-000430	Stefano Nuzzo,Chris Gerada,Michael Galea,Peter Connor,Ahmed Hebala	On the fault tolerance and PM demagnetisation of a high-performance aircraft propulsion motor	Motor and Generator Windings: Design, Performance and Manufacturing	United Kingdom
ICEM22-000484	carole Henaux,Mourad Aitakkache,Philippe Enrici,Daniel Matt	Comparison of two cylindrical Bar Windings for Low Voltage Permanent Magnet Synchronous Motor. Application for Electric Boat	Motor and Generator Windings: Design, Performance and Manufacturing	France
ICEM22-000153	Jose Antonino Daviu,Athanasios Karlis,Dimosthenis Verginadis,Michael Danikas,Vasseilios Mavrommatis,George Falekas	Investigation of How Partial Discharges Affect Mica and Epoxy Resin: Simulations and Reference on Electrical Machines' Insulation	Motor and Generator Windings: Design, Performance and Manufacturing	Greece

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Poster

transaction	authors	title	track	contactAffilCountry
ICEM22-000462	Fernando J. T. E. Ferreira,José Alberto,Anibal T. de Almeida	Induction Motor Tolerance to Supply Voltage Unbalance for Different Dual-Winding Configurations	Motor and Generator Windings: Design, Performance and Manufacturing	Portugal
ICEM22-000163	Juha Pyrhönen,Dmitry Egorov,Pia Lindh	Model for Nonlinear Electric Field Control in End-Winding Region of an Electrical Machine	Motor and Generator Windings: Design, Performance and Manufacturing	Finland

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Advances in Real-Time Simulation for Electric Powertrain Development

Oral

transaction	authors	title	contactAffilCountr	track
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	Advances in Real-Time Simulation for Electric Powertrain Development
ICEM22-000469	Hadi Mohajerani, Mohammad Sedigh Toulabi, Narayan C. Kar, Adam Hassan, Uday Deshpande	Artificial Neural Network-Based PMSM Modeling for the Electric Motor Emulation	Canada	Advances in Real-Time Simulation for Electric Powertrain Development
ICEM22-000069	Anton Suchan	Time Efficient Calculation of Current Harmonics in Inverter-Fed Permanent Magnet Excited Synchronous Machines	Germany	Advances in Real-Time Simulation for Electric Powertrain Development
ICEM22-000362	Sabin Carpiuc	Model-Based Control and Real-Time Simulation of a Four-Phase PMSM Traction Drive	United Kingdom	Advances in Real-Time Simulation for Electric Powertrain Development
ICEM22-000356	Ants Kallaste, Toomas Vaimann, Mahmoud Ibrahim, Anton Rassolkin, Viktor Rjabtsikov	Validation of an EV-Permanent Magnet Synchronous Motor Model Based on Analytical Dynamic Approach	Estonia	Advances in Real-Time Simulation for Electric Powertrain Development
ICEM22-000480	Tarik Uzunovic, Asif Sabanovic, Francisco M. Arrabal-Campos, Ahmad H. Eid, Francisco G. Montoya, Alfredo Alcayde, Adnan Osmanovic	Combining Real-time Parameter Identification and Robust Control Algorithms for Effective Control of Electrical Machines	Bosnia and Herzegovina	Advances in Real-Time Simulation for Electric Powertrain Development

Vibration and Noise Issues in Electrical Machines

Oral

Vibration and Noise Issues in Electrical Machines 1

transaction	authors	title	contactAffilCountry	track
ICEM22-000099	Dejan Pejovski,Giovanni Maria Foglia,Roberto Perini,Antonino Di Gerlando	Analytical Model of Permanent Magnet Synchronous Machine in/around Resonance	Italy	Vibration and Noise Issues in Electrical Machines
ICEM22-000064	Dawei Li,Rui Li,Haiyang Fang,Ronghai Qu,Jianlin Zhou	Influence of Winding Structure on Unbalanced Magnetic Pull in Multi-Phase PMSMs	China	Vibration and Noise Issues in Electrical Machines
ICEM22-000111	Emile Devillers,Zineb Zahar,Raphaël Pile	Fast Calculation of Electromagnetic Vibrations Induced by Longitudinally Varying Excitations in Skewed Electrical Machine	France	Vibration and Noise Issues in Electrical Machines
ICEM22-000022	Simon Weber,Martin Enno Gerlach,Bernd Ponick	Influence of Hairpin Winding and Insulation on the Vibration Behavior of Electric Machines	Germany	Vibration and Noise Issues in Electrical Machines
ICEM22-000348	Fabien Chauvicourt	Virtual inverse vibration synthesis for the estimation of magnetic forces during electric machine operation	Belgium	Vibration and Noise Issues in Electrical Machines
ICEM22-000056	Raphael ROMARY,Sijie Ni,Bertrand Cassoret,Grégory Bauw	Analysis of noise variation in PMSM with damper winding under different operating conditions	France	Vibration and Noise Issues in Electrical Machines

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Vibration and Noise Issues in Electrical Machines 2

transaction	authors	title	contactAffilCountry	track
ICEM22-000389	Dejan Pejovski,Giovanni Maria Foglia,Roberto Perini,Antonino Di Gerlando	Electrical Drive in/around Resonance: Analytical Model	Italy	Vibration and Noise Issues in Electrical Machines
ICEM22-000074	Xudong Huang,Martin Enno Gerlach,Allan de Barros,Markus Langfermann,Amir Ebrahimi,Bernd Ponick	Calculation of Electric Machines Vibration using an Analytical Beam Element Model	Germany	Vibration and Noise Issues in Electrical Machines
ICEM22-000312	Javier Poza,Mikel Mendizabal,Sergio Zarate,Alex McCloskey	Fast and Accurate Vibration Response Calculation Procedure for Permanent Magnet Synchronous Machines	Spain	Vibration and Noise Issues in Electrical Machines
ICEM22-000187	Martin Doppelbauer,Christian Digel,Johannes Liebertseder,Steffen Reuter,Andreas Langheck	Vibration optimization in high power electric machines with lightweight plastic stator housing	Germany	Vibration and Noise Issues in Electrical Machines
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	Vibration and Noise Issues in Electrical Machines

ICEM22-000125	Dawei Li,Rui Li,Haiyang Fang,Jianlin Zhou,Ronghai Qu	Research on Sensitivity of Slot-Pole Combination to Unbalanced Electromagnetic Force Introduced by Rotor Eccentricity	China	Vibration and Noise Issues in Electrical Machines
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ICEM22-000050	Zi-Qiang Zhu,Jaime Maravi,Arwyn Thomas,Ziad Azar,Richard Clark,Edom Lemma	Effect of Slot and Pole Number Combinations on No-Load Airgap Vibration Forces of PMSM	United Kingdom	Vibration and Noise Issues in Electrical Machines
ICEM22-000072	Mingchuan Liu,guodong yu,yongxiang xu,hua lan,jibin zou	Vibration Performance Analysis of Permanent Magnet Synchronous Motor with Modular Winding	China	Vibration and Noise Issues in Electrical Machines
ICEM22-000038	Chong Di,Xiaohua Bao,Shuai Ming	Influence of Stator Radial Skewed Slots on Radial Electromagnetic Force of Induction Motor	China	Vibration and Noise Issues in Electrical Machines
ICEM22-000237	Xu He,Fa Zhang,Dong Li,Junci Cao	Vibration Analysis of Axial Flux Permanent Magnet Synchronous Machines	China	Vibration and Noise Issues in Electrical Machines
ICEM22-000255	Junci Cao,Lin Gui,Jianfeng Hong	An Investigation of Tangential Force and Radial Force in PM motor by means of FEM-simulation	China	Vibration and Noise Issues in Electrical Machines
ICEM22-000289	ZHANQI GU,SHANMING WANG,zhanlu yang,JIANFENG HONG	Electromagnetic and Mechanical Transmission of Poles in vibration of PMDC motor	China	Vibration and Noise Issues in Electrical Machines
ICEM22-000076	SHANMING WANG,zhanlu yang	Vibration Characteristics of Slotless Rotating Armature Permanent Magnet Motors	China	Vibration and Noise Issues in Electrical Machines

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**Electrical Machines for Renewable Energy Generation
Oral**

Electrical Machines for Renewable Energy Generation 1

transaction	authors	title	contactAffilCountry	track
ICEM22-000475	Maarten Kamper,Rong-Jie Wang,Morris Mugyema	Performance Evaluation of a Linear Vernier Hybrid Machine for Use in Dry Gravity Storage	South Africa	Electrical Machines for Renewable Energy Generation
ICEM22-000343	Ehsan Abdi,Salman Abdi Jalebi	A study of the Rotational Field Effects on Brushless Doubly Fed Induction Machines' Iron Losses	United Kingdom	Electrical Machines for Renewable Energy Generation
ICEM22-000394	Maarten Kamper,Jean-Claude Baziruwiha	Triple Three-Phase High-Pole Number Non-Overlap Winding Reluctance Synchronous Wind Generator	South Africa	Electrical Machines for Renewable Energy Generation
ICEM22-000233	Juha Pyrhönen,Peter Sergeant,SHRUTI SINGH,Ilya Petrov	Conceptual Design of High-Speed Permanent-Magnet Generator for a Micro Gas Turbine	Finland	Electrical Machines for Renewable Energy Generation
ICEM22-000246	Maxime BONNET,Dominique HARRIBEY,Jean Francois LLIBRE,Yvan LEFEVRE	Ironless Axial Flux Wind Turbine Motor with Two Cylindrical Magnet Rings	France	Electrical Machines for Renewable Energy Generation
ICEM22-000486	Georges BARAKAT	Comparative Design Optimization of 15 MW Rare-Earth Permanent Magnet Synchronous Generators for Offshore Semi-Direct Wind Turbines	France	Electrical Machines for Renewable Energy Generation

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Electrical Machines for Renewable Energy Generation 2

ICEM22-000444	Juha Pyrhönen,Hüseyin Tayyer CANSEVEN,Ali BAKBAK,Murat AYZAZ,Mert ALTINTAŞ,Erkan MEŞE	Determination Power Rate of Winding Sets Considering Extreme Wind Speeds for Double-fed PMSG-based WECS	Finland	Electrical Machines for Renewable Energy Generation
ICEM22-000464	Salman Abdi Jalebi,Mahmoud Yousefian,Hossein Abootorabi,Hamed Gorginpour	Design Parameters Determination for Brushless Doubly Fed Induction Machines	United Kingdom	Electrical Machines for Renewable Energy Generation
ICEM22-000120	Mohamed-Amine Yahiaoui	Sensorless Vector Control for Grid Synchronization of Doubly-Fed Induction Generators	Belgium	Electrical Machines for Renewable Energy Generation
ICEM22-000129	Torbjörn Thiringer,Alexandra Tokat	Evaluation of the Cobalt-Iron Lamination based Electric Generator of a Wave Energy Converter	Sweden	Electrical Machines for Renewable Energy Generation

ICEM22-000479	Konstantinos Gyftakis,Markus Mueller,Syidy Rasid,Siew Yan Goh,Ahmad Fawzal	Losses Analysis of Direct Drive PM Generators Suffering from Demagnetization	Greece	Electrical Machines for Renewable Energy Generation
ICEM22-000206	Marcin Morawiec,Krzysztof Blecharz,Arkadiusz Lewicki	Non-Adaptive Speed and Position Observer of Doubly-Fed Induction Generator	Poland	Electrical Machines for Renewable Energy Generation

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

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

Oral

transaction	authors	title	contactAffilC	track
ICEM22-000148	Préscillia Dupont,Olivier Maloberti,Maxime Ployard	Design of Segmented Grain-Oriented Induction Motors Considering Cutting Effects	France	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000298	Antonios Kladas,Maria Sofia Pechlivanidou	Winding structure impact on High Speed Permanent Magnet Motor efficiency	Greece	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000108	Uwe Schuffenhauer,Sören Miersch,Thomas Schuhmann,David Schmitz,Michael Breuckmann,Florian Herget,Karsten Machalitz	Realization of High-Speed Cast Copper Cage Induction Machines for Electric Mobility	Germany	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000221	Lucia Frosini,Lorenzo Mantione,Marcello Minervini	Evaluation of Different Magnet Materials and Skewed Geometries for IPMSM at High Speed	Italy	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
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	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000327	Anouar Belahcen,Maksim Sitnikov	Carbon Fiber Homogenization for Modelling Sleeve of High-Speed Electrical Machines	Finland	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques

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Poster

ICEM22-000207	Masato Enokizono,Daisuke Wakabayashi,Mohachiro Oka,Kozo Okamoto,Mitsuru Takai,Naoya Soda,Kay Hameyer,Tsuyoshi Kajiya,Martin Nell	Dual-Axial Gap High-Speed Induction Motor based on Wound Ultra-thin Steel Strip Core	Japan	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
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ICEM22-000175	Michal Staňo,Pavol Rafajdus,Marek Furmanik	Analytical Exploration of Harmonics Behavior in Multiphase Machines	Slovakia	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000171	Masato Enokizono,Daisuke Wakabayashi,Mohachiro Oka,Mitsuru Takai,Naoya Soda,Tsuyoshi Kajiya	Evaluation of Circumferential 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	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000242	Masato Enokizono,Daisuke Wakabayashi,Mohachiro Oka,Mitsuru Takai,Naoya Soda,Kay Hameyer,Tsuyoshi Kajiya,Martin Nell,Yuki Onizawa	Analytical Investigation on 3D Structure of Dual Axial Gap Induction Motor	Japan	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000351	Antonios Kladas,Georgios Sakkas	Rotor deformation impact on operating characteristics of IPM Motor under High-Speed conditions	Greece	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000039	Emil Kurvinen,Tuhin Choudhury,Rafal Jastrzebski,Jussi Sopanen,Juuso Narsakka	Active Magnetic Bearing Positioning in the Conceptual Design Phase of a High-Speed Electric Machine	Finland	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000057	Vyacheslav Vavilov,Alexander Podguzov,Zemfira Baisheva,Elizabeth Pestereva,Evelina Zaynagutdinova,Flur Ismagilov	Experience in conducting research tests of windings of electrical machines made using additive technologies from AlSi10Mg with the addition of carbon nanotubes	Russian Federation	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000210	Takashi Yamada,Hiroyuki Sano,Kazuki Semba,Yusaku Suzuki	Investigation in the accuracy of FEA Based Efficiency Maps for PMSM traction machines	Japan	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques
ICEM22-000105	Hendrik Vansompel,Linnan Sun,Zhuoran Zhang,Peter Sergeant	Winding Configurations of a Switched Reluctance Generator System Excited by Circulating Current	Belgium	High Efficiency Electrical Machines: Innovative Materials, Design, Harmonics Management, and Measurement Techniques

Total

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