

I1-1: Permanent Magnet Motors and Generators				
Date: November 30, 2022 (Ballroom I)				
Time: 14.00-15:40				
Chair: Chang-Eob Kim				
1	1570805999	Comparative Research on Performance of Iron-core and Ironless Permanent Magnetic Linear Synchronous Motor	Xinyu Zhao, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Yumei Du, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Ruihua Zhang, Chinese Academy of Sciences, China Keyu Guo, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Huihuang Wang, State Grid Quanzhou Power Supply Company, China	Online
2	1570806979	Research on Stator Core Axial Pipe to Improve Cooling Performance of Permanent Magnet Synchronous Motor	Zuming Li, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Bin Xiong, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Kangjie Huang, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China	Online
3	1570806981	Sensorless Fault-Tolerant Control of A Nine-phase Permanent Magnet Synchronous Motor Under One-phase Open-Circuited Fault	Xiaoming Liu, Qingdao University, China Xudong Zhang, Qingdao University, China Xiaoqin Zheng, Qingdao University, China	Online
4	1570807190	Analysis and Reduction of Electromagnetic Noise of Yokeless and Segmented Armature Axial Flux Motor	Xiaoyuan Wang, Tianjin University, China Yuzhou Zhang, Tianjin University, China Na Li, Tianjin University, China	Online
5	1570812389	Influence of Slot and Pole Number Combinations on Cogging Torque in PM Machines with Tooth Bulge and Rotor Eccentricity	Dong Xiang, University of Sheffield, UK Z.Q. Zhu, University of Sheffield, UK	Online
I1-2: Permanent Magnet Motors and Generators				
Date: November 30, 2022 (Ballroom I)				
Time: 16.00-18.00				
Chair: Thanatchai Kulworawanichpong				
1	1570802959	Effect of Stator and Rotor Pole Shapes on Torque of Flux-Modulating Consequent Pole Motors	Hiroshi Mitsuda, Kanazawa Institute of Technology, Japan and Mitsubishi Electric Corporation, Japan Tadashi Fukami, Kanazawa Institute of Technology, Japan Masato Koyama, Kanazawa Institute of Technology, Japan Kazumasa Ito, Mitsubishi Electric Corporation, Japan	Online
2	1570814373	Reduction of Torque Ripple and Vibration of Permanent Magnet Synchronous Machines with Sinusoidal Cavities	Marc England, Leibniz University Hannover, Germany Rainer Helmer, Volkswagen AG, Germany Bernd Ponick, Leibniz University Hannover, Germany	On-site
3	1570814474	Evaluation of Flux-barrier Stator in five-phase PMSMs for Electric Aircraft Traction	Daniel Alban, Universität der Bundeswehr München, Germany Gurakuq Dajaku, FEAAM GmbH, Germany Dieter Gerling, Universität der Bundeswehr München, Germany	On-site
4	1570816048	Synchronous Optimal Pulse Width Modulation for Salient Permanent Magnet Synchronous Machines Considering Spatial Harmonics	Nina Hartgenbusch, RWTH Aachen University, Germany Duc Pham, RWTH Aachen University, Germany Rik W. De Doncker, RWTH Aachen University, Germany	On-site
5	1570817959	Reduction of Torque Pulsation in Axial Flux Dual Rotor PM Vernier Motor	Tatsuya Konno, Shibaura Institute of Technology, Japan Shoji Shimomura, Shibaura Institute of Technology, Japan	On-site
6	1570817960	Application of Permanent Magnet Vernier Motors to Ultra-High-Speed Motors	Katsuki Kondo, Shibaura Institute of Technology, Japan Shoji Shimomura, Shibaura Institute of Technology, Japan	On-site
I1-3: Permanent Magnet Motors and Generators				
Date: December 1, 2022 (Ballroom I)				
Time: 9.00-10.40				
Chair: Bunlung Neammanee(Online) and Thanh-Anh Huynh (Online)				
1	1570807379	Analysis and Optimization of Cogging Torque for Axial Flux Machine with Halbach Permanent Magnet Array	Xiaoyuan Wang, Tianjin University, China Guodong Zhang, Tianjin University, China Peng Gao, Tianjin University, China	Online
2	1570812807	A Novel Fault-Tolerant Control for Five-Phase Fault-Tolerant IPMSM Considering Reluctance Torque	Wenhu Fan, Beihang University, China Jinquan Xu, Beihang University, China Hong Guo, Beihang University, China	Online
3	1570815018	Inter-turn Short-circuit Fault Diagnosis of Six-Phase FTPMSM System Based on PWM Harmonic Current Extraction	Xinlei Tian, Beihang University, China Hong Guo, Beihang University, China Jinquan Xu, Beihang University, China	Online
4	1570815225	Calculation of Loss and Temperature Rise of High Speed Permanent Magnet Synchronous Motor	Zhihao Ji, Nanjing University of Aeronautics and Astronautics, China Zhengyang Hao, Nanjing University of Aeronautics and Astronautics, China	Online
5	1570815912	Study on rotor topologies of a 2MW permanent magnet synchronous machine for low-speed ship propulsion systems	Rakwon Son, Hyundai Electric & Energy Systems, Korea Ju Lee, Hanyang University, Korea	Online
I1-4: Permanent Magnet Motors and Generators				
Date: December 1, 2022 (Ballroom I)				
Time: 11.00-12.20				
Chair: Bunlung Neammanee (Online)				

1	1570815289	Improved Sensorless Control of Permanent Magnet Synchronous Motor Based on Two-stage Filter	Kaiqi Zhao, Harbin Engineering University, China Liu Yang, Harbin Engineering University, China Zhao Shuang, Harbin Engineering University, China Hongxia Hu, Harbin Engineering University, China Pengda Zhou, Harbin Engineering University, China	Online
2	1570815290	Ship PMSM Nonlinear ADRC Parameter Self-tuning Based on Neural Network	Kaiqi Zhao, Harbin Engineering University, China Liu Yang, Harbin Engineering University, China Hongxia Hu, Harbin Engineering University, China Zhao Shuang, Harbin Engineering University, China	Online
3	1570815667	Investigation of Cogging Torque Comprehensive Reduction Method in High Precision Servo Permanent Magnet Motor	Bin Yuan, Chongqing University, China Hui Li, Chongqing University, China Xuewei Xiang, Chongqing University, China Tong Zhou, Chongqing University, China Hao Zhou, Chongqing University, China Peng Jiang, Chongqing University, China	Online
4	1570816351	Transient and Steady-State Performance of a Consequent-Pole Line-Start Permanent-Magnet Synchronous Motor	Toshihiro Tsuda, Kanazawa Institute of Technology, Japan Hiroki Sakan, Kanazawa Institute of Technology, Japan Shougo Imura, Kanazawa Institute of Technology, Japan Fumiya Kato, Kanazawa Institute of Technology, Japan	Online

I1-5: Permanent Magnet Motors and Generators

Date: December 1, 2022 (Ballroom I)

Time: 13.20-15.20

Chair: Kongpan Areearak (Online)

1	1570815805	Optimization of External Characteristic Parameters of Multiple Motors for Electric Vehicles Based on Optimal Torque Distribution Coefficient	Zhaorui Su, Jiaotong University, China Jinhua Du, Jiaotong University, China	Online
2	1570815990	Design and Analysis of High Torque-to-weight Ratio Motors for Legged Robot Joints	Dongdong Jiang, Zhejiang University, China Xiaoyan Huang, Zhejiang University, China Ke Xu, Zhejiang University, China Ye Ma, Zhejiang University, China Zhaokai Li, Zhejiang University, China	Online
3	1570816314	Design and Electromagnetic Performance Analysis of Novel Dual-Armature Π -Core Doubly Salient Permanent Magnet Machines	Guangqiang Ming, Hangzhou Huachen Electric Control Engineering Corporation Ltd. And Powerchina Huadong Engineering Corporation Ltd., China Jianping Yuan, Hangzhou Huachen Electric Control Engineering Corporation Ltd. And Powerchina Huadong Engineering Corporation Ltd., China Shihao Ma, Hangzhou Huachen Electric Control Engineering Corporation Ltd. And Powerchina Huadong Engineering Corporation Ltd., China Junjie Yang, Hangzhou Huachen Electric Control Engineering Corporation Ltd. And Powerchina Huadong Engineering Corporation Ltd., China	Online
4	1570816526	Construction Method and Application Prospect of Electrical Machine Digital Twin	Lin Liu, University of Technology Sydney, Australia Youguang Guo, University of Technology Sydney, Australia Gang Lei, University of Technology Sydney, Australia Wenliang Yin, University of Technology Sydney, Australia Xin Ba, University of Technology Sydney, Australia Jianguo Zhu, University of Technology Sydney, Australia	Online
5	1570816568	Fault Diagnosis of Low-severity Demagnetization in Permanent Magnet Synchronous Motors Using Numerical Data	Mahmoud S. Mahmoud, University of Agder, Norway H. V. Khang, University of Agder, Norway Jagath Senanayaka, University of Agder, Norway Ruben Puche Panadero, Universitat Politècnica de València, Spain	Online
6	1570816827	Comparative Study of the Π -Core Doubly Salient PM Machines Having Different Stator Core Segments and Armature Winding Configurations	Guangqiang Ming, Hangzhou Huachen Electric Control Engineering Corporation Ltd. and Powerchina Huadong Engineering Corporation Ltd., China Jianping Yuan, Hangzhou Huachen Electric Control Engineering Corporation Ltd. and Powerchina Huadong Engineering Corporation Ltd., China Shihao Ma, Hangzhou Huachen Electric Control Engineering Corporation Ltd. and Powerchina Huadong Engineering Corporation Ltd., China Junjie Yang, Hangzhou Huachen Electric Control Engineering Corporation Ltd. and Powerchina Huadong Engineering Corporation Ltd., China Guanchen Liu, Hangzhou Huachen Electric Control Engineering Corporation Ltd. and Powerchina Huadong Engineering Corporation Ltd., China Xuhui Yue, Hangzhou Huachen Electric Control Engineering Corporation Ltd. and Powerchina Huadong Engineering Corporation Ltd., China	Online

I1-6: Permanent Magnet Motors and Generators

Date: December 1, 2022 (Ballroom I)

Time: 15.40-18.20

Chair: Thanatchai Kulworawanichpong

1	1570816319	Coupled Electromagnetic- LPTN Model of High Speed PMSM for Mechanical Vapor Recompression Applications	Usman Abubakar, Tianjin University, China Xiaoyuan Wang, Tianjin University, China Sayeed Haleem Shah, Tianjin University, China Yu Sheng, Tianjin University, China Alhji. Dauda Maina, Aloom Polytechnic, Geidam, Nigeria	Online
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2	1570816364	Design Method of Variable-Flux Machines for Improving Torque Density	Faliang Liu, Harbin Institute of Technology, China Yong Liu, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China Mingqiao Wang, Harbin Institute of Technology, China Zaiping Zheng, Beijing Institute of Precision Mechatronics and Controls, China Jie Fu, Beijing Institute of Precision Mechatronics and Controls, China	Online
3	1570816377	Equal-Magnitude Sinusoidal Current Fault-Tolerant Strategy Derived from Rotating Rhombus Method for Six-Phase PMSM with Open-Circuit Fault	Jiaxuan Huang, Harbin Institute of Technology, China Yi Sui, Harbin Institute of Technology, China Zihang Yuan, Harbin Institute of Technology, China Shijie Yang, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China	Online
4	1570816405	Influence of Mutual Inductance on High-Frequency Impedance Characteristics of Six-Phase PMSM under Inter-Turn Short-Circuit Fault	Zihang Yuan, Harbin Institute of Technology, China Minghao Wang, Harbin Institute of Technology, China Jingang Bai, Harbin Institute of Technology, China Jiaxuan Huang, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China	Online
5	1570816415	A Novel Magnetic-Field-Shifting Method for Improving the Torque Density of Interior Permanent Magnet Machines	Xiaoyu Liang, Harbin Institute of Technology, China Faliang Liu, Harbin Institute of Technology, China Mingqiao Wang, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China Zaiping Zheng, Laboratory of Aerospace Servo Actuation and Transmission, China Jie Fu, Laboratory of Aerospace Servo Actuation and Transmission, China	Online
6	1570819272	Evaluation of Switching Ripple Effect on Efficiency of Novel Spoke-Type IPMSM Using Dy-Free Magnet - Comparison to IPMSM using NbFeB Magnet	Jiseong Park, Hokkaido University, Japan Ren Tsunata, Okayama University, Japan Masatsugu Takemoto, Okayama University, Japan Satoshi Ogasawara, Hokkaido University, Japan Koji Orikawa, Hokkaido University, Japan	Online
7	1570823990	Electromagnetic Analysis of a High Gear-Ratio Magnetically Geared Motor	H. Y. Wong, Portland State University, USA J. Z. Bird, Portland State University, USA S. Essakiappan, QM Power Inc., USA A. Verma, QM Power Inc., USA M. Manjrekar, QM Power Inc., USA	Online
8	1570825250	Reduction of Torque Ripple and Radial Force Harmonics in Consequent-Pole Permanent Magnet Motor for Electric Power Steering Applications	Yuga Tanaka, Tokyo Institute of Technology, Japan Hironori Minegishi, Tokyo Institute of Technology, Japan Yusuke Fujii, Tokyo Institute of Technology, Japan Akira Chiba, Tokyo Institute of Technology, Japan	Online

I2-1: Induction Machines and AC Machines

Date: November 30, 2022 (Meeting Room I Voyage)

Time: 14.00-15.40

Chair: Surapong Suwankawin and Pichai Aree

1	1570805016	Efficiency-Slip Curve Determination of Induction Motors Using Technical Data	Pichai Aree, Thammasat University, Thailand	On-site
2	1570811976	Study on Torque performance Improvement of Half-Wave Rectified Variable Field Flux Motor with Axial Gap Structure	Yuzen Shimohara, Nagasaki University, Japan Takashi Abe, Nagasaki University, Japan Yoshitsugu Otomo, Nagasaki University, Japan Takahiro Koga, Nagasaki University, Japan and ANSYS Japan K.K., Japan	Online
3	1570823272	Validation of a Transient Model for Induction Machines Considering Saturation and Current Displacement using Transient FEM	Matthias Kalla, Leibniz University Hannover, Germany Bernd Ponick, Leibniz University Hannover, Germany	On-site
4	1570819619	Effect of evaporative cooling of stator core on electromagnetic field of large horizontal generator	Wang Yu, Chinese Academy of Sciences, China Du Fangmian, Dongfang Electric Machinery Co. Ltd, China Wang Jiankang, Dongfang Electric Machinery Co. Ltd, China Cheng Ziran, Hunan University, China Ruan Lin, Chinese Academy of Sciences, China	Online
5	1570823408	Time Efficient Calculation of Current Harmonics in Inverter-Fed Electrically Excited Synchronous Machines	Anton Suchan, Leibniz University Hannover, Germany Bernd Ponick, Leibniz University Hannover, Germany	On-site

I2-2: Induction Machines and AC Machines

Date: December 1, 2022 (Meeting Room I Voyage)

Time: 9.00-10.40

Chair: Atip Doolgindachbaporn (Online)

1	1570811977	A Study on Torque Ripple Reduction of Half-Wave Rectified Variable Field Flux Motor	Shota Hoyama, Nagasaki University, Japan Takashi Abe, Nagasaki University, Japan Yoshitsugu Otomo, Nagasaki University, Japan	Online
2	1570815216	Developments of Rational Analytical Model for Direct-on-line Synchronous Reluctance Motor Designs	Cheng-Tsung Liu, National Sun Yat-Sen University, Taiwan Ying-Jie Su, National Sun Yat-Sen University, Taiwan Sheng-Chan Yen, Nidec Taiwan Corporation, Taiwan Kuan Yang, Nidec Taiwan Corporation, Taiwan Pei-Chun Shih, Nidec Taiwan Corporation, Taiwan Yu-Wei Hsu, Nidec Taiwan Corporation, Taiwan Sheng-Yang Lin, China Steel Corporation, Taiwan	Online
3	1570815454	Three-dimensional Transient Temperature Rise Calculation of Induction Motor under Overload Condition	Hua Zhao, University of Chinese Academy of Sciences, China Bin Xiong, University of Chinese Academy of Sciences, China Zhenguo Li, University of Chinese Academy of Sciences, China	Online
4	1570816378	Efficiency Improvement of a Concentrated Winding Synchronous Reluctance Motor Using Sixth Harmonics Component of d- and q-axis Currents	Daichi Makihara, Tokyo institute of technology, Japan Kyohei Kiyota, Tokyo institute of technology, Japan Shou Qiu, Tokyo institute of technology, Japan	Online

I4-1: Transformers and Power Apparatus				
Date: December 1, 2022 (Meeting Room I Voyage)				
Time: 11.00-12.20				
Chair: Sakda Somkun				
1	1570814157	Optimization Simulation Analysis of Leakage Magnetic Field and Loss Characteristics of High Frequency Nanocrystalline Transformer	Xue Liu, Institute of Electrical Engineering, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Lu Zhao, Institute of Electrical Engineering, Chinese Academy of Sciences, China Chengyao Ma, Institute of Electrical Engineering, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Qiongjuan Ge, Institute of Electrical Engineering, Chinese Academy of Sciences, China Yaohua Li, Institute of Electrical Engineering, Chinese Academy of Sciences, China	Online
2	1570814779	Optimal design of U-shaped evaporative cooling radiator for high frequency transformer	Yang Zhangbin, University of Chinese Academy of Sciences, China Kangjie Huang, University of Chinese Academy of Sciences, China Zhang Sixiang, China Three Gorges Construction Engineering Corporation, China Bin Xiong, University of Chinese Academy of Sciences, China Luo Daijun, China Three Gorges Construction Engineering Corporation, China	Online
3	1570815307	DC Bias Suppression Scheme Based on Hybrid Transformer	Xia Fei, HeFei University of Technology, China Chen Zhiwei, HeFei University of Technology, China Danfeng Linzi, State Grid Anhui Electric Power Co. LTD, China He Linjia, State Grid Anhui Electric Power Co. LTD, China Jing Chen, State Grid Anhui Electric Power Co. LTD, China Wang Gang, State Grid Anhui Electric Power Co. LTD, China	Online
4	1570816213	Mechanical Performance Analysis of Modified Insulating Paperboard in Transformers Based on Molecular Simulation	Bo Wang, Shenyang University of Technology, China Yanli Zhang, Shenyang University of Technology, China Zhen Wang, Shenyang University of Technology, China Dianhai Zhang, Shenyang University of Technology, China	Online
I5-1: Linear and Special Machines				
Date: December 1, 2022 (Meeting Room V Excursion)				
Time: 15.40-18.20				
Chair: Surapong Suwankawin and Xiaotao REN				
1	1570806991	Amorphous Long Stator Core Loss Calculation of Linear Motor Based on An Improved Calculation Model	Mujian Bao, Qingdao University, China Yuebing Lin, Qingdao University, China Xiaoqin Zheng, Qingdao University, China	Online
2	1570810581	Innovative Design of 3D-printed Winding for Linear Motor	Xiaotao Ren, Ecole polytechnique fédérale de Lausanne, Switzerland Adrien Thabuis, Ecole polytechnique fédérale de Lausanne, Switzerland Yves Perriard, Ecole polytechnique fédérale de Lausanne, Switzerland	On-site
3	1570814579	Optimal Design and Control Simulation of a High Accelerate Double-Sided Permanent-Magnet Linear Synchronous Motor	Lize Wu, Zhejiang University, China Qinfen Lu, Zhejiang University, China	Online
4	1570816591	Modeling of Magnetic Field Distribution in Slotless Homopolar Active Magnetic Bearing with Eccentricity using Fourier Analysis	Guillaume Colinet, Université catholique de Louvain (UCLouvain), Belgium Bruno Dehez, Université catholique de Louvain (UCLouvain), Belgium	Online
5	1570819639	Eddy-Current Linear-Rotary Position Sensor for an Implantable Total Artificial Heart	Rosario V. Giuffrida, ETH Zurich, Switzerland Johann W. Kolar, ETH Zurich, Switzerland Dominik Bortis, ETH Zurich, Switzerland	On-site
6	1570815649	Structure Innovation and Material Optimization of Annular Linear Induction Electromagnetic Pump Based on Temperature Field Constraints	Wenxiao Wu, Zhejiang University, China Jien Ma, Zhejiang University, China Lin Qiu, Zhejiang University, China Qiyi Wu, Zhejiang University, China Sixian Zhu, Zhejiang University, China Shuming Zhang, State Power Investment Corporation, China Chunyuan Liu, State Power Investment Corporation, China Jiantian Hu, Zhejiang AoXin Instrument Corporation, China Youtong Fang, Zhejiang University, China	Online
7	1570815671	Optimization and Performance Investigation of High Precision Permanent Magnet Linear Motor	Yao Wang, Xi'an Jiaotong University, China Jinhua Du, Xi'an Jiaotong University, China Zhao Hou, Xi'an Jiaotong University, China	Online
8	1570816737	Self-Bearing Partitioned Stator Flux-Switching Permanent Magnet Motor	Sadjad Madanzadeh, Lappeenranta University of Technology, Finland Wolfgang Gruber, Johannes Kepler University Linz, Austria Andrei Zhuravlev, Lappeenranta University of Technology, Finland Rafal P. Jastrzebski, Lappeenranta University of Technology, Finland	Online
I6: Magnetics and Field Analysis				
I10: Sensorless Control				
Date: November 30, 2022 (Meeting Room III Expedition)				
Time: 16.00-18.00				
Chair: Sakda Somkun				

1	1570811190	Pressure Offloading Device for Diabetic Footwear Based on Magnetorheological Fluids	Sofia Lydia Ntella, Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland Kenny Jeanmonod, Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland Yoan Civet, Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland Christian Koechli, Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland Yves Perriard, Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland	On-site
2	1570816333	Improvement of external magnetic field tolerance of resolver	Taisei Morikawa, Yokohama National University, Japan	On-site
3	1570816625	Modeling of Frequency-Dependent Winding Losses in Solid and Litz-wire Toroidal Inductors	Dae Yong Um, Pusan National University, South Korea Min Seung Song, Pusan National University, South Korea Young Hyun Song, Pusan National University, South Korea Tae Jun Ahn, Pusan National University, South Korea Dae Gyu Lee, Pusan National University, South Korea Seung Ahn Chae, Pusan National University, South Korea Chang Geun Heo, Pusan National University, South Korea Gwan Soo Park, Pusan National University, South Korea	On-site
4	1570814673	Influence of DC-link Voltage Measurement Error on Extended EMF Based Sensorless Control with Reduced DC-Link Capacitor	Jun Yan, University of Sheffield, UK Ximeng Wu, University of Sheffield, UK Z.Q. Zhu, University of Sheffield, UK Chaohui Liu, Beijing National NEVC, China	Online
5	1570815089	Position Sensorless Estimation for Surface Permanent Magnet Synchronous Motor Using Eddy Current at Low-speed	Koki Kataoka, The National Institute of Technology, Gifu College, Japan Tatsuki Hayashi, The National Institute of Technology, Gifu College, Japan Mutuwo Tomita, The National Institute of Technology, Gifu College, Japan Masaru Hasegawa, Chubu University, Japan Shinji Doki, Nagoya University, Japan	Online
6	1570815789	An Improved Speed Observer Based on Super twisting Algorithm for Standalone Brushless Doubly-fed Induction Generator-DC System	Yifan Lin, Huazhong University of Science and Technology, R.P.China Yi Liu, Huazhong University of Science and Technology, R.P.China Wei Xu, Huazhong University of Science and Technology, R.P.China Mohamed G. Hussien, Tanta University, Egypt Essam M. Rashad, Tanta University, Egypt	Online
7	1570825121	An Electrodynamic Wheel Maglev Vehicle with a Passive U-Guideway	Colton Bruce, Portland State University, USA Jonathan Bird, Portland State University, USA Matthew Grubbs, Portland State University, USA Zhongkai Zheng, Portland State University, USA David Drake, Portland State University, USA Anh Doane, Portland State University, USA Yew Tin Lee, Portland State University, USA Jon Seeboth, Portland State University, USA	Online

I7-1: Other Areas in Electric Machines

Date: November 30, 2022 (Meeting Room II Journey)

Time: 14.00-15.40

Chair: Burin Kerdsup

1	1570814617	Influence of Concentrated Winding and Insulation on the Vibration Behavior of Electric Machines	Martin Enno Gerlach, Markus Langfermann, Bernd Ponick, Leibniz University Hannover, Germany	On-site
2	1570816310	Drive System Integrated Magnetic Multiple Spur Gear and High-Speed Motors for Low Floor Light Rail Vehicles	Yoshiki Nishioka, Yokohama National University, Japan Kan Akatsu, Yokohama National University, Japan	On-site
3	1570818640	Design of Motor Characteristic Testbed for Permanent-Magnet Assisted Synchronous Reluctance Motor	Burin Kerdsup, National Electronics and Computer Technology Center, Thailand Santipong Karukanan, National Electronics and Computer Technology Center, Thailand	On-site
4	1570819223	Modular Stator, Segmented Rotor Switched Reluctance Motor Prototype: Assembly and Characterization	Ramon Florentino Santos, Belle Sermenon, Lew Andrew Tria, University of the Philippines Diliman, Philippines	On-site
5	1570819315	Study of the use of silver trace and improved flexibility in rolled Dielectric Elastomer Actuators	A. Walter, T. Martinez, Y. Civet and Y. Perriard, École polytechnique fédérale de Lausanne (EPFL), Switzerland	On-site

I7-2: Other Areas in Electric Machines

Date: November 30, 2022 (Meeting Room II Journey)

Time: 16.00-18.00

Chair: Atip Doolgindachbaporn (Online)

1	1570802268	Low Electromagnetic Vibration Optimization of FSPM Motor Based on NSGA-II Algorithm	Shu Wang & Ming Kang, Beijing Mechanical Equipment Research Institute & North Engine Research Institute, China Zhe Pang, Beijing Institute of Space Mechanic & Electricity, China Zuxu Guo, Beijing Mechanical Equipment Research Institute, China You Bian, Wei Zhao, Rong Lei, The first military representative office of the Ministry of Air Force equipment in Beijing, China	Online
2	1570812460	Experimental Study on the Characteristics of Stator Internally Cooled Self-Circulating Evaporative Cooling generator at 3-45 Degree Inclination	Jiawei Hu, University of Chinese Academy of Sciences, China Feihui Liu, Chinese Academy of Sciences, China	Online

3	1570806455	Reluctance and Magductance Calculation of Laminated Core Under Different Frequency for Electrical Machines	Wei Qin, Southeast University, China Ming Cheng, Southeast University, China Sa Zhu, Hohai University, China Xinkai Zhu, North China Electric Power University, China Zheng Wang, Southeast University, China Zhengzhou Ma, Southeast University, China	Online
4	1570816214	Modeling of Magnetic Characteristics of Electrical Steel Sheet under Stress Considering the Thermodynamic Hysteresis and Magnetic Domain Energy	Ying Wang, Shenyang University of Technology, China Yanli Zhang, Shenyang University of Technology, China Fasheng Qiu, Nanchang Hangkong University, China	Online
5	1570816222	Measurement and Modeling of Dynamic Magnetic Hysteresis and Magnetostrictive Strain of Electrical Steel Sheet under Rotational Magnetization	Kai Xu, Shenyang University of Technology, China Yanli Zhang, Shenyang University of Technology, China Zhen Wang, Shenyang University of Technology, China	Online
6	1570823894	Optimization of the flow boiling heat transfer structure for power electronics	Li Zhi, Chinese Academy of Sciences (CAS), China Zhao Sheng, Chinese Academy of Sciences (CAS), China Wang Yu, Chinese Academy of Sciences (CAS), China Song Quan-gang, XJ Group Corporation, China Yao Yan-fang, XJ Group Corporation, China	Online

I8-1: Motor Control and Motor Drives

Date: November 30, 2022 (Ballroom II)

Time: 14.00-15.40

Chair: Dong-Hee Lee

1	1570799497	A Model Predictive Current Control Method based on Boundary Restriction for Medium-speed Maglev Train	Hang Zhang, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Ruihua Zhang, Chinese Academy of Sciences, China Peng Zhang, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China Yumei Du, Chinese Academy of Sciences, China	Online
2	1570801510	Slip Frequency Type Vector Control for Cup Rotor Permanent Magnet Doubly Fed Machine	Jiaxiang Bi, Tianjin University, China	Online
3	1570801587	Performance analysis of vector control of Brushless doubly-fed machine in double synchronous reference frame	Nannan Wang, Tianjin University, China	Online
4	1570806029	A New Method for Automatic Identification of Electric-mechanical Angle Deviation of SPMLSM	Jixu Sun, Harbin Institute of Technology, China Mingyi Wang, Harbin Institute of Technology, China Liyi Li, Harbin Institute of Technology, China	Online
5	1570806252	SIC MOSFET Crosstalk Analysis and Suppression Circuit Design	Wentao Wu, Harbin Institute of Technology, China Mingyi Wang, Harbin Institute of Technology, China Kai Kang, Harbin Institute of Technology, China Liyi Li, Harbin Institute of Technology, China	Online

I8-2: Motor Control and Motor Drives

S29-2: Special Session: Advanced Control Strategy for Permanent Magnet Motor Drives

Date: December 1, 2022 (Voyage)

Time: 15.40-18.20

Chair: Satit Owatthaiphong

1	1570806778	Torque Ripple Reduction by Injecting q-axis Suppression Current for Half-wave Rectified Brushless Synchronous Motors	Kohei Kanaida, Nagasaki University, Japan Tetsuji Daido, Nagasaki University, Japan Shin-ichi Hamasaki, Nagasaki University, Japan Takashi Abe, Nagasaki University, Japan	Online
2	1570806876	Permanent Magnet Synchronous Motor composite control strategy based on proportional resonance and disturbance observer	Pei Luo, Xiangtan University, China Wenlun Zhao, Xiangtan University, China Junhao Liang, Xiangtan University, China Xinpeng Ma, Xiangtan University, China Rijie Luo, Xiangtan University, China	Online
3	1570807003	Fast Integral Terminal Sliding Mode Control of PMSM Based on New Sliding Mode Reaching Law	Zhang Kaifei, Tianjin University, China Chen Yiguang, Tianjin University, China Zhang Haoran, Tianjin University, China Li Guowen, Tianjin University, China	Online
4	1570807060	Model Predictive Control Algorithm of Dual Three Phase Motor Considering Global Single Vecto	Hao Zhou, Chongqing University, China HuiLi, Chongqing University, China Xuewei Xiang, Chongqing University, China Bin Yuan, Chongqing University, China Tong Zhou, Chongqing University, China Wendong Li, Chongqing University, China	Online
5	1570807090	Research on Fault-Tolerant Control Strategy of Fault-Tolerant Permanent Magnet Motor Based on Cascaded Model Prediction Algorithm	Zhijian Wei, Nanjing University of Science and Technology, China Xuefeng Jiang, Nanjing University of Science and Technology, China Shirui Yang, Nanjing University of Science and Technology, China Xiangyu Zhang, Nanjing University of Science and Technology, China Yiming Cai, Nanjing University of Science and Technology, China Siyuan Wang, Nanjing University of Science and Technology, China	Online
6	1570807120	Robustness Improvement of Predictive Flux Control Based on Parameter Identification for Permanent Magnet Synchronous Motor	Haoran Zhang, Tianjin University, China Yiguang Chen, Tianjin University, China Kaifei Zhang, Tianjin University, China Guowen Li, Tianjin University, China	Online

7	1570819476	Magnet temperature estimation of permanent magnet synchronous motor using search coils	Yuan Cheng, Chongqing Research Institute of Harbin Institute of Technology , China and Harbin Institute of Technology (HIT), China Jinfeng Chen, Harbin Institute of Technology (HIT), China Wan Huang, Harbin Institute of Technology (HIT), China Bochao Du, Harbin Institute of Technology (HIT), China and Chongqing Research Institute of Harbin Institute of Technology , China Shumei Cui, Harbin Institute of Technology (HIT), China	Online
8	1570816263	A Novel Sensorless Model Predictive Current Control for	Yanqing Zhang, Xi'an University of Technology, China Gaoli Yan, Xi'an University of Technology, China Zhonggang Yin, Xi'an University of Technology, China Fengtao Gao, Xi'an University of Technology, China Liang Shao, Xi'an University of Technology, China	Online

I8-3: Motor Control and Motor Drives

Date: December 1, 2022 (Ballroom II)

Time: 9.00-10.40

Chair: Paiwan Kerdtuad and Dong-Hee Lee

1	1570807465	Open-circuit Fault Diagnosis Strategy for Partial Energy Electric Pump System Based on Grey Prediction Theory	Shirui Yang, Nanjing University of Science and Technology, China Xuefeng Jiang, Nanjing University of Science and Technology, China Zhijian Wei, Nanjing University of Science and Technology, China Jingyu Zhou, Nanjing University of Science and Technology, China Kaiwen Wang, Nanjing University of Science and Technology, China Zhenmao Han, Aviation Key Laboratory of Science and Technology, China	Online
2	1570813809	Analysis and Suppression of Inductance Asymmetry Effect on High Frequency Signal Injection Sensorless Control of Permanent Magnet Synchronous Machines	Yang Chen, University of Sheffield, UK Ximeng Wu, University of Sheffield, UK Ziqiang Zhu, University of Sheffield, UK Chaohui Liu, Beijing National New Energy Vehicle Technology Innovation Center, China	Online
3	1570814805	Novel VBHCC strategy on non-orthogonal frame for PMSM	Mengqi Li, Northwestern Polytechnical University, China Jinglin Liu, Northwestern Polytechnical University, China En Xie, Northwestern Polytechnical University, China	Online
4	1570815026	Optimal Selective Harmonic Elimination PWM for Dual Three-phase PMSM Under Low Switching Frequency	Bo Shao, University of Sheffield, UK Zi-Qiang Zhu, University of Sheffield, UK	Online
5	1570815239	A Field-Weakening Scheme with Predictive Current Error for PMSM Modulated Model Predictive Control	Qinghua Dong, Harbin Institute of Technology, China Yong Yu, Harbin Institute of Technology, China Bo Wang, Harbin Institute of Technology, China Minghe Tian, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online

I8-4: Motor Control and Motor Drives

I13-2 Power Electronic Devices (Si and Wide Band Gap) and Applications

Date: December 1, 2022 (Ballroom II)

Time: 11.00-12.20

Chair: Paiwan Kerdtuad and Jin-Woo Ahn

1	1570816445	Effect of Torque and Radial Force Ripple Suppression Control Gains for Vector-controlled SRMs on Evaluation Function Value	Ryoto KOJIMA, Nobukazu HOSHI, Tokyo University of Science, Japan	On-site
2	1570816516	Two-Phase Open-Circuit Fault Tolerant Control Based on Five-Phase Current-Source Inverter	Shijie Yang, Harbin Institute of Technology, China Jingang Bai, Harbin Institute of Technology, China Yong Liu, Harbin Institute of Technology, China Ziyu Zhou, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China	Online
3	1570815804	Study on GaN FET Short Circuit Characteristics and Development of Effective Short Circuit Protection Method	Chul-Min Kim, Daejin University, Republic of Korea Jong-Soo Kim, Daejin University, Republic of Korea Nam-Joon Kim, Daejin University, Republic of Korea	On-site
4	1570816917	Optimal Level Number and Performance Evaluation of Si/GaN Multi-Level Flying Capacitor Inverter for Variable Speed Drive Systems	Gwendolin Rohner, ETH Zurich, Switzerland Johann W. Kolar, ETH Zurich, Switzerland Dominik Bortis, ETH Zurich, Switzerland Mario Schweizer, ABB Corporate Research, Switzerland	On-site

I8-5: Motor Control and Motor Drives

Date: December 1, 2022 (Ballroom II)

Time: 13.20-15.20

Chair: Sirichai Dangeam

1	1570815393	Analysis of Sensorless Deadbeat Predictive Current Control Under Parameter Mismatches for Permanent Magnet Synchronous Machines	Ximeng Wu, University of Sheffield, UK Z.Q. Zhu, University of Sheffield, UK Nuno M. A. Freire, Siemens Gamesa Renewable Energy A/S, Denmark	Online
2	1570815522	On-line Parameter Identification of Permanent Magnet Synchronous Motor based on Extended Kalman Filter	Tianzi Hu, Harbin Institute of Technology, China Jiaxi Liu, Harbin Institute of Technology, China Jiwei Cao, Harbin Institute of Technology, China Liyi Li, Harbin Institute of Technology, China	Online
3	1570815630	Enhancing Speed Loop PI Controllers with Adaptive Feed-forward Neural Networks: Application to Induction Motor Drives	Ravneel Prasad, The University of the South Pacific, Fiji Shyamal Chand, The University of the South Pacific, Fiji Hiye Mudaliar, The University of the South Pacific, Fiji Dhirendran Kumar, The University of the South Pacific, Fiji Adriano Fagiolini, Università degli Studi di Palermo, Italy Marco Di Benedetto, ROMA TRE University, Italy Maurizio Cirrincione, The University of the South Pacific ,Fiji	Online

4	1570815796	Flux-Weakening Operation of Speed-Sensorless Induction Machine Drives using Deadbeat-Direct Torque and Flux Control	Yu Yong, Harbin Institute of Technology, China Ping Fan, Harbin Institute of Technology, China Wang Bo, Harbin Institute of Technology, China Xu Dianguo, Harbin Institute of Technology, China	Online
5	1570815838	A High Dynamic Performance SHEPWM Controller for PMSM at Low Switching Frequency	Kailang Yi, Southeast University, China Fei Peng, Southeast University, China Yunkai Huang, Southeast University, China	Online
6	1570815881	Synchronous Filtering based Current Harmonic Suppression for Dual Three-phase Permanent Magnet Synchronous Machines	Shilin Tan, Hunan University, China Kan Liu, Hunan University, China Bingxin Zhang, Hunan University, China Jiaming Wu, Hunan University, China Baihui Gong, Hunan University, China Chao Huang, Hunan University, China	Online

18-6: Motor Control and Motor Drives

Date: December 1, 2022 (Ballroom II)

Time: 15.40-18.20

Chair: Sirichai Dangeam

1	1570815998	A Three-level Drive Control Method Based on High-speed permanent magnet synchronous Moto	Xiangshen Meng, Harbin Institute of Technology, China Jiwei Cao, Harbin Institute of Technology, China Jiaxi Liu, Harbin Institute of Technology, China Liyi Li, Harbin Institute of Technology, China	Online
2	1570816496	PMSM High Precision Position Servo Control Based on Feedforward Compensation	Xianting Zhang, Northwestern Polytechnical University, P.R. China Ziqiang Zhang, Northwestern Polytechnical University, P.R. China Ruiqing Ma, Northwestern Polytechnical University, P.R. China Qianbao Mi, Northwestern Polytechnical University, P.R. China Yuchen Zhang, Northwestern Polytechnical University, P.R. China	Online
3	1570816569	Dead-Time Effect Analysis and Compensation for Deadbeat-Direct Torque and Flux Control of PMSMs to Eliminate Steady-State Error	Jiewen Lang, Harbin Institute of Technology, China Chengde Tong, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China Xiaoyu Liang, Harbin Institute of Technology, China Xuejin Yuan, Harbin Institute of Technology, China Wu Ren, Beijing Institute of Aerospace Control Devices, China	Online
4	1570816595	Interleaved Generalized Predictive Control for Dual Three-Phase PMSM with Low Computation Burden	J. X. Wu, K. Wang, T. Wang, J. Li, Nanjing University of Aeronautics and Astronautics, China	Online
5	1570816629	Comparison of Different Flux-Weakening Strategies of AC-Excited Hybrid Excitation Synchronous Motor	Y. W. Deng, K. Wang, J. Li, T. Wang, Nanjing University of Aeronautics and Astronautics, China	Online
6	1570816645	Online Parameter Identification Method using Neural Network for IPMSM	Minh Xuan Bui, RMIT University, Vietnam	Online
7	1570817949	A New Adaptive Feedforward Flux-Weakening Control Method of Aerospace Motor for More Electric Aircraft	Yicheng Wang, Southeast University, China Shuhua Fang, Southeast University, China Heyun Lin, Southeast University, China	Online
8	1570823571	New Efficiency Optimal Control of Interior Permanent Magnet Synchronous Motor Based on Improved Minimum Stator Current Control	Chenshan Hu, Hunan University, China Jian Gao, Hunan University, China Shoudao Huang, Hunan University, China Wenjuan Zhang, Changsha University, China Yi Wu, Hunan University, China Jianming Li, Hunan University, China	Online

S9-1: Motion Control and Servo Systems

Date: November 30, 2022 (Convention I)

Time: 16.00-18.00

Chair: Chowarit Mitsantisuk

1	1570806592	A High Controller Parameters Robust Decoupling Based On Complex Vector For Permanent Magnet Synchronous Motor	Jiahua You, Harbin Institute of Technology, China Ming Yang, Harbin Institute of Technology, China Chaoyi Shang, Harbin Institute of Technology, China Pengbo Shan, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
2	1570812298	Linear Extended State Observer based Anti Interference Robust Position Tracking Control for Two-Inertia Systems with Uncertain Load Disturbance	Yue Zhang, Hunan University, China Kan Liu, Hunan University, China Jing Zhou, Hunan University, China Pengfei Sang, Hunan University, China Huajiang Wu, Ningbo Anson CNC Techniquc co.LTD, China Yongdan Chen, China North Vehicle Research Institution, China	Online
3	1570815230	Research on ASK Modulation Method for Rotating Magnet Based Mechanical Antenna Array System	Qiyao Zhang, Nanjing University of Aeronautics and Astronautics, China Zhenyang Hao, Nanjing University of Aeronautics and Astronautics, China	Online
4	1570815500	Active Disturbance Rejection Position Servo Control and Parameter Tuning of PMSM Based on Improved Extended State Observer	Hongxu Liu, Beijing Electro-Mechanical Engineering Institute, China Zhiliang Wang, Beijing Electro-Mechanical Engineering Institute, China Lin Guo, Beijing Electro-Mechanical Engineering Institute, China Yong Wu, Beijing Electro-Mechanical Engineering Institute, China	Online
5	1570818141	An Observer-based Switching Controller for Servo Turntable based on Switchedmodel	Heng Yang, Anhui University, China Qian Zhang, Anhui University, China Menghu Fu, Anhui University, China Qunjing Wang, Anhui University, China Guoli Li, Anhui University, China	Online
6	1570819724	Force Sensorless Bilateral Control for Servomotor with Drygear Cantilever Axis	Komsan Sirimachan, Kasetsart University, Thailand Chowarit Mitsantisuk, Kasetsart University, Thailand Kanatip Prompol, Kasetsart University, Thailand	On-site

I11 Automotive Power Electronics, EV Chargers, V2G and Infrastructure				
I20-1: Wireless Power Transfer System and Application				
Date: December 1, 2022 (Meeting Room V Excursion)				
Time: 11.00-12.20				
Chair: Damrong Amorndechaphon				
1	1570819863	Bidirectional On-Board Charger for Electric Vehicles with V2G Functionality	Attaphol Pimhpui, Kasetsart University, Thailand Uthane Supatti, Kasetsart University, Thailand	On-site
2	1570803001	Soft-Switching Technique by Transfer Frequency of Wireless Power Transfer System Using Matrix Converter	Chikara Morimoto, Nagoya Institute of Technology, Japan Takaharu Takeshita, Nagoya Institute of Technology, Japan	On-site
3	1570806193	A Novel Inductive Power Transfer System for Medium-low Speed Maglev Train Based on Double-ended Inverter	Manyi Fan, Chinese Academic of Science, China Liming Shi, Chinese Academic of Science, China Zhenggang Yin, Chinese Academic of Science, China Jixin Yang, Chinese Academic of Science, China Wenjing Tang, Chinese Academic of Science, China	Online
4	1570824755	An Output Voltage Control of Inductive Power Transfer System for Multi-load	Kan Voottipruex, King Mongkut's University of Technology Thonburi, Thailand Nattapong Hatchavanich, King Mongkut's University of Technology Thonburi, Thailand Sumate Naetiladdanon, King Mongkut's University of Technology Thonburi, Thailand Anawach Sangswang, King Mongkut's University of Technology Thonburi, Thailand Ekkachai Mujjalinvimut, King Mongkut's University of Technology Thonburi, Thailand	Online
I12-1: DC-DC converters				
Date: December 1, 2022 (Meeting Room IV Passage (24p))				
Time: 9.00-10.40				
Chair: Anuwat Jangwanitlert and Somboon Sooksatra				
1	1570806209	Three-Phase Interleaved Boost Converter with Fault-Tolerant Control Strategy for Renewable Energy System Applications	Kuagoon Kongkanjana, Suranaree University of Technology, Thailand Sudarat Khwan-on, Suranaree University of Technology, Thailand	Online
2	1570807001	Transformerless Polarity Selectable Buck-Boost Converter with Common Ground	Somboon Sooksatra, Rangsit University, Thailand Wanchai Subsingha, Rangsit University, Thailand	On-site
3	1570816627	Interleaved Bidirectional Buck-Boost DC/DC Converter for High Voltage Battery Application	Chayakarn Saeseiw, Naresuan University, Thailand Piyadanai Pachanapan, Naresuan University, Thailand Sakda Somkun, Naresuan University, Thailand Suparak Srita, Naresuan University, Thailand Tanakorn kaewchum, Naresuan University, Thailand	On-site
4	1570812280	High Voltage Gain Bidirectional Converter Based on Dual Active Bridge	Zixu Fang, Harbin Institute of Technology, China Yijie Wang, Harbin Institute of Technology, China Xiufang Liu, Shanghai Aerospace Equipments Manufacturer Co., Ltd, China Yueshi Guan, Harbin Institute of Technology, China Yiliang Li, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
5	1570806768	Modeling Method for Bidirectional Conducted Noise Simulation of DC-DC Converter	Takato Hattori, Nagoya Institute of Technology, Japan Wataru Kitagawa, Nagoya Institute of Technology, Japan Takeshita Takaharu, Nagoya Institute of Technology, Japan	On-site
I12-2: DC-DC converters				
Date: December 1, 2022 (Meeting Room IV Passage (24p))				
Time: 11.00-12.20				
Chair: Nathabhat Phankong and Somboon Sooksatra				
1	1570815539	A hybrid synchronous and phase-shifted control strategy for DC transformer	Hang Zhang, Chinese Academic of Science Beijing, China Cong Zhao, Chinese Academic of Science Beijing, China Zixin Li, Chinese Academic of Science Beijing, China Fanqiang Gao, Chinese Academic of Science Beijing, China Fei Xu, Chinese Academic of Science Beijing, China Yaohua Li, Chinese Academic of Science Beijing, China	Online
2	1570819238	Research on bidirectional L-LLC resonant converter based on Synchronous PWM modulation	Wang Yong, BEIHANG University, China	Online
3	1570819824	Stability Analysis for Voltage Feed-Forward Control with Small-Signal DC Impedance Model	Young-Wook Kim, Seoul National University, Korea Seung-Ki Sul, Seoul National University, Korea	Online
4	1570807638	High Step-up Hybrid Converter for Simultaneous DC and AC Loads	Namon Kunjittipong, Suranaree University of Technology, Thailand Sudarat Khwan-on, Suranaree University of Technology, Thailand	Online
I12-3: AC-DC converters				
Date: December 1, 2022 (Meeting Room IV Passage (24p))				
Time: 13.20-15.20				
Chair: Pracha Khamphakdi and Wanchai Subsingha				
1	1570825277	Two-Degree-of-Freedom Control over Totem-pole Power Factor Corrector	Yuhan Gao, Chongqing Acoustic-Optic-Electronic Co., LTD, P.R. China Wei Jiao, Shanghai Jiao Tong University, P.R. China Wei Yan, Peking University, P.R. China Huang Li, Shanghai Jiao Tong University, P.R. China Shuang Wu, Shanghai Jiao Tong University, P.R. China Xijun Yang, Shanghai Jiao Tong University, P.R. China	Online

2	1570802148	Three-Vector Model Predictive Direct Power Control of Vienna Rectifier based on Voltage Vector Optimization	Caixue Chen, Xiangtan University, China Yan Li, Xiangtan University, China Xutao Yang, Xiangtan University, China Huixiang Lv, Xiangtan University, China	Online
3	1570808577	Switching Loss Evaluation in a Three-Phase Diode Rectifier with an Instantaneous Reactive Power Compensator	Nuilers Surasak, National Electronic and Computer Technology Center (NECTEC), Thailand Kerdsup Burin, National Electronic and Computer Technology Center (NECTEC), Thailand Hideaki Fujita, Tokyo Institute of Technology, Japan	On-site
4	1570816962	Development of PFC Converter for Induction Heating System in Railway	Seong-Yong Hong, Korea National University of Transportation (KNUT), Republic of Korea Dong-Kyun Kim, Korea National University of Transportation (KNUT), Republic of Korea Hyeong-Seok Oh, Korea National University of Transportation (KNUT), Republic of Korea Jae-Bum Le, Korea National University of Transportation (KNUT), Republic of Korea Chan-Bae Park, Korea National University of Transportation (KNUT), Republic of Korea Byung-Song Le, Korea National University of Transportation (KNUT), Republic of Korea Hyung-Woo Le, Korea National University of Transportation (KNUT), Republic of Korea	On-site
5	1570808646	A New Short Circuit Fault Detection Method of High-Power Converter Based IGCT	Pei Yang, Institute of Electrical Engineering and Chinese Academy of Sciences, China Bo Zhang, Institute of Electrical Engineering and Chinese Academy of Sciences, China Qiongquan Ge, Institute of Electrical Engineering and Chinese Academy of Sciences, China Xiaoxin Wang, Institute of Electrical Engineering and Chinese Academy of Sciences, China	Online
6	1570806464	Research on Optimal Fuel Consumption Control Strategy for Variable Speed Generation of Diesel Generator Set Rail Transit Traction System	Yang Liu, China Academy of Railway Science Corporation Limited, China Zhenhuan Yin, China Academy of Railway Science Corporation Limited, China Kan Dong, China Academy of Railway Science Corporation Limited, China Ma Chi, China Academy of Railway Science Corporation Limited, China Dongdong Cui, China Academy of Railway Science Corporation Limited, China Lu Zhao, China Academy of Railway Science Corporation Limited, China	Online

I12-4: AC-DC converters

Date: December 1, 2022 (Meeting Room IV Passage (24p))

Time: 15.40-18.20

Chair: Damrong Amorndechaphon

1	1570806011	A Variable Band Width Hysteresis Current Control Zero-Voltage Switching Converter Based on a LCCR Filter	Jiaxing Ye, Harbin Institute of Technology, China Mingyi Wang, Harbin Institute of Technology, China Liyi Li, Harbin Institute of Technology, China	Online
2	1570806496	Comparative Analyses of Submodule Unified PWM and Level Shifted PWM for Modular Multilevel Converter	Chen Ma, Kunming University of Science and Technology, China, Shishun Wang, Kunming University of Science and Technology, China Sizhao Lu, Kunming University of Science and Technology, China Siji Li, Kunming University of Science and Technology, China	Online
3	1570808819	Switching-Cell Back-to-Back Current Source Converter with Modified SVPWM	Daheon Hong, Kyungpook National University, Korea Honyong Cha, Kyungpook National University, Korea	On-site
4	1570811746	A Si IGBT and SiC MOSFET Hybrid Full-Bridge Inverter and Its Modulation Scheme	Shishun Wang, Kunming University of Science and Technology, China Zhenghuai Xia, Kunming University of Science and Technology, China Hengjiao Duan, Kunming University of Science and Technology, China Chen Ma, Kunming University of Science and Technology, China Sizhao Lu, Kunming University of Science and Technology, China Siji Li, Kunming University of Science and Technology, China	Online
5	1570816176	Floating output series interleaved boost-only GaN Y-Inverter	Yusuke Endo, Kobe City College of Technology, Japan Hamzeh J. Jaber, Kyoto University fo Advanced Science, Japan Masataka Minami, Kobe City College of Technology, Japan Alberto Castellazzi, Kyoto University fo Advanced Science, Japan	On-site
6	1570816285	Open Circuit (OC) and Short Circuit (SC) IGBT Switch Fault Detection in Three-Phase Standalone Photovoltaic Inverters Using Shallow Neural Networks	Shyamal Shivneel Chand, The University of the South Pacific, Fiji Rahul Ranjeev Kumar, The University of the South Pacific, Fiji Ravneel Prasad, The University of the South Pacific, Fiji Maurizio Cirrincione, The University of the South Pacific, Fiji Krish Kumar Raj, The University of the South Pacific, Fiji	Online
7	1570818694	A New Grid Voltage Compensated Model Predicted Control for BESS PCS	Jeongjin Seo, Chungnam Natonal University, Replibc of Korea Hanju Cha, Chungnam Natonal University, Replibc of Korea	On-site
8	1570823140	New Switching Patterns Based on Current Space Vector Diagram Viewpoint to Reduce Input Current Ripple for Three-Level Inverters	Phongsathorn Sangsuwan, Rajamangala University of Technology Suvarnabhumi(RUS), Thailand Paiboon Kiatsookkanatorn, Rajamangala University of Technology Suvarnabhumi(RUS), Thailand Somboon Sangwongwanich, Chulalongkorn University, Thailand Ariya Sangwongwanich, Aalborg University, Denmark	Online

I13: Power Electronic Devices (Si and Wide Band Gap) and Applications

Date: December 1, 2022 (Convention I (132p))

Time: 9.00-10.40

Chair: Vuttipon Tarateeraseth and Ravi Nath Tripathi

1	1570814871	Active Gate Drive Circuit with Auxiliary Drive Branch for SiC MOSFET	Di Zhao, Harbin Institute of Technology, China Jiahui Qiu, Harbin Institute of Technology, China Panbao Wang, Harbin Institute of Technology, China Wei Wang, Harbin Institute of Technology, China	Online
2	1570806482	Current Balancing of Parallel-Connected SiC devices using Active Gate Control	Ravi Nath Tripathi, Kyoto University of Advanced Science, Japan	On-site
3	1570799373	Modeling and Analysis of DC Pole-to-Pole Fault in High-Frequency-Bus Based Power Electronic Transformer	Liqiang Yuan, Tsinghua University, China Minghao Zheng, Tsinghua University, China Shen Gao, Tsinghua University, China Yuxuan Dai, Tsinghua University, China Di Mou, Tsinghua University, China Zhengming Zhao, Tsinghua University, China	Online
4	1570816231	A Quasi-Three-Level PWM Modulation Method with Suppressed Coil Terminal Overvoltage for Active Magnetic Bearing	Youjun Zhang, Qingdao University, China Weiming Zhang, Qingdao University, China YuFei Han, Qingdao University, China Jie Yu, Qingdao University, China	Online
5	1570816667	Full-Bridge Current Source Inverter Using Pulse Density Control for Induction Preheating of Welding Application	Panithan Chakkuchan, Rajamangala University of Technology Krungthep, Thailand Saichol Chudjuarjeen, Rajamangala University of Technology Krungthep, Thailand Nathabhat Phankong, Rajamangala University of Technology Krungthep, Thailand Sirichai Dangeam, Rajamangala University of Technology Thanyaburi, Thailand Monthon Nawong, Rajamangala University of Technology Thanyaburi, Thailand Prusayon Nintanavongsa, Rajamangala University of Technology Thanyaburi, Thailand	Online

I14: Other Areas in Power Electronics and Motor Drives

I15-3: Renewable Energy Systems

Date: November 30, 2022 (Meeting Room I Voyage)

Time: 16.00-18.00

Chair: Burin Yodwong

1	1570808795	SVPWM Strategy With Neutral Point Voltage Balance Capability for Electrolytic Capacitorless Vienna Rectifier	Jiarui Wang, Harbin Institute of Technology, China Dawei Ding, Harbin Institute of Technology, China Zhaobin Huang, GD Midea Air Conditioning Equipment Co., Ltd., China Bin Hu, GD Midea Air Conditioning Equipment Co., Ltd., China Tan Long, GD Midea Air Conditioning Equipment Co., Ltd., China Qiwei Wang, Harbin Institute of Technology, China Xiangjun Zhang, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
2	1570810818	Hardware-in-the-loop (HIL) Integrated Design Platform for High-frequency Controller Development of WBG Power Converters	Ravi Nath Tripathi, Kyoto University of Advanced Science, Japan	On-site
3	1570813971	Experimental Study on Heat Transfer Characteristics of Fully-immersed Evaporative Cooling IGBT	Yingke Wen, Chinese Academy of Sciences, China Lin Ruan, Chinese Academy of Sciences and University of Chinese Academy of Sciences, China	Online
4	1570815688	Drive Signal Switching based Discontinuous PWM for Suppression of Zero Sequence Circulating Current in Parallel Inverters	Jiaming Wu, Hunan University, China Kan Liu, Hunan University, China Shichao Zhou, Hunan University, China Kaiqing Li, Hunan University, China Shilin Tan, Hunan University, China Chao Huang, China Railway Rolling Stock Corporation, China	Online
5	1570815824	Traction Drive System using Adaptive Minimum Limit of DC-bus Voltage Control for Energy Efficiency Operation	LT.Siwakorn Kruttha, RTN, King Mongkut's University of Technology Thonburi, Thailand Tirasak Sapaklom, King Mongkut's University of Technology Thonburi, Thailand Ekkachai Mujjalinvimut, King Mongkut's University of Technology Thonburi, Thailand Mongkol Konghirun, King Mongkut's University of Technology Thonburi, Thailand	On-site
6	1570817807	Shoulder Position Estimation using Load Current Shape	Dong-Hee Lee, Kyungsoong University, Korea	On-site
7	1570816384	IoT Based I-V and P-V Curve Analyzer system for small PV panels PART I	T.Sapaklom, King Mongkut's University of Technology Thonburi, Thailand K.Janhom, King Mongkut's University of Technology Thonburi, Thailand C.Spirah, King Mongkut's University of Technology Thonburi, Thailand P.Kjtdamkean, King Mongkut's University of Technology Thonburi, Thailand P.Navaratana Na Ayudhya, King Mongkut's University of Technology Thonburi, Thailand E.Mujjalinvimut, King Mongkut's University of Technology Thonburi, Thailand J.Kunthong, King Mongkut's University of Technology Thonburi, Thailand	Online

I15-1: Renewable Energy Systems

Date: November 30, 2022 (Meeting Room III Expedition)

Time: 14.00-15.40				
Chair: Siriroj Sirisukprasert				
1	1570815658	A Novel PV Series Arc Fault Detection Algorithm with High Reliability from False Detection	Jae-Beom Ahn, Chung-Ang University, Republic of Korea Woo-Cheol Jeong, Chung-Ang University, Republic of Korea Min-Kyu Choi, Chung-Ang University, Republic of Korea Seung-Jae Jeong, Chung-Ang University, Republic of Korea Hong-Je Ryoo, Chung-Ang University, Republic of Korea	On-site
2	1570816187	Adaptive Feed-Forward Neural Network for Wind Power Delivery	Hiye Krishan Mudaliar, University of the South Pacific, Suva Adriano Fagiolini, University of Palermo, Italy Maurizio Cirrincione, University of the South Pacific, Suva Shyamal Shivneel Chand, University of the South Pacific, Suva Ravneel Prasad, University of the South Pacific, Suva Dhirendran Kumar, University of the South Pacific, Suva	Online
3	1570816342	A Prediction Method for Fuel Cell Degradation Based on CNN-LSTM Hybrid Model	Yufan Zhang, Northwestern Polytechnical University, China Yuren Li, Northwestern Polytechnical University, China Bo Liang, Northwestern Polytechnical University, China Rui Ma, Northwestern Polytechnical University, China	Online
4	1570819499	A Hybrid Deep Neural Network Model for Photovoltaic Generation Power Prediction	Chaeun Lee, Hanyang University, South Korea Daeung Jeong, Hanyang University, South Korea Yohan Jang, Hanyang University, South Korea Sungwoo Bae, Hanyang University, South Korea Jaeyoung Oh, Korea Conformity Laboratories, South Korea Seungbeom Lim, EON Co., Ltd, South Korea	On-site
5	1570822695	Fast Maximum-Power-Point-Tracking for Photovoltaic Systems Based on P-V2 Characteristic Curve and Its Stability Analysis	Monchai Ariyapuek, Chulalongkorn University, Thailand Surapong Suwankawin, Chulalongkorn University, Thailand Somboon Sangwongwanich, Chulalongkorn University, Thailand Ariya Sangwongwanich, Aalborg University, Denmark	On-site
I15-2: Renewable Energy Systems				
Date: December 1, 2022 (Meeting Room III Expedition)				
Time: 9.00-10.40				
Chair: Sompob Polmai				
1	1570798472	Cascaded H-Bridge Multilevel Inverter for Single Phase Grid-Connected PV System with Low Power on PV String	Chaiyant Boonmee, Rajamangala University of Technology Suvarnabhumi, Thailand Yuttana Kumsuwan, Chiang-Mai University, Thailand Napat Watjanatepin, Rajamangala University of Technology Suvarnabhumi, Thailand	On-site
2	1570816438	Study on Output Fluctuation of Hybrid Wind Power Plant Consisting of Dozens of Wind Generators Connected in Series	Fujio Tatsuta, Tokyo Denki University, Japan Ken-ichiro Yamashita, Salesian Polytechnic, Japan Hiroya Sugimoto, Tokyo Denki University, Japan Shoji Nishikata, Tokyo Denki University, Japan	Online
3	1570817510	Feasibility Analysis of AC and DC Hybrid Power Transmission over the Same Transmission Line	Yihe Shen, Shanghai Jiao Tong University, China Kai He, Shanghai Jiao Tong University, China Yuhan Gao, Chongqing Acoustic-optic-Electic Co.,Ltd. of China, China Weiding Zhang, Shanghai Jiao Tong University, China Xijun Yang, Shanghai Jiao Tong University, China	Online
4	1570822771	Two-Stage Optimal Active Power Control for PMSG-Based Wind Turbine Considering Frequency Secondary Drop	Long Zhang, Zhejiang University, China Dan Sun, Zhejiang University, China Heng Nian, Zhejiang University, China	Online
5	1570823373	Reliable Control Strategy and Power Switch Failure Analysis of a Three-level Interleaved Buck Converter for Electrolyzer Applications	Burin Yodwong, King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand and Université de Lorraine, France Suwat Sikkabut, King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand Damien Guilbert, Université de Lorraine, France Wattana Kaewmanee, King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand Mathepot Phattanasak, King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand Melika Hinaje, Université de Lorraine, France Gianpaolo Vitale, Italian National Research Council of Italy, Italy	On-site
I16: Batteries Modeling and Management Systems, Energy Storage Systems				
Date: December 1, 2022 (Meeting Room III Expedition)				
Time: 11.00-12.20				
Chair: Sompob Polmai				
1	1570806578	The Savitzky-Golay Filter Based Hammerstein Wiener Model for SOC Estimation	Youwei Yang, Qingdao University, China Dongqing Wang, Qingdao University, China	Online
2	1570807115	Optimal configuration of wind turbine hybrid energy storage based on wavelet packet-double fuzzy control	Caixue Chen, Xiangtan University, China Huixiang Lv, Xiangtan University, China Xutao Yang, Xiangtan University, China Yan Li, Xiangtan University, China	Online
3	1570814346	Thermal power-flywheel energy storage combined frequency modulation system participates in primary frequency modulation technology of power grid	Li Jie, Nanjing Institute of Technology, China Meng Gaojun, Nanjing Institute of Technology, China Ding Pengfei, Nanjing Institute of Technology, China Sun Yukun, Nanjing Institute of Technology, China Qian Congcong, Nanjing Institute of Technology, China Zhang Jing, Nanjing Institute of Technology, China	Online

4	1570816562	Control Strategy of Heterogeneous Network Base Station Energy Saving and Energy Storage Regulation Base on Genetic Algorithm	Gangwei Ding, Xiangtan University, China Lijuan Li, Xiangtan University, China Yue Li, Xiangtan University, China Lin Wang, Information and Communication Company of State Grid Xinjiang Electric Power CO., LTD, China Hai Liu, Xiangtan University, China	Online
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I17-1: Smart Grids, FACTS, and Microgrids

Date: December 1, 2022 (Meeting Room II Journey)

Time: 9.00-10.40

Chair: Burin Yodwong

1	1570803843	Optimal scheduling of regional integrated energy system based on cloud energy storage	Xinlong Li, Tianjin University, China Yingshu Liu, Tianjin University, China Yiwei Yan, Tianjin University, China	Online
2	1570804364	Research on Power Quality Feature Extraction and Traceability Based on Multi-Source Information	Fan Xiao, Tianjin University, China Xiangyu Kong, Tianjin University, China Yuce Sun, Tianjin University, China Lin Zheng, State Grid Smart Grid Research Institute Co., Ltd, China Junda Qin, State Grid Smart Grid Research Institute Co., Ltd, China	Online
3	1570805157	Multi-stage investment decision-making method of distribution network based on deep deterministic strategy gradient	Yuce Sun, Tianjin University, China Xiangyu Kong, Tianjin University, China Jingtao Yao, Tianjin University, China Lin Zheng, State Grid Smart Grid Research Institute Co., Ltd, China Junda Qin, State Grid Smart Grid Research Institute Co., Ltd, China Yajie Wang, State Grid Smart Grid Research Institute Co., Ltd, China	Online
4	1570805766	New Power Management of All-Electric Ships during Berthing	Nattapon Boonyapakdee, Kasetsart University Sriracha Campus, Thailand	Online
5	1570807045	Electricity Theft Detection and Classification Method based on D-S Feature Fusion and IALOSVM	Zhengtao Wang, Tianjin University, China Xiangyu Kong, Tianjin University, China Zhidian Yang, Tianjin University, China Fan Xiao, Tianjin University, China Xiaopeng Zhang, Tianjin University, China Yuying Ma, Tianjin University, China	Online

I17-2: Smart Grids, FACTS, and Microgrids

Date: December 1, 2022 (Meeting Room II Journey)

Time: 11.00-12.20

Chair: Siriroj Sirisukprasert

1	1570807180	Source-load Coordination Economic Dispatch of Hybrid Combined Cooling Heating and Power Microgrid Considering Wind Power Accommodation	Xu Zhao, Tianjin University, China Xiangyu Kong, Tianjin University, China Peirong Zhang, Tianjin University, China Qing Duan, China Electric Power Research Institute, China Guanglin Sha, China Electric Power Research Institute, China Lu Liu, China Electric Power Research Institute, China Haoqing Wang, China Electric Power Research Institute, China	Online
2	1570811731	Multi-level collaborative short-term load forecasting	Linggzi YI, Xiangtan university, China Jiang ZHU, Xiangtan university, China Jiangyong LIU, Xiangtan university, China Haoyi SUN, state Grid Liaoning Electric Power, China Bo LIU, Xiangtan university, China	Online
3	1570812256	Optimize the placement of measurement and remote control switch in distribution network to improve the network observability after network reconfiguration: A bilevel coordinated optimization approach	Yuce Sun, Tianjin University, China Xiangyu Kong, Tianjin University, China Zhidian Yang, Tianjin University, China Lin Zheng, State Grid Smart Grid Research Institute Co., Ltd, China Junda Qin, State Grid Smart Grid Research Institute Co., Ltd, China Yajie Wang, State Grid Smart Grid Research Institute Co., Ltd, China	Online
4	1570819817	A Machine-learning Based Energy Management System for Microgrids with Distributed Energy Resources and Storage	Remigio A. Iringan III, University of the Philippines Diliman, Philippines Alec Matthew S. Janer, University of the Philippines Diliman, Philippines Lew Andrew R. Tria, University of the Philippines Diliman, Philippines	Online

I17-3: Smart Grids, FACTS, and Microgrids

Date: December 1, 2022 (Meeting Room II Journey)

Time: 13.20-15.20

Chair: Siriroj Sirisukprasert

1	1570813216	Mathematical Model of DCMGs with PV arrays Feeding the Parallel Constant Power Loads	Koson Chaicharoenuadomrung, KMUTNB, Thailand. Jakkrit Pakdeeto, KMUTNB, Thailand. Kongpan Areerak, Suranaree University of Technology, Thailand. Kongpol Areerak, Suranaree University of Technology, Thailand.	Online
2	1570813539	A Method of Short-Term Load Prediction of Renewable Energy Power System Based on CNNLSTM	Zhiduan YANG, Key Laboratory of Smart Grid of Ministry of Education, China Xiangyu KONG, Key Laboratory of Smart Grid of Ministry of Education, China Ningping YUAN, College of Computer and Information (Inner Mongolia Medical University), China Xiufen LI, Inner Mongolia Electric Power Co., Ltd., China Zehao LI, Inner Mongolia Electric Power Co., Ltd., China Guoqing LI, Guodian Inner Mongolia New Energy Development Co., Ltd, China	Online

3	1570815111	Multi-Resonance Control and Phase Margin Compensation Method of Grid-Connected Inverter Based on Voltage and Current Feedforward	Jingwen Hou, Institute of Metallurgical Industry, China Chengsheng Wang, Institute of Metallurgical Industry, China Wei Duan, Beijing Aritime Intelligent Control Co.,LTD., China Zhiming Lan, Beijing Aritime Intelligent Control Co.,LTD., China Jun Jiang, Beijing Aritime Intelligent Control Co.,LTD., China Qiongtao Yang, Beijing Aritime Intelligent Control Co.,LTD., China	Online
4	1570815851	Stabilization of power system using improved virtual inertia of virtual synchronous generator	Aditap Pongdokmai, King Mongkut's Institute of Technology Ladkrabang, Thailand Sompob Polmai, King Mongkut's Institute of Technology Ladkrabang, Thailand	On-site
5	1570815991	Dynamic Aggregation Response Strategy of Adjustable Resources of Virtual Power Plants in Power Grid Balance Adjustment Scenario	Ning Wang, Tianjin University, China Xiangyu Kong, Tianjin University, China Guoqing Li, Guodian Co., Ltd, China Xiaofei Li, Guodian Co., Ltd, China Xiufen Li, Inner Mongolia Electric Power Co.,Ltd, China Zehao Li, Inner Mongolia Electric Power Co.,Ltd, China	Online
6	1570816610	Optimal Location and Sizing of Renewable Energy Power Generation in Peer-to-Peer Microgrid System based on Minimized Power Loss	Saksit Deeum, Rajamangala University of Technology Thanyaburi (RMUTT), Thailand Natin Janjamraj, Rajamangala University of Technology Thanyaburi (RMUTT), Thailand Sillawat Romphochai, Rajamangala University of Technology Thanyaburi (RMUTT), Thailand Krischonme Bhumkittipich, Rajamangala University of Technology Thanyaburi (RMUTT), Thailand	On-site

I18: Hybrid/Electric Vehicles and Electric Propulsion Systems

S26: Special Session: Latest Research Issues on Autonomous Train Control Technology

Date: December 1, 2022 (Meeting Room V Excursion)

Time: 9.00-10.40

Chair: Damrong Amorndechaphon

1	1570815691	A Study on Operation Characteristics According to Rib Thickness for Each Layer of Double V-type IPMSM	Cheol-Min Kim, Hanbat National University, Republic of Korea Hui-Seong Shin, Hanbat National University, Republic of Korea Chung-Hui Lee, Hanbat National University, Republic of Korea Ki-Chan Kim, Hanbat National University, Republic of Korea	On-site
2	1570816337	Impact of Irreversible Demagnetization on Electromagnetic Noise and Vibrations of Electric Vehicle Traction Motors on Wide Speed Range Operation	Thanh-Anh Huynh, National Cheng Kung University, Taiwan Min-Fu Hsieh, National Cheng Kung University, Taiwan	Online
3	1570816609	Comparison of PMSM and Inverter Efficiency for Dual Three-Phase High Performance Powertrains Including Low Order Harmonics and Voltage Modulation	Leonard Mengoni, Dr. Ing. h.c. F. Porsche AG, Germany Sven Hochemer, Dr. Ing. h.c. F. Porsche AG, Germany Benjamin Wrzeczionko, Dr. Ing. h.c. F. Porsche AG, Germany Jorn Mayer, Dr. Ing. h.c. F. Porsche AG, Germany Martin Fuchtnner, Dr. Ing. h.c. F. Porsche AG, Germany Rik W. De Doncker, Institute for Power Electronics and Electrical Drives, Germany	Online
4	1570815035	Reconfigurable Model Predictive Control for Virtual Track Train Path-Tracking Considering Hinge Force	Zehan Wang, Tongji University, China Zhenggang Lu, Tongji University, China	Online
5	1570816345	Combination Options of Metro Rail Transit Timetable Optimization for Energy and Cost Utilization	Thunyawara Anadngm, Sophia University, Japan Masafumi Miyatake, Sophia University, Japan	On-site

I19: AI Convergence Technology for Electric Machine and Drive

S28-2: Special Session: Condition Monitoring in Power Electronics and Electrical Machines

Date: November 30, 2022 (Meeting Room IV Passage)

Time: 16.00-18.00

Chair: Pracha Khamphakdi and Gilsu Choi

1	1570806536	Design Optimization of Traction Motors using a Quasi-Monte Carlo-based Two-Step Method	Mingyu Choi, Inha University, Republic of Korea and Johannes Kepler University Linz, Austria Gilsu Choi, Inha University, Republic of Korea Gerd Bramerdorfer, Johannes Kepler University Linz, Austria	On-site
2	1570806706	Electric Machine Two-dimensional Flux Map Prediction with Ensemble Learning	AKM Khaled Ahsan Talukder, Mitsubishi Electric Research Laboratories, USA and Michigan State University, USA Bingnan Wang, Mitsubishi Electric Research Laboratories, USA Yusuke Sakamoto, Mitsubishi Electric Corporation, Japan	Online
3	1570816256	A LSTM-based Neural Strategy for Diagnosis of Stator Inter-turn Faults with Low Severity Level for Induction Motors	Krish Kumar Raj, The University of the South Pacific, Fiji Sukhde Joshi, The University of the South Pacific, Fiji Rahul Kumar, The University of the South Pacific, Fiji	Online
4	1570818222	DC bus regulation of modular converter by a cascaded controller	Mohammad Afkar, Shahid Beheshti University, Iran Parham Karimi, Shahid Beheshti University, Iran Roghayeh Gavagsaz-Ghoachani, Shahid Beheshti University, Iran Matheepot Phattanasak, King Mongkut's University of Technology North Bangkok, Thailand Serge Pierfederici, Université de Lorraine, France	Online
5	1570816684	Stator Inter-Turn Fault Diagnosis in Inverter-Fed Permanent Magnet Synchronous Machines Using High-Frequency Voltage Injection	Xinyi Yu, RWTH Aachen University, Germany Duc Pham, RWTH Aachen University, Germany Xinglin Li, RWTH Aachen University, Germany Rik W. De Doncker, RWTH Aachen University, Germany	On-site

6	1570824181	Real Time Estimation of ESR and Capacitance in the DC-Link Capacitors of AC Machine Drives	Thanakorn Chaiyakhot, Electrical engineering Faculty of Engineering, Thailand Pracha Khamphakdi, Electrical engineering Faculty of Engineering, Thailand Padung Kitsawang, Electrical engineering Faculty of Engineering, Thailand Akkarapon Photong, Electrical engineering Faculty of Engineering, Thailand Piyawat Khotprom, Electrical engineering Faculty of Engineering, Thailand	On-site
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I20-2: Wireless Power Transfer System and Application

Date: December 1, 2022 (Meeting Room V Excursion)

Time: 13.20-15.20

Chair: Nithiphat Teerakawanich

1	1570815807	Dynamic process of power supply mode switching applied to inductive coupled WPT	Wenjing Tang, Chinese Academy of Sciences, China and University of Chinese Academy of Sciences, China Limingi Shi, Chinese Academy of Sciences, China Zhenggang Yin, Chinese Academy of Sciences, China Jixin Yang, Chinese Academy of Sciences, China and University of Chinese Academy of Sciences, China	Online
2	1570808816	A Wireless Induction Heating Rice Cooker With SCCC Compensation Network	Zhenghuai Xia, Kunming University of Science and Technology, China Jinming Wan, Gree Electric Appliances, Inc. of Zhuhai, China Zhihui Wang, Gree Electric Appliances, Inc. of Zhuhai, China Jinneng Li, Gree Electric Appliances, Inc. of Zhuhai, China Lei Wu, Kunming University of Science and Technology, China Shishun Wang, Kunming University of Science and Technology, China	Online
3	1570815793	Mutual Inductance Identification based Constant Voltage Control for LC-L Wireless Power Transmission Systems	Pengfei Sang, Hunan University, China Kan Liu, Hunan University, China Baihui Gong, Hunan University, China Yue Zhang, Hunan University, China Dinghua Zhang, China Railway Rolling Stock Corporation, China Chao Huang, China Railway Rolling Stock Corporation, China	Online
4	1570822972	Design Guidelines to Allow Bifurcation Operation of Wireless Battery Charger with Primary Side Controller	Nattapong Hatchavanich, King Mongkut's University of Technology Thonburi, Thailand Mongkol Konghirun, King Mongkut's University of Technology Thonburi, Thailand Anawach Sangswang, King Mongkut's University of Technology Thonburi, Thailand Supapong Nutwong, King Mongkut's University of Technology Thonburi, Thailand	Online
5	1570824748	A Comparison of Transmitter Connection for Dynamic Inductive Power Transfer Application	Kasan Sukvanachaikul, King Mongkut's University of Technology Thonburi, Thailand Nattapong Hatchavanich, King Mongkut's University of Technology Thonburi, Thailand Sumate Naetiladdanon, King Mongkut's University of Technology Thonburi, Thailand Anawach Sangswang, King Mongkut's University of Technology Thonburi, Thailand Ekkachai Mujjalinvimut, King Mongkut's University of Technology Thonburi, Thailand	Online

I21: Other Areas in Energy Systems and E-Mobility

S25: Special Session: Electric Vehicle Conversion

Date: December 1, 2022 (Meeting Room III Expedition)

Time: 13.20-15.20

Chair: Burin Kerdsup

1	1570807049	Siting and Capacity Planning Method for Electric Vehicle Charging Station Based on Chaotic Simulated Annealing Particle Swarm Optimization	Shangze LI, Tianjin University, China Xiangyu KONG, Tianjin University, China Bixuan GAO, Tianjin University, China Ziyu LIU, Tianjin University, China Yu SHEN, State Grid Hubei Electric Power Research Institute, China Wei HU, State Grid Hubei Electric Power Research Institute, China	Online
2	1570807056	Optimal Operation of Carbon Capture Power Plants Considering Carbon Trading under Low Carbon Economy	Ziyu LIU, Tianjin University, China Xiangyu KONG, Tianjin University, China Shangze LI, Tianjin University, China Bixuan GAO, Tianjin University, China Yi GAO, State Grid Tianjin Electric Power Company, China Yang WANG, State Grid Tianjin Electric Power Company, China	Online
3	1570819271	Research on path planning of electric tractor based on improved ant colony algorithm	Liang Chuandong, Shihezi University, China Lu Min, Shihezi University, China	Online
4	1570815299	Torque-Current Lookup Table Establishment Method for PMSM Considering Parameter Nonlinear Characteristics	Benkang Tan, Zhejiang University, China Hongyun Chen, Zhejiang University, China Xinmin Li, Tiangong University, China Xin Gu, Tiangong University, China Yan Yan, Zhejiang University, China Tingna Shi, Zhejiang University, China	Online
5	1570819516	Comparative Design between Induction Motor and Synchronous Reluctance Motor used for Electric Vehicle Conversion	Burin Kerdsup, National Electronics and Computer Technology Center, Thailand Manop Masomtob, National Energy Technology Center, Thailand	On-site

6	1570824118	Wide-Speed-Range Performance of IPMSM with Variation of Saliency Considering Saturation for Electric Vehicle Application	Weili Li, Beijing Jiaotong University, China Baowang Huang, Beijing Jiaotong University, China Jun Di, Beijing Jiaotong University, China Liangliang Zhang, Jing-Jin Electric Technologies Co., Ltd, China	Online
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S22-1: Special Session: Electrical Machines for More/All Electric Aircraft

Date: November 30, 2022 (Convention II)

Time: 16.00-18.00

Chair: Satit Owatthaiphong

1	1570805413	Design and Fabrication of Dual-Rotor Motors with Axially Extended Stator for Electrified Aircraft Propulsion	Naoya Jike, Mitsubishi Electric Corporation, Japan Hiroshi Mitsuda, Mitsubishi Electric Corporation, Japan Tetsuya Kojima, Mitsubishi Electric Corporation, Japan	Online
2	1570814141	The Influence of Oriented Silicon Steel on Permanent Magnet Synchronous Motor	Ji Pang, Xi'an University of Posts and Telecommunications, China Zhan Jin, Xi'an University of Posts and Telecommunications, China Kehao Jin, Xi'an University of Posts and Telecommunications, China Feihang Zhou, Xi'an University of Posts and Telecommunications, China Yanjing Hu, University of the Armed Police Force, China	Online
3	1570814828	A Compound Control Strategy of Torque Ripple Reduction for BLDC motor	Yongming Qiao, Xinxiang Aviation Industry Co., Ltd, China Chao Zhang, Northwestern Polytechnical University, China Jinlin Liu, Northwestern Polytechnical University, China	Online
4	1570815255	Design and Comparison of two Axial Flux Motors for Electric Aircraft	Xuejing Bian, Harbin institute of technology, China Mei Zhao, Harbin institute of technology, China Tong Yao, Harbin institute of technology, China Huaqiang Zhang, Harbin institute of technology, China Yongxiang Xu, Harbin institute of technology, China	Online
5	1570815977	Electromagnetic Loss Analysis for Aircraft WoundRotor Synchronous Starter-Generator in Both Starting and Generation Modes	Pu Yao, Northwestern Polytechnical University, China Ningfei Jiao, Northwestern Polytechnical University, China Xu Han, Northwestern Polytechnical University, China Zijie Li, Northwestern Polytechnical University, China Weiguo Liu, Northwestern Polytechnical University, China	Online
6	1570816302	Power Regulation and Efficiency Optimization of Switched Reluctance Generator for More Electric Aircraft	Zizhen Fan, Northwestern Polytechnical University, China Lefei Ge, Northwestern Polytechnical University, China Jiale Huang, Northwestern Polytechnical University, China Shoujun Song, Northwestern Polytechnical University, China	Online

S22-2: Special Session: Electrical Machines for More/All Electric Aircraft

Date: December 1, 2022 (Convention II)

Time: 9.00-10.40

Chair: Kongpan Areerak (Online)

1	1570806572	A Robust Control Method for Non-isolated Three Port Converter in Fuel Cell Hybrid System	Yuntong Li, Northwestern Polytechnical University, China Yuren Li, Northwestern Polytechnical University, China Jian Song, Northwestern Polytechnical University, China Liangbo Tian, Northwestern Polytechnical University, China Bo Liang, Northwestern Polytechnical University, China Hongyu Zhang, Northwestern Polytechnical University, China	Online
2	1570806573	Design of AC Excitation Variable Speed Constant Frequency Power Generation System	Zexuan Zuo, COMAC Shanghai Aircraft Design and Research Institute, China Zhandong Xue, COMAC Shanghai Aircraft Design and Research Institute, China Liangbo Tian, Northwestern Polytechnical University, China	Online
3	1570806608	Composite Control of All-Electric Braking System with Electromechanical Actuator Redundancy Based on Enhanced NESO	Yiyun Zhao, Northwestern Polytechnical University, China Hui Lin, Northwestern Polytechnical University, China Peilin Gao, Beijing Institute of Space Launch Technology, China	Online
4	1570806820	AC Copper Loss Analysis and Optimization of DC Field Winding for High-Speed Doubly Salient Brushless DC Generator	Xiqing Zhu, Nanjing University of Aeronautics and Astronautics, China Jian Zhang, Nanjing University of Aeronautics and Astronautics, China Zhuoran Zhang, Nanjing University of Aeronautics and Astronautics, China	Online
5	1570816334	SMO-based Sensorless Control of Switched Reluctance Machines with Closed-loop Flux-linkage Observer	Lefei Ge, Northwestern Polytechnical University, China Dongpeng Zhang, Northwestern Polytechnical University, China Jiale Huang, Northwestern Polytechnical University, China Shoujun Song, Northwestern Polytechnical University, China	Online

S27: Special Session: Railway Electrification and Electric Traction Systems

S33-2: Special Session: Latest Research Issues on Power Electronics Technology in New Energy

Date: November 30, 2022 (Meeting Room V Excursion)

Time: 16:00-18:00

Chair: Nithiphat Teerakawanich

1	1570815440	Multi-Objective Optimization Based Feedback Gains Design of Adaptive Full-Order Observer for Induction Motor Sensorless Drive	Ruhan Li, Huazhong University of Science and Technology, China Cheng Luo, Huazhong University of Science and Technology, China Kai Yang, Huazhong University of Science and Technology, China Yifei Zheng, Huazhong University of Science and Technology, China Zhijie Xu, Huazhong University of Science and Technology, China	Online
2	1570808598	Optimized Operating Point Trajectory for Low Frequency Ride-Through with a gradient descent method in Speed-Sensorless Induction Motor Drives	Cheng Luo, Huazhong University of Science and Technology, China Ruhan Li, Huazhong University of Science and Technology, China Kai Yang, Huazhong University of Science and Technology, China Yifei Zheng, Huazhong University of Science and Technology, China Yuhao Huang, Huazhong University of Science and Technology, China Yixiao Luo, Huazhong University of Science and Technology, China	Online

3	1570805566	An Approach to Suppress Low-Frequency Oscillation with CHB-STATCOM based on improved sliding mode control in Vehicle-Grid System	Binhua Yang, Tianjin University, China Chaoying Xia, Tianjin University, China Jiali Yu, Tianjin University of Science and Technology, China	Online
4	1570816539	A Harmonic Voltage Elimination in Electric Railway System Using Series Active Power Filter	Chakrit Panpean, Rajamangala University of Technology Isan, Thailand Kongpol Areerak, Suranaree University of Technology, Thailand Phonsit Santiprapan, Prince of Songkla University, Thailand	Online
5	1570806506	Research on Coordinated Control Strategy of Negative Sequence Current Compensation for Traction Power Supply System Under Unbalanced AC Grid	Pei Luo, Xiangtan University, China Rijie Luo, Xiangtan University, China Zhijun Yang, Xiangtan University, China Qian Guo, Xiangtan University, China Zhenyu Lei, Xiangtan University, China Yanyun Yao, Xiangtan University, China	Online
6	1570823011	Development of an Energetic System Model for Long-Tail Electric Boat combining Solar Panels and a Prototype of E-Engine	D. Pham Hung, Hanoi University of Science and Technology, Vietnam V. Tran Tuan, Hanoi University of Science and Technology, Vietnam S. Kreuawan, Real BPM Co., Ltd., Thailand S. Udomkaew, King Mongkut's University of Technology, Thailand M. Phattanasak, King Mongkut's University of Technology, Thailand Q. Nguyen Duc, Electric Power University, Vietnam	Online
7	1570823082	Optimal Scheduling Of Energy Storage System For Electrified Railroad Under Carbon Trading Mechanism	Qian Ma, Xiangtan University, China Zhenyu Lei, Xiangtan University, China Qian Guo, Xiangtan University, China Zhijun Yang, Xiangtan University, China Rijie Luo, Xiangtan University, China Yanyun Yao, Xiangtan University, China	Online

S28-1: Special Session: Condition Monitoring in Power Electronics and Electrical Machines

Date: November 30, 2022 (Meeting Room IV Passage)

Time: 14.00-15.40

Chair: Pracha Khamphakdi

1	1570806687	Induction Motor Eccentricity Fault Analysis and Quantification with Modified Winding Function based Model	Bingnan Wang, Mitsubishi Electric Research Laboratories, USA Mesaad W. Albader, Mitsubishi Electric Research Laboratories and Texas A&M University, USA Hiroshi Inoue, Mitsubishi Electric Corporation, Japan Makoto Kanemaru, Mitsubishi Electric Corporation, Japan	Online
2	1570806807	Evaluation of different approaches to measure partial discharge characteristics within electric motor insulation	Thomas Hammarstroem, Chalmers University of Technology, Sweden	Online
3	1570814344	Design of Experimental Platform for Motor Fault Diagnosis Based on Embedded System and Shallow Neural Network	Xiaoyuan Wang, Tianjin University, China Xin Wang, Tianjin University, China Qiheng Chen, Tianjin University of Technology, China Xiang Zhang, Tianjin University of Technology, China	Online
4	1570814345	Motor Fault Diagnosis Under Variable Working Conditions Based on Two-Dimensional Time Series and Transfer Learning	Xiaoyuan Wang, Tianjin University, China Xin Wang, Tianjin University, China Xiang Zhang, Tianjin University of Technology, China Qiheng Chen, Tianjin University of Technology, China	Online
5	1570816547	Start-up monitoring of direct-on-line starting high-power synchronous machines with a real-time thermal model	Matthias Centner, Berliner Hochschule für Technik, Germany Thorsten Getschmann, Siemens AG, Germany Jeff Kugener, German Aerospace Center, Germany	Online

S29-1: Special Session: Advanced Control Strategy for Permanent Magnet Motor Drives

Date: December 1, 2022 (Meeting Room II Journey (24p))

Time: 15:40-18:20

Chair: Burin Yodwong

1	1570807832	Simultaneous MTPA and Sensorless Control Strategy for IPMSM Drives Based on High-Frequency Signal Injection	Ben Niu, Harbin Institute of Technology, China Guoqiang Zhang, Harbin Institute of Technology, China Sichun Wang, Harbin Institute of Technology, China Lianghong Zhu, Harbin Institute of Technology, China and GD Midea Air Conditioning Equipment Co., Ltd., China Nannan Zhao, Harbin Institute of Technology, China Junya Huo, Harbin Institute of Technology, China and GD Midea Air Conditioning Equipment Co., Ltd., China Hua Yang, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
2	1570811818	Sensorless Control Using Model Reference Adaptive System Based on Power Balance Model for High-speed Permanent Magnet Synchronous Motor	Yazhi Cui, Zhejiang University, China Min Wu, Zhejiang University, China Xiaoyan Huang, Zhejiang University, China	Online
3	1570813953	A Novel method of Phase current reconstruction with single DC-Link current sensor for Tri-phase Full Bridge Inverter	Xin Liu, Northwest Polytechnic University, China Chunqiang Liu, Northwest Polytechnic University, China Zeliang Zhang, York University, UK Yin Li, Northwest Polytechnic University, China Guangzhao Luo, Northwest Polytechnic University, China	Online
4	1570824380	Direct Speed Regulation for PMSM Drive System Via a Generalized Dynamic Predictive Control Approach	Zhongkun Cao, Shanghai University of Electric Power, China Jianliang Mao, Shanghai University of Electric Power, China Xin Dong, Shanghai University of Electric Power, China Chuanlin Zhang, Shanghai University of Electric Power, China	Online
5	1570815672	Intelligent Fault Diagnosis Method of Motor Gear Based on Transfer Learning Under Variable Working Conditions	Peien Luo, Xi'an University of Technology, China Zhonggang Yin, Xi'an University of Technology, China Yangyang Cui, Xi'an University of Technology, China Yangqing Zhang, Xi'an University of Technology, China	Online

6	1570806063	Fault Tolerant Control Method for Half Centralized Open End Winding Permanent Magnet Linear Motor Drive Systems with Open Phase Fault	Weijie Tian, Southeast University, China Wei Wang, Southeast University, China Chao Wei, Southeast University, China Ming Cheng, Southeast University, China	Online
7	1570819162	Resonance Identification Method for Non-Contact Integrated PMVM Using BP Neural Network	Junlei Chen, Southeast University, China Ying Fan, Southeast University, China	Online
8	1570806605	Online Multi-Parameter Identification of PMSM Based on High Frequency Equivalent Impedance Model	Xin Xiong, Harbin Institute of Technology, China Qiwei Wang, Harbin Institute of Technology, China Shaobo Liu, Harbin Institute of Technology, China Dawei Ding, Harbin Institute of Technology, China Guoqiang Zhang, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online

S30: Special Session: Advanced Sensorless Drive for AC Motors

S32: Special Session: Advanced Control for Reluctance Machine Drives

Date: December 1, 2022 (Meeting Room I Voyage (24p))

Time: 13:20-15:20

Chair: Nathabhat Phankong

1	1570815946	Benefits of Cut-Off Barriers in Synchronous Reluctance Motors, Multi-Objective Comparison Based on Wide Design-Space Exploration	Christophe De Greef, Universit�e catholique de Louvain (UCLouvain), Belgium Joachim Van Verdeghe, Universit�e catholique de Louvain (UCLouvain), Belgium Virginie Kluyskens, Universit�e catholique de Louvain (UCLouvain), Belgium Bruno Dehez, Universit�e catholique de Louvain (UCLouvain), Belgium	On-site
2	1570816406	A Novel Performance Enhancement Process for Single-pulse Controlled Switched Reluctance Generators	Lefei Ge, Northwestern Polytechnical University, China Zizhen Fan, Northwestern Polytechnical University, China Jiale Huang, Northwestern Polytechnical University, China Shoujun Song, Northwestern Polytechnical University, China	Online
3	1570816387	Sensorless Control of Switched Reluctance Machines Based on Adaptive Sliding Mode Observer	Lefei Ge, Northwestern Polytechnical University, China Jiale Huang, Northwestern Polytechnical University, China Dongpeng Zhang, Northwestern Polytechnical University, China Shoujun Song, Northwestern Polytechnical University, China	Online
4	1570806597	Online Inductance Identification of PMSM Based on High Frequency Signal Injection into Virtual Axis	Guancheng Pan, Harbin Institute of Technology, China Qiwei Wang, Harbin Institute of Technology, China Kaiji Zhang, Harbin Institute of Technology, China Shaobo Liu, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
5	1570814284	Finite Position Set-Based Fast Position Estimation Method for High-Speed Permanent Magnet Synchronous Motor	Mengting Ye, Zhejiang University, China Chen Li, Zhejiang University, China Zhanqing Zhou, Tiangong University, China Zhiqiang Wang, Tiangong University, China Yan Yan, Zhejiang University, China Tingna Shi, Zhejiang University, China	Online
6	1570815743	Dynamic Position Estimation Improvement for Sensorless Control of PMSM With ADRC-DPLL Embedded in Current Controller	Zhe Chen, Northwestern Polytechnical University, China Chaomin Xiao, Northwestern Polytechnical University, China Xuxuan Zhang, Northwestern Polytechnical University, China Chunqiang Liu, Northwestern Polytechnical University, China Guangzhao Luo, Northwestern Polytechnical University, China	Online

S31-1: Special Session: Advanced Electric Machines and Drives for Transportation Electrification

Date: December 1, 2022 (Meeting Room III Expedition (24p))

Time: 15:40-18:20

Chair: Paiwan Kerdtuad

1	1570819864	Design and study of effect of magnetic flux-barriers on a high-pole Permanent Magnet Synchronous Machine	Sukanya Kamboj, University of Bundeswehr, Germany Johannes Gerold, FEAAM GmbH, Germany Dieter Gerling, University of Bundeswehr, Germany	On-site
2	1570814699	Impact of the Magnet Span on the Forces of Electrodynamic Suspensions with an Alternate Permanent Magnet Arrangement	Louis Beauloye, Universit�e catholique de Louvain (UCLouvain), Belgium Bruno Dehez, Universit�e catholique de Louvain (UCLouvain), Belgium	Online
3	1570815940	An Inertia Identification Method Based on Adaptive Linear Disturbance Torque Observer for PMSM Drives	Yuanming Huang, Harbin Institute of Technology, China Hua Yang, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Guoqiang Zhang, Harbin Institute of Technology, China Guangdong Bi, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
4	1570815865	Torque Ripple Suppression method of Doubly Salient Electro-Magnetic Machine Based on Direct Instantaneous Torque Control	Chuntao Zhu, Nanjing University of Aeronautics and Astronautics, China Huizhen Wang, Nanjing University of Aeronautics and Astronautics, China Weifeng Liu, Nanjing University of Aeronautics and Astronautics, China Haowei Li, Nanjing University of Aeronautics and Astronautics, China Zhifei Xiao, Nanjing University of Aeronautics and Astronautics, China	Online
5	1570814768	Position Estimation Error Correction Strategy Based on Dual-Gap Dual-Pole Composite Machine	Shengming Yang, Qingdao University, China Helong Wang, Qingdao Haier Smart Technology R&D Co., Ltd., China Ronggang Ni, Qingdao University, China	Online

6	1570807130	Position Error Suppression Method for SynRM Drives Based on Reduced-Order Flux Observer	Ziyuan Wang, Harbin Institute of Technology, China Yang Hua, Harbin Institute of Technology, China Guoqiang Zhang, Harbin Institute of Technology, China Runhua Xiang, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
7	1570821955	Pseudo-Random-Phase High-Frequency Square-Wave Voltage Signal Injection Based Sensorless Control for PMSM Drives	Lianghong Zhu, Harbin Institute of Technology, China and GD Midea Air Conditioning Equipment Co., Ltd., China Binxing Li, Harbin Institute of Technology, China Guoqiang Zhang, Harbin Institute of Technology, China Guangdong Bi, Harbin Institute of Technology, China Gaolin Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
8	1570815471	Error Current Compensation Method for Speed-Sensorless Induction Motor Drives near Zero Synchronous Frequency	Ruhan Li, Huazhong University of Science and Technology, China Cheng Luo, Huazhong University of Science and Technology, China Kai Yang, Huazhong University of Science and Technology, China Zhijie Xu, Huazhong University of Science and Technology, China Yifei Zheng, Huazhong University of Science and Technology, China	Online

S33-1: Special Session: Latest Research Issues on Power Electronics Technology in New Energy

Date: November 30, 2022 (Meeting Room V Excursion)

Time: 14:00-15:40

Chair: Nithiphat Teerakawanich

1	1570815024	Effects of VSI on the Correlation between System Stability and Output Active Power of Wind Farms in Weak Grid	Xiangyu Li, Wenzhou University, China Zhengjiang Zhang, Wenzhou University, China Zhihui Hong, Wenzhou University, China Jiabao Kou, Wenzhou University, China Dongyang Li, Wenzhou University, China Qijin Xu, Wenzhou University, China	Online
2	1570816459	Voltage Fluctuation and Flicker Suppression Strategy of DFIG Based on Resonant Regulator	Haoran Jiao, Zhejiang University, China Guodong Xu, Zhejiang Yunda Wind Power Co., Ltd., China Yong Sun, Zhejiang Yunda Wind Power Co., Ltd., China Jing Yang, Zhejiang Yunda Wind Power Co., Ltd., China Shuhan Zhang, Zhejiang Yunda Wind Power Co., Ltd., China Heng Nian, Zhejiang University, China	Online
3	1570815951	Improved Sensorless Control Strategy of High-Power Synchronous Motor for Pumped Storage Power Station	Jiabao Kou, Wenzhou University, China Fengrui Yang, Wenzhou University, China Fengyi Guo, Wenzhou University, China Xiangyu Li, Wenzhou University, China Qijin Xu, Zhejiang Quality Inspection Center of High and Low-voltage Electrical Products, China	Online
4	1570815462	A Novel Switching Sequence Design for Integrated Modulation of Parallel NPC Inverters with Reduced Circulating Current	Weiwei LI, Wuxi University, China Xiao YANG, Nanjing University of Information Science and Technology, China Chunping GUO, Wuxi University, China Guoxiang HUA, Wuxi University, China Xuejian GE, Wuxi University, China	Online
5	1570814381	Torque Ripple Suppression of Permanent Magnet Synchronous Motor Based on Improved Active Disturbance Rejection Controller	Lingfeng Qiu, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY, China Kai Yang, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY, China Yixiao Luo, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY, China Fan Yang, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY, China Zhijie Xu, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY, China Yifei Zheng, HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY, China	Online

S34: Special Session: Advanced Technologies on High Efficiency and High Power Density Converters

Date: December 1, 2022 (Convention III (132p))

Time: 09:00-10:40

Chair: Nisai Fuengwarodsakul

1	1570815715	Design and Optimal Control of a Two-Stage Efficient and High PF AC-DC Converter for High-Power Density Industrial Applications	Ahmed H. Okilly, Koreatech University, Korea and Assiut University, Egypt Jonghyuk Lee, Koreatech University, Korea Donghan Yun, Koreatech University, Korea Jeihoon Baek, Koreatech University, Korea	On-site
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2	1570822915	A Wide Bandgap Three-level Buck Converter with Power Balance Control Technique for High Power Density Applications — Design and Simulation	Jedsada Yodwong, mu Space and Advanced Technology Company Limited, Thailand Uthen Kamnarn, RMUTL, Thailand Charnyut Karnjanapiboon, RMUTL, Thailand Teeruch Janjongcam, RMUTL, Thailand Suchart Janjornmanit, RMUTL, Thailand Samart Yachiangkam, RMUTL, Thailand Anon Namin, RMUTL, Thailand Pakawadee Wutthiwai, RMUTL, Thailand Ekkachai Chaidee, RMUTL, Thailand Thanet Sriprom, RMUTL, Thailand Krit Ratchapum, RMUTL, Thailand Wuttikai Tammawan, RMUTL, Thailand Suparak Srita, RMUTL, Thailand Surasak Yousawat, RMUTL, Thailand Pratch Piyawongwisal, Rajamangala University of Technology Lanna, Thailand Noureddine Takorabet, Université de Lorraine, France Phatiphat Thounthong, King Mongkut's University of Technology North Bangkok, Thailand	On-site
3	1570815233	Design of Class $\Phi 2$ inverter based on piezoelectric resonators	Yi Cheng, Harbin Institute of Technology, China Yueshi Guan, Harbin Institute of Technology, China Chang Liu, Harbin Institute of Technology, China Yijie Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
4	1570815234	A Single-stage LLC Resonant GaN-based DC-DC Converter with Switched Capacitor	Xiaozhi Xu, Harbin Institute of Technology, China Yueshi Guan, Harbin Institute of Technology, China Yijie Wang, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
5	1570822102	A Mode-switching-based Method to Improve Misalignment Tolerance of WPT Systems	Jinwu Sun, Harbin Institute of Technology, China Yijie Wang, Harbin Institute of Technology, China Zhan Sun, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online

S35: Special Session: Advanced Topologies, Materials, and Control for Permanent-Magnet Machines

Date: November 30, 2022 (Convention III (132p))

Time: 16:00-18:00

Chair: Theeraphong Srichiangsa

1	1570812420	Comparative Study of Stator-PM and Dual-PM Consequent-Pole Hybrid Excited Flux-Reversal Machines	Fangrui Wei, University of Sheffield, U.K Z.Q. Zhu, University of Sheffield, U.K Yinzhaoh Zheng, University of Sheffield, U.K Hai Xu, University of Sheffield, U.K	Online
2	1570815270	Improved MRAS Parameter Identification Method for PMSM Based on Permanent Magnet Flux Linkage Free Model	Shengqi Zhao, Zhejiang University, China Xiaoyan Huang, Zhejiang University, China Qichao Hu, Zhejiang University, China Zhaokai Li, Zhejiang University, China	Online
3	1570816431	A Novel Rotor Re-Construction Method for Improving the Electromagnetic Performance of the Interior PMSM	Xiaoyu Liang, Harbin Institute of Technology, China Faliang Liu, Harbin Institute of Technology, China Wanquan Li, Harbin Institute of Technology, China Mingqiao Wang, Harbin Institute of Technology, China Ping Zheng, Harbin Institute of Technology, China Zhongli Gu, Guangdong Fans-tech Agro Co., Ltd, China	Online
4	1570816777	Investigation of Permanent Magnet Segmentations and Gaps in 2-Pole High-Speed Permanent Magnet Motor with Toroidal winding	F. Xu, The University of Sheffield, UK T. R. He, The University of Sheffield, UK Z. Q. Zhu, The University of Sheffield, UK D. W. Liang, The University of Sheffield, UK H. Bin, Motors and Drives Center Midea Group Corporate Research Center, China D. Wu, Motors and Drives Center Midea Group Corporate Research Center, China L. M. Gong, Motors and Drives Center Midea Group Corporate Research Center, China J. T. Chen, Motors and Drives Center Midea Group Corporate Research Center, China	Online
5	1570815186	A Novel Magnetization State Control Method Utilizing Torque Deviation for Variable Flux Memory Motor	Yan Jia, University of Sheffield, UK Z.Q. Zhu, University of Sheffield, UK Lei Xu, University of Sheffield, UK Jianghua Feng, CRRC Zhuzhou Institute Co., Ltd., China Shuying Guo, CRRC Zhuzhou Institute Co., Ltd., China Yifeng Li, CRRC Zhuzhou Institute Co., Ltd., China Liang Hu, CRRC Zhuzhou Institute Co., Ltd., China	Online

6	1570819615	Based on the comparative analysis of the length of the air gap length of the finite element simulation permanent magnet synchronous motor	Guodong Zhang, Qilu University of Technology (Shandong Academy of Sciences), China Ningran Song, Qilu University of Technology (Shandong Academy of Sciences), China Guangxu Zhou, Qilu University of Technology (Shandong Academy of Sciences), China Mengmei Zhu, Qilu University of Technology (Shandong Academy of Sciences), China Lei Guo, Qilu University of Technology (Shandong Academy of Sciences), China Hongyang Li, Qilu University of Technology (Shandong Academy of Sciences), China	Online
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I1-7: Permanent Magnet Motors and Generators

Date: December 2, 2022 (Ballroom I)

Time: 9.00-10.40

Chair: Mongkol Konghirun and Wataru Kitagawa

1	1570806055	Torque Ripple Suppression of Model Predictive Torque Control for Nine-Phase Permanent Magnet Synchronous Motor Drives	Xiaolin Song, Qingdao University, China Xinzheng Wu, Qingdao University, China Haifeng Wang, Qingdao University, China	Online
2	1570819208	Study of the Winding Configuration in Linear Permanent Magnet Vernier Motors	Kazuhiro Moei, Shibaura Institute of Technology, Japan Shoji Shimomura, Shibaura Institute of Technology, Japan	On-site
3	1570824170	Shape Optimization of Permanent Magnets Considering Multiplicative Wave Skew in Axial Gap Motor	Daisuke Sato, Nagoya Institute of Technology, Japan Wataru Kitagawa, Nagoya Institute of Technology, Japan Takeshita Takaharu, Nagoya Institute of Technology, Japan	On-site
4	1570816511	Examination of stator magnets applied to Magnetization Reversal Motor	Shion Majima, Yokohama National University, Japan Kan Akatsu, Yokohama National University, Japan	On-site
5	1570815441	Temperature Analysis of Permanent Magnet Synchronous Motor Based on Iterative Calculation of Boundary Heat Transfer	Qianqian Liu, Nanjing University of Aeronautics and Astronautics, China Yaohua Hu, Nanjing University of Aeronautics and Astronautics, China Renhua Jiang, Nanjing University of Aeronautics and Astronautics, China Shushu Zhu, Nanjing University of Aeronautics and Astronautics, China Junyue Yu, Nanjing University of Aeronautics and Astronautics, China	Online

I10-2: Sensorless Control

Date: December 2, 2022 (Ballroom II)

Time: 9.00-10.40

Chair: Sakda Somkun and Yonghwa LEE

1	1570819586	Over Temperature Protection During Hill-hold and Low-Speed Conditions for Electric Vehicle Traction Inverter	Philip Korta, University of Windsor, Canada Animesh Kundu, University of Windsor, Canada Cameron Pickersgill, University of Windsor, Canada Lakshmi Varaha Iyer, University of Windsor, Canada Narayan C. Kar, University of Windsor, Canada	On-site
2	1570824096	Discrete-time optimization of current-sensor-less control for a high-frequency all-SiC CSI converter	Yonghwa LEE, Kyoto University of Advanced Science, Japan Alberto Castellazzi, Kyoto University of Advanced Science, Japan	On-site
3	1570806751	Study on Switching Strategy of PMSM and BLDCM	Chengrui Tao, Zhejiang University, China Jianjian Fan, Zhejiang University, China Sunong Yao, Zhejiang University, China Jianhua Wu, Zhejiang University, China	Online
4	1570815778	Finite Control Set Model Predictive Control for PMSM Based on Imposed Weighting Factor	Maixia Shang, Northwestern Polytechnical University, China Jinglin Liu, Northwestern Polytechnical University, China	Online
5	1570815652	A Sensorless Control Method Based on High Frequency Injection for Dual Three Phase Motor with Asymmetric Windings	Zheng Wu, Southeast University, China Chenwen Cheng, Southeast University, China Wei Hua, Southeast University, China Hengliang Zhang, Southeast University, China Hang Yin, Southeast University, China Mingjin Hu, Southeast University, China	Online

S28-3 Special Session: Condition Monitoring in Power Electronics and Electrical Machines

N1: Others in Smart Grid, Microgrids and Wireless Power Transfer System

Date: December 2, 2022 (Meeting Room III Expedition)

Time: 9.00-10.40

Chair: Uthane Supatti

1	1570805238	Triple-Active-Bridge converter Coupling Power control method for Voltage Balancing in Bipolar DC Distribution	Hyung-Jun Byun, Sungkyunkwan University, Republic of Korea Sung-Hun Kim, Sungkyunkwan University, Republic of Korea Junsin Yi, Sungkyunkwan University, Republic of Korea Chung-Yuen Won, Sungkyunkwan University, Republic of Korea	On-site
2	1570816255	Online Identification Based on Time-Frequency Transformation for Equivalent Virtual Inertia Constant of Wind Farm	Xu Zhang, Zhejiang University, China Dan Sun, Zhejiang University, China Heng Nian, Zhejiang University, China Zhenhua Lv, State Grid Jiangsu Electric Power Co.Ltd, and Research Institute, China Xiangyun Fu, State Grid Jiangsu Electric Power Co.Ltd, and Research Institute, China	Online
3	1570815662	Transmitter Based Wireless Power Transmission Output Voltage Control Using Virtual 2-phase Strategy	Jae-Gon Yoo, Daejin University, Republic of Korea Jong-Soo Kim, Daejin University, Republic of Korea	On-site
4	1570806237	Energy and Capacity Management of Hybrid Energy Storage System Applied to Urban Rail Transit by Nondominated Sorting Genetic Algorithm-II	Deshi Kong, Sophia University, Japan Masafumi Miyatake, Sophia University, Japan	On-site

5	1570819428	Robust Motor Current Signature Analysis (MCSA)-based Fault Detection under Varying Operating Conditions	Dehong Liu, Mitsubishi Electric Research Laboratories, MA Hiroshi Inoue, Mitsubishi Electric Corporation, Japan Makoto Kanemaru, Mitsubishi Electric Corporation, Japan	Online
I12-5: DC/DC, DC/AC, AC/DC, and AC/AC Converters				
Date: December 2, 2022 (Meeting Room II Journey)				
Time: 9.00-10.40				
Chair: Anuwat Jangwanitlert and Suwat Kitcharoenwat				
1	1570816442	Design of Battery Charger and Discharger using Series-input and Parallel-output connected DAB Converter	Sung-Hyeon Park, Pukyong National University, Korea Seung-Min Song, Hyowon Power Tech. Co., Korea Juwon Kim, Pukyong National University, Korea In-Dong Kim, Pukyong National University, Korea	On-site
2	1570812505	Third-Harmonic Injection Two-Stage Matrix Converter with Dual Reactive Current Control Bridge Arms	Chengjia Lu, Nanjing University of Aeronautics and Astronautics, China Bo Zhou, Nanjing University of Aeronautics and Astronautics, China Qingyun Chang, Nanjing University of Aeronautics and Astronautics, China	Online
3	1570816519	A Single-Phase AC-DC-AC Converter with PV for Voltage DC-Link Charging	Suwat Kitcharoenwat, Rajamangala University of Technology Krungthep, Thailand Apirach Rattanaudompisut, Rajamangala University of Technology Krungthep, Thailand Saichol Chudjuarjeen, Rajamangala University of Technology Krungthep, Thailand	On-site
4	1570807528	Clamping Circuit for Auxiliary Resonant Snubber-based Soft-Switching Inverter to Suppress Over-voltage of Auxiliary Switches	Hailin Zhang, Chongqing University, China Qi Zhang, Chongqing University, China Jun Yao, Chongqing University, China Zhentao Qin, Chongqing University, China	Online
5	1570807127	State-Plane Diagram Analysis of Full-Bridge ZCS-ZVS Boost Converter with Switches at Rectifier	Somboon Sooksatra, Rangsit University, Thailand Wanchai Subsingha, Rangsit University, Thailand	On-site
I8-8: Motor Control and Motor Drives				
Date: December 2, 2022 (Meeting Room IV Passage)				
Time: 9.00-10.40				
Chair: Vuttipon Tarateeraseth				
1	1570805983	A Diagnosis Method for Inverter Single Power Switch Open Circuit Fault of Doubly Salient Electromagnetic Motor	Yijun Zhang, Nanjing University of Aeronautics and Astronautics, China Bo Zhou, Nanjing University of Aeronautics and Astronautics, China Wenjing Fang, Nanjing University of Aeronautics and Astronautics, China Weiqian Chen, Nanjing University of Aeronautics and Astronautics, China	Online
2	1570806099	An Optimal Fault-Tolerant Strategy for DSEM Drives System with Open-Circuit Fault on Single Switch of the Bridge Converter	Wenjing Fang, Nanjing University of Aeronautics and Astronautics, China Bo Zhou, Nanjing University of Aeronautics and Astronautics, China Kaimiao Wang, Nanjing University of Aeronautics and Astronautics, China Yijun Zhang, Nanjing University of Aeronautics and Astronautics, China Weiqian Chen, Nanjing University of Aeronautics and Astronautics, China	Online
3	1570806251	Research on Position Sensorless Control of Doubly Salient Electro-magnetic Generator Based on Phase Induced Electromotive Force	Minghui Zhang, Nanjing University of Aeronautics and Astronautics, China Bo Zhou, Nanjing University of Aeronautics and Astronautics, China Kaimiao Wang, Nanjing University of Aeronautics and Astronautics, China Jingchen Huang, Nanjing University of Aeronautics and Astronautics, China	Online
4	1570806440	A Fault Diagnosis Method Based on Optimized Current Sensor Installation Strategy of Power Converter for Doubly Salient Electro-Magnetic Motor	Weiqian Chen, Nanjing University of Aeronautics and Astronautics, China Bo Zhou, Nanjing University of Aeronautics and Astronautics, China Wenjing Fang, Nanjing University of Aeronautics and Astronautics, China Yijun Zhang, Nanjing University of Aeronautics and Astronautics, China	Online
5	1570807110	Self-Searching Maximum Torque per Ampere Working Point Based on Coordinate Tracking	Kewei Sha, Nanjing University of Aeronautics and Astronautics, China Xiaolin Wang, Nanjing University of Aeronautics and Astronautics, China Xuheng Peng, Nanjing University of Aeronautics and Astronautics, China	Online
S31-2: Special Session: Advanced Electric Machines and Drives for Transportation Electrification				
Date: December 2, 2022 (Meeting Room V Excursion)				
Time: 9.00-10.40				
Chair: Theeraphong Srichiangsa				
1	1570815235	A Current Coordinated Optimal Control Strategy for Doubly Salient Electromagnetic Machine	Xingwei Zhou, Hohai University, China Peixin Liu, Hohai University, China Xing Zhao, University of York, United Kingdom Zhao Tian, Industry Innovation Center Co., LTD, China Jinqi Wan, Industry Innovation Center Co., LTD, China Shuangxia Niu, The Hong Kong Polytechnic University, China	Online
2	1570816072	Current Pre-Estimation-based Delay Compensation for Sensorless FCS-MPCC Used in PMSM Drives Over High-Speed Range	Chao Gong, University of Alberta, Canada Li Ding, University of Alberta, Canada Yunwei Li, University of Alberta, Canada Jiahui Li, Zhuji Hechuang Motor Technology Co., Ltd., China	Online
3	1570816527	Thermal Analysis and Cooling Enhancement of a Slotless High-Speed Permanent Magnet Motor Based on CFD	Yuan Wan, Liyang Research Institute of Southeast University, China and Southeast University, China Lingfeng Zhu, Nanjing University of Science and Technology, China Nan Meng, Nanjing University of Science and Technology, China Xu Zhang, Nanjing University of Science and Technology, China Jian Guo, Nanjing University of Science and Technology, China Qiang Li, Nanjing University of Science and Technology, China	Online

4	1570815282	Novel Axial-Gap Bearingless PM Motor with Full Passive Magnetic Suspension by Diamagne	Yoshiki Ozawa, Tokyo Institute of Technology, Japan Yusuke Fujii, Tokyo Institute of Technology, Japan Akira Chiba, Tokyo Institute of Technology, Japan Haruhiko Suzuki, Fukushima College, Japan	Online
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I1-8: Permanent Magnet Motors and Generators

I8-10: Motor Control and Drives

Date: December 2, 2022 (Ballroom I)

Time: 11.00-12.00

Chair: Burin Kerdsup and Thanh-Anh Huynh (Online)

1	1570816235	Influences of Rotor Design on Air-Gap Field Modulation Effect in Spoke-Type Permanent Magnet Machine for Traction Applications	Ya Li, Anhui University, China Qinglin Zhou, Anhui University, China Shichuan Ding, Anhui University, China Hang Jun, Anhui University, China Wei Li, Anhui University, China	Online
2	1570816303	A Novel Sandwiched Permanent Magnet Switched Flux Machine with E-core Stator Configuration	Sanhong Che, Jiangsu CRRC Electric Co., LTD, China Ya Li, Anhui University, China Zhen Zhao, Jiangsu CRRC Electric Co., LTD, China Heyun Lin, Southeast University, China	Online
3	1570816603	Performance Improvement of a Micro Permanent Magnet Motor	Guanglin Li, Electromagnetic Material Co., Ltd, China Yongkun Dou, Beijing Institute of Technology, China Jing Zhao, Beijing Institute of Technology, China Wang You, Beijing Institute of Technology, China	Online
4	1570807129	Offline Parameter Identification Strategy of Permanent Magnet Synchronous Motor Considering the Inverter Nonlinearities	Du Pengcheng, Harbin Institute of Technology, China Wang Bo, Harbin Institute of Technology, China Yu Yong, Harbin Institute of Technology, China Xu Dianguo, Harbin Institute of Technology, China	Online

I1-9: Permanent Magnet Motors and Generators

Date: December 2, 2022 (Ballroom II)

Time: 11.00-12.00

Chair: Satit Owatthaiphong

1	1570805821	Sensitivity Analysis, and Design of a Permanent Magnet Synchronous Motor for Actuator Applications	Ahmed Tameemi, Al-Farahidi University, Iraq Michele Degano, University of Nottingham, UK Mauro Di Nardo, University of Nottingham, UK Mukhammed Murataliyev, University of Nottingham, UK David Gerada, University of Nottingham, UK Chris Gerada, University of Nottingham, UK	On-site
2	1570816656	Accurate FEA-Based Modeling of IPMSMs Operating Under High Magnetic Utilization	Daniel C. Rodriguez Pinto, Institute for Power Electronics and Electrical Drives RWTH Aachen University, Germany Huihui Xu, Institute for Power Electronics and Electrical Drives RWTH Aachen University, Germany Rik W. De Doncker, Institute for Power Electronics and Electrical Drives RWTH Aachen University, Germany	On-site
3	1570815970	Loss Reduction of Dual Air-gap Surface-mounted Permanent Magnet Synchronous Motor	Reza Heidari, Kyungshung University, South Korea Do-Hyun Kang, VAM Inc, South Korea Kwang-II Jeong, Kyungshung University, South Korea Jin-Woo Ahn, Kyungshung University, South Korea	On-site
4	1570816674	First Step to Optimum Rotor Design for E-Motors with High Power Density for Aircraft Propulsion	Ralf Johannes Keuter, Leibniz University Hannover, Germany Bernd Ponick, Leibniz University Hannover, Germany	On-site

I5-2: Linear and Special Machines

Date: December 2, 2022 (Meeting Room II Journey)

Time: 11.00-12.20

Chair: Yuttana Kumsuwan

1	1570816361	Proposal of a Novel Inverter Structure for Dual mode Reluctance Motor with Reduced Switching Components	Kangmou He, Tokyo institute of technology, Japan Kyohei Kiyota, Tokyo institute of technology, Japan Daichi Makihara, Tokyo institute of technology, Japan Akira Chiba, Tokyo institute of technology, Japan	Online
2	1570816556	A Stable Control Method for Free Piston Linear Generator Based on On-line Trajectory Planning	Xinyao Zhao, Ningbo University, China and Ningbo Institute of Materials Technology and Engineering, China Chi Zhang, Ningbo Institute of Materials Technology and Engineering, China Yuguo Cui, Ningbo University, China Feixue Chen, Ningbo Institute of Materials Technology and Engineering Chinese Academy of Sciences, China Tianyou Pei, Ningbo Institute of Materials Technology and Engineering Chinese Academy of Sciences, China Wenjie Xiao, Ningbo Institute of Materials Technology and Engineering Chinese Academy of Sciences, China	Online
3	1570816565	Comparative Study of Integrated Magnetic Suspension Spherical Induction Motor and Separated Magnetic Suspension Spherical Induction Motor	Wei He, Beijing Institute of Technology, China Lei Yang, Beijing Institute of Control Engineering, China You Wang, Beijing Institute of Technology, China Jing Zhao, Beijing Institute of Technology, China	Online
4	1570816585	Optimization of Integrated Magnetic Suspension Spherical Induction Motor Based on Multi-Physical Field	Wei He, Beijing Institute of Technology, China Lei Yang, Beijing Institute of Control Engineering, China Jing Zhao, Beijing Institute of Technology, China	Online

I16-2: Batteries Modeling and Management Systems, Energy Storage Systems

I21-2: Other Areas in Energy Systems and E-Mobility

Date: December 2, 2022 (Meeting Room III Expedition)				
Time: 11.00-12.20				
Chair: Nisai Fuengwarodsakul				
1	1570815428	Optimal Energy Dispatch of Energy Storage Systems as a Shared Infrastructure between DC Railway Network and DC Micro Grid	Mingyu Lyu, Sophia University, Japan Deshi Kong, Sophia University, Japan Masafumi Miyatake, Sophia University, Japan	On-site
2	1570817150	Electric Powertrain Efficiency Improvement for Autonomous Vehicles Using Genetic Algorithms for Optimized Speed Profile Creation	Claudio Hartkopf Lopes Filho, University of Windsor, Canada Marco Veliz Castro, University of Windsor, Canada Ze Li, University of Windsor, Canada Jimi Tjong, University of Windsor, Canada Narayan C. Kar, University of Windsor, Canada	Online
3	1570806459	A Method for Improving Initial Driving Vibration of Electric Scooter with Low Resolution Position Sensors	Sanghoon Oh, Hyundai Kefico Corporation, Korea Haesung Jung, Hyundai Kefico Corporation, Korea Huiyoung Lim, Hyundai Kefico Corporation, Korea Jinuk Park, Hyundai Kefico Corporation, Korea Kwanyoung Lee, Hyundai Kefico Corporation, Korea	On-site
4	1570815809	Development of cooperating system capable of parallel connection with photovoltaic power generation system	Daisuke Minakuchi, Mie University, Japan Naoki Yamamura, Mie University, Japan	Online
I8-9: Motor Control and Motor Drives				
Date: December 2, 2022 (Meeting Room IV Passage)				
Time: 11.00-12.00				
Chair: Mongkol Konghirun				
1	1570815848	Design and Multi-constraint Evaluation of Passive dv/dt Filter for SiC-based Motor Drives	Donglin Xu, Harbin Institute of Technology, China Ming Yang, Harbin Institute of Technology, China Jiang Long, Harbin Institute of Technology, China Dianguo Xu, Power Electronics and Electrical Harbin, China	Online
2	1570815882	An Improved Active Damping Strategy based on DOB for SiC-based Motor Drives with Sinusoidal LC Filter	Donglin Xu, Harbin Institute of Technology, China Ming Yang, Harbin Institute of Technology, China Jiang Long, Harbin Institute of Technology, China Dianguo Xu, Harbin Institute of Technology, China	Online
3	1570819413	Single Current Sampling & Double Current Update Method for Current Control of Permanent Magnet Synchronous Motor	Shi-Xiang Huo, Chinese Academy of Sciences, China and Zhejiang University of Technology, China Chi Zhang, Chinese Academy of Sciences, China Xin-Dong Shu, Chinese Academy of Sciences, China	Online
4	1570812403	Accurate Estimation of Rotating Rotor Position Based on Virtual Resistance with Cross-coupling Feedback	Yoon-Seong Lee, Sungkyunkwan University, Republic of Korea Won-Sang Jeong, Sungkyunkwan University, Republic of Korea Junsin Yi, Sungkyunkwan University, Republic of Korea Chung-Yuen Won, Sungkyunkwan University, Republic of Korea	On-site
I7-3: Other Areas in Electric Machines				
I19-2 :AI Convergence Technology for Electric Machine and Drive				
Date: December 2, 2022 (Meeting Room V Excursion)				
Time: 11.00-12.00				
Chair: Uthen Kamnarn				
1	1570816369	Verification of Strength Characteristics of Traction Geared Motor Unit on Industrial Conditions	Genadijs Kobenkins, Riga Technical University, Latvia Marks Marinbajs, Riga Technical University, Latvia Anatolijs Bizans, Riga Technical University, Latvia Olegs Sliskis, Riga Technical University, Latvia	On-site
2	1570822043	Comparison of Radiated EMI Prediction Methods from Measured Common-Mode Currents	Warathep Padungtin, Thai Summit Harness Public Company Limited, Thailand Vuttipon Tarateeraseth, Srinakharinwirot University, Thailand	On-site
3	1570819174	Comparison of Vibration and Noise Characteristics between Radial Flux PMSMs And Axial Flux PMSMs	Mengfei Wei, Chinese Academy of Sciences, China and University of Chinese Academy of Sciences, China and Zhejiang Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology, China Chi Zhang, Chinese Academy of Sciences, China and Zhejiang Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology, China Yunpeng Gao, Chinese Academy of Sciences, China and Zhejiang Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology, China Yongzhou Qing, Ningbo Jingwei Computer Numerical Control Company Limited	Online
4	1570819720	Deep Learning System with Data Augmentation for Electric Machinery Fault Diagnosis from Vibration Signals	Sura Kijpaiboonwat, Thammasat University, Thailand Waree Kongprawechnon, Thammasat University, Thailand Nattapon Chayopitak, National Electronics and Computer Technology Center, Thailand Watchara Sriarporntham, National Electronics and Computer Technology Center, Thailand Cherdsak Kingkan, National Electronics and Computer Technology Center, Thailand Ruchao Pupadubsin, National Electronics and Computer Technology Center, Thailand	Online