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2. Guangdong Key Laboratory of Clean Energy Technology, China

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Room407 [C]

Oral Session : 3.1 Motor Drive and Motion Control

Session Chairs: Dr. Claudius M. Zingerli (ETH Zurich, Switzerland)
Dr. Yingxiang Liu (Harbin Institute of Technology, China)

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Session Chairs: Prof. Zhuo Fang (Xi'an Jiaotong University, China)
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Room411 [G]

Oral Session : 7.1 Electric Propulsion System

Session Chairs: Prof. Atsuo Kawamura (Yokohama National University, Japan)

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Room412 [H]

Oral Session : 8.1 Power Supply for HID and LED

Session Chairs: Dr. Petar J. Grbovic (Huawei, Germany)

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Oral Session : 1.2 Devices, Packaging and System Integration

**Session Chairs: Dr. Keiji Wada (Tokyo Metropolitan University, Japan)
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Room307 [B]

Oral Session : 2.2 Power Converters and Control

**Session Chairs: Prof. Guozhu Chen (Zhejiang University, China)
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Oral Session : 3.2 Motor Drive and Motion Control

**Session Chairs: Dr. Claudius M. Zingerli (ETH Zurich, Switzerland)
Dr. Yingxiang Liu (Harbin Institute of Technology, China)**

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Oral Session : 4.2 Power Quality Mitigation

**Session Chairs: Prof. Johann W. Kolar (Swiss Federal Institute of Technology, Switzerland)
Prof. Zhuo Fang (Xi'an Jiaotong University, China)**

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**Session Chairs: Prof. Feng Gao (Shandong University, China)
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Oral Session : 6.2 Power Converters for Renewable Energy

Session Chairs: Prof. Heung-Guen Kim (Kyungpook National University, Korea)
 Dr. Xibo Yuan (Bristol University, UK)

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Oral Session : 7.2 Electric Propulsion System

Session Chairs: Prof. Qianfan Zhang (Harbin Institute of Technology, China)
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Oral Session : 8.2 Power Supply for HID and LED

Session Chairs: Dr. Jianping Ying (Delta Electronics (Shanghai), China)
Dr. Petar J. Grbovic (Huawei, Germany)

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Room306 [A]

Oral Session : 1.3 Devices, Packaging and System Integration

Session Chairs: Prof. Wei Chen (Fuzhou University, China)
Dr. Ziwei Ouyang (Technical University of Denmark, Denmark)

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Room307 [B]

Oral Session : 2.3 Power Converters and Control

**Session Chairs: Prof. Ralph Kennel (Techn. Univ. Muenchen, Germany)
Prof. Ziqiang Zhu (University of Sheffield, UK)**

8:30~8:50	PD0055	One Statistics-Based Fault Classification Technique For Cascaded Inverter 494 [MoB1-1] Wei Jiang, Cong Wang, Meng Wang, Yaopu Li China University of Mining and Technology (Beijing), China
8:50~9:10	PD0499	Method of Neutral-point Voltage Balancing for a Grid Connected NPC Inverter 499 [MoB1-2] System with Time-offset Variant Estimating Ui-Min Choi, Hae-Gwang Jeong, Kyo-Beum Lee Ajou University, Korea
9:10~9:30	PD0829	Performance Improvement of a Single Phase Inverter using Intelligent Controller N/A [MoB1-3] Shubhangi S. Ambekar ¹ , Madhuri A. Chaudhari ² 1. K. D. K. College of Engineering, India 2. Visvesvaraya National Institute of Technology, India
9:30~9:50	PD0400	Research of the Dead-time Compensation based on the Three-Phase 510 [MoB1-4] Grid-Connected Inverter Yan Liu, Hongqi Ben, Chunpeng Li, Daqing Wang Harbin Institute of Technology, China
9:50~10:10	PD0261	Practical Control Strategy to Apply Soft Switching to EV Power Flow Control System 515 [MoB1-5] Yukinori Tsuruta, Atsuo Kawamura Yokohama National University, Japan

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Room407 [C]

Oral Session : 3.3 Motor Drive and Motion Control

**Session Chairs: Prof. Robert D. Lorenz (University of Wisconsin-Madison, USA)
Prof. Seung-Ki Sul (Seoul National University, Korea)**

8:30~8:50	PD0105	The Application of a Multi-wavelet Denoising Method in the Diagnosis of Rotor [MoC1-1] Interturn Short-circuits 520 Yonggang Li, Chengyong Wang, Shuang Li, Chengqiang Wang, Yueqin Lu North China Electric Power University, China
8:50~9:10	PD0314	Reduction of Torque Ripple of VSI-Fed PMSM Machine by Direct Torque Control [MoC1-2] Method 525 Qiang Ni, Xiaoyun Feng, Wensheng Song, Yongheng Liao

9:10~9:30	PD0326 [MoC1-3]	Southwest Jiaotong University, China Flux-weakening Control of PMSM for Washing Machine Applications 530 Changpan Zhou, Jianyong Su, Guijie Yang Harbin Institute of Technology, China
9:30~9:50	PD0310 [MoC1-4]	Control of Electrical Excited Synchronous Machine at Low Switching Frequency 535 Qingqing Yuan, Xiaojie Wu, Peng Dai, Hongshun Zhu China University of Mining and Technology, China
9:50~10:10	PD0580 [MoC1-5]	Large Voltage Source Inverter for Hot Strip Mill 540 Katsuhiko Fukuma ¹ , Hiromi Hosoda ¹ , Kenji Oda ¹ , Thomas Richards ² 1. Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan 2. TMEIC Corporation, USA

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Room408 [D]

Oral Session : 4.3 Power Quality Mitigation

Session Chairs: Prof. Ligu Wang (Harbin Institute of Technology, China)
Dr. Sanbo Pan (Anyang Normal University, China)

8:30~8:50	PD0502 [MoD1-1]	Improvement of Power Quality under Distorted Source and Nonlinear Load Conditions 546 Quoc Nam Trinh, Hong Hee Lee University of Ulsan, Korea
8:50~9:10	PD0570 [MoD1-2]	Study on Three-Leg-Baesd Three-Phase Four-Wire Shunt Active Power Filter 552 Mingxuan Dong ¹ , Zhihao Huang ¹ , Jian Wu ¹ , Dianguo Xu ¹ , Ke Hua ² 1. Harbin Institute of Technology, China 2. Heilongjiang Electric Power Company Limited, China
9:10~9:30	PD0835 [MoD1-3]	Research on the HVC Contactor Switched Capacitor at the Zero-crossing Point Based on Expert Decisionmaking Analysis 557 Wang Ligu, Li Linchun, Lv Linlin, Zhang Shibo, Xu Dianguo Harbin Institute of Technology, China
9:30~9:50	PD0096 [MoD1-4]	Design of AC Chopper Voltage Sags Restorer N/A Nan Jin, Guilin Zhang, Cunxiang Yang Zhengzhou University of Light Industry, China
9:50~10:10	PD0771 [MoD1-5]	Modeling and Design of the Output Filter Applied to High Power Shunt Active Power Filters 569 Hui Yan, Chuan Xie, Chao He, Guozhu Chen Zhejiang University, China

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Room409 [E]

Oral Session : 9.1 Inverters and Rectifiers

Session Chairs: Prof. Boroyevich Dushan (Virginia Tech. Blacksburg, USA)
Prof. D. G. Holmes (RMIT University, Australia)

8:30~8:50	PD0789 [MoE1-1]	The balancing properties of DC link compensation for 3-phase Neutral Point Clamped (NPC) Converter 574 Z. Mohzani, B. P. McGrath, D. G. Holmes RMIT University, Australia
8:50~9:10	PD0639 [MoE1-2]	Gate Signal Omission to Reduce the Drive Loss of CRM PFC Rectifier 580 Jong-Won Shin ¹ , Bo-Hyung Cho ¹ , Kyu-Chan Lee ²

9:10~9:30	PD0707 [MoE1-3]	<p>1. Seoul National University, Korea 2. Interpower, Co., Ltd., Korea</p> <p>A Novel Soft-Switching Inverter for High Power Application with Simple Control 586</p> <p>Kadoi Shinsuke¹, Yushi Miura¹, Toshifumi Ise¹, Yasuhiko Hosokawa²</p> <p>1. Osaka University, Japan 2. Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan</p>
9:30~9:50	PD0478 [MoE1-4]	<p>Current-Type Flipped-Γ-Source Inverters 594</p> <p>Poh Chiang Loh¹, Ding Li¹, Frede Blaabjerg²</p> <p>1. Nanyang Technological University, Singapore 2. Aalborg University, Denmark</p>
9:50~10:10	PD0259 [MoE1-5]	<p>Research of Three-Phase Single-Stage Matrix Converter for Power Electronic Transformer 599</p> <p>Xinyu Wang, Jinjun Liu, Taotao Xu, Xiaojian Wang Xi'an Jiaotong University, China</p>

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Room410 [F]

Oral Session : 10.1 Grid Detection and Converter Control

Session Chairs: Prof. Dehong Xu (Zhejiang University, China)
Dr. Pierluigi Tenca (ABB Corporate Research, Sweden)

8:30~8:50	PD0373 [MoF1-1]	<p>Anti-Islanding Detection Method Using Negative Sequence Voltage 604</p> <p>Byeong-Heon Kim, Seung-Ki Sul, Chun-Ho Lim Seoul National University, Korea</p>
8:50~9:10	PD0609 [MoF1-2]	<p>Fast and Reliable Phasor Detectors for Single Phase AC Systems by Derivative Quadrature Generation 609</p> <p>Bohwan Choi, Sungwoo Lee, Inyong Yeo and Chuntaek Rim KAIST, Korea</p>
9:10~9:30	PD0169 [MoF1-3]	<p>A High Performance PLL for Polluted Utility Grid Based on Cascade Adaptive Notch Filters 615</p> <p>Lujun Wang, Damin Zhang, Chong Zhang, Zhengyu Lu Zhejiang University, China</p>
9:30~9:50	PD0865 [MoF1-4]	<p>1MHz Sampling High-speed Single-Phase PLL Control using FPGA based Hardware Controller 620</p> <p>Morito Yoshida, Yuichi Hanashima and Tomoki Yokoyama Tokyo Denki University, Japan</p>
9:50~10:10	PD0117 [MoF1-5]	<p>A Novel Current Dual-loop Control Strategy for Three-phase Grid-connected VSI with LCL Filter 626</p> <p>Tao Liu, Xiang Hao, Xu Yang, Jilong Liu, Bin Zhang, Lang Huang Xi'an Jiaotong University, China</p>

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Room411 [G]

Oral Session : 7.3 Electric Propulsion System

Session Chairs: Prof. Zheng Ping (Harbin Institute of Technology, China)
Dr. Drazen Dujic (ABB Switzerland Ltd, Switzerland)

8:30~8:50	PD0209 [MoG1-1]	<p>Development of Electric Control System for a Novel Full Hybrid SUV 631</p> <p>Zhiguo Kong, Guangkui Shi, Wei Wang, Qunying Cai China Automotive Technology and Research Center, China</p>
8:50~9:10	PD0248	<p>Power Electronic Traction Transformer Technology 636</p>

	[MoG1-2]	Drazen Dujic, Frederick Kieferndorf, Francisco Canales, Uwe Drofenik ABB Switzerland Ltd, Switzerland
9:10~9:30	PD0542 [MoG1-3]	Three-phase High Frequency Transformer Isolated AC to DC Converter for EV Battery Quick Charging 643 Xiaofeng Wu, Toshihiro Maeda, Hisashi Fujimoto, Shinichi Ishii, Kouetsu Fujita Fuji Electric Company Limited, Japan
9:30~9:50	PD0694 [MoG1-4]	PSiM Based Establishment of Driving Strategy and Dynamic Analysis for Input Split Type HEV 648 Taesuk Bae ¹ , Taekyu Kang ¹ , Jaeho Choi ¹ , Deokyoung Lim ² 1. Chungbuk National University, Korea 2. LSIS Company Limited, Korea
9:50~10:10	PD0267 [MoG1-5]	Analysis and Compensation of Beat Phenomenon for Railway Traction Drive System Fed with Fluctuating DC-Link Voltage 654 Bin Gou, Xiaoyun Feng, Wensheng Song, Kun Han, Xinglai Ge Southwest Jiaotong University, China

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Room412 [H]

Oral Session : 11.1 Modeling and Analysis for Power Converts

Session Chairs: Dr. Bingsen Wang (Michigan State University, USA)
Prof. Zhengming Zhao (Tsinghua University, China)

8:30~8:50	PD0805 [MoH1-1]	Asymmetrical Operation Analysis of Multi-Pulse ATRU 660 Leilei Jiang, Qianhong Chen, Lang Mao, Xiaoyong Ren, Xinbo Ruan Nanjing University of Aero.& Astro., China
8:50~9:10	PD0735 [MoH1-2]	Comparative Evaluation of Predictive Control Schemes for Three-Phase Buck-Type PFC Rectifiers 666 P. Cortes ¹ , J. W. Kolar ² , J. Rodriguez ¹ 1. Universidad Tecnica Federico Santa Maria Chile 2. P ETH Zurich, Switzerland
9:10~9:30	PD0670 [MoH1-3]	Prediction of the Conduction Interference in IGBT Series Structure Converter 673 Zaogen Gu, Chuanxin Wen, Xiaodong Zhao, Di Wu China Electric Power Research Institute, China
9:30~9:50	PD0503 [MoH1-4]	Analytical Characterization of the Spectral Performance of Matrix Converters 678 Bingsen Wang, Emad Sherif Michigan State University, USA
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Room306 [A]

Oral Session : 1.4 Devices, Packaging and System Integration

Session Chairs: Dr. Kan Akatsu (Shibaura Institute of Technology, Japan)
Prof. Chen Wei (Fuzhou University, China)

10:25~10:45	PD0485 [MoA2-1]	Design and Measurement of Planar Toroidal Transformers for Very High Frequency Power Applications 688 Jens Pejtersen, Arnold Knott Technical University of Denmark, Denmark
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10:45~11:05	PD0827 [MoA2-2]	Very Thin Flexible Coupled Inductors for PV Module Integrated GaN Converter 693 Milos Acanski ¹ , Ziwei Ouyang ² , Jelena Popovic-Gerber ¹ , Braham Ferreira ¹ 1. Delft University of Technology, The Netherlands 2. Technical University of Denmark, Denmark
11:05~11:25	PD0129 [MoA2-3]	Decoupled Power Solution for Dual-input Isolated DC-DC Converters Using Four Quadrants Integrated Transformers (FQIT) 698 Ziwei Ouyang, Michael A. E. Andersen, Ole C. Thomsen Technical University of Denmark, Denmark
11:25~11:45	PD0633 [MoA2-4]	A 20MHz Monolithic DC-DC Converter Manufactured with the First Commercially Viable Silicon Magnetics Technology 705 Wei Zhang, Matthew A. Wilkowski, John Weld, Ashraf Lotfi Epirion Inc., USA
11:45~12:05	PD0765 [MoA2-5]	Design Technique and Online Winding Reconfigurations Method of MATRIX Motor 713 Hiroki Hijikata, Kan Akatsu Shibaura Institute of Technology, Japan

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Room307 [B]

Oral Session : 2.4 Power Converters and Control

**Session Chairs: Prof. Ziqiang Zhu (University of Sheffield, UK)
Prof. Ralph Kennel (Techn. Univ. Muenchen, Germany)**

10:25~10:45	PD0833 [MoB2-1]	On The Practical Design of a Single-Stage Single-Switch Isolated PFC Regulator Based on Sliding Mode Control 719 Haoran Wang ¹ , Guorong Zhu ¹ , Dongrua Zhang ¹ , Wei Chen ¹ , Yu Chen ² 1. Wuhan University of Technology, China 2. Huazhong University of Science and Technology, China
10:45~11:05	PD0265 [MoB2-2]	Research on Minimized Switching Loss Modulation Algorithms for Voltage Source Rectifier 725 Hongxing Ma, Huawu Li, Xijun Yang, Zhongsheng Cao Shanghai JiaoTong University, China
11:05~11:25	PD0730 [MoB2-3]	Initial Voltage Angle Detection Method of a PWM Converter without any Grid Voltage Measurement Using Conduction State of Diodes for Smooth Starting 730 Jae-Jung Jung, Eunsoo Jung, Jung-Ik Ha, Seung-Ki Sul Seoul National University, Korea
11:25~11:45	PD0264 [MoB2-4]	Passivity-based Control of Four-phase Interleaved PFC based on EL Model 735 Huawu Li, Hongxin g Ma, Jianfeng Jiang, Xijun Yang Shanghai JiaoTong University, China
11:45~12:05	PD0322 [MoB2-5]	A Lossless and Inductorless Gate Driver to Reduce Switching Loss of the Buck Converter Control FET 740 Jizhen Fu ¹ , Yan-fei Liu ² 1. International Rectifier, El Segundo, CA, USA 2. Queen's University, Kingston, Ontario, Canada

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Room407 [C]

Oral Session : 3.4 Motor Drive and Motion Control

**Session Chairs: Prof. Robert D. Lorenz (University of Wisconsin-Madison, USA)
Prof. Seung-Ki Sul (Seoul National University, Korea)**

10:25~10:45	PD0586 [MoC2-1]	A Study of Quantitative Design Method of Adaptive Current Control System with Armature Resistance Identification Function 746 Jun-ichi Itoh, Yuki Nakajima Nagaoka University of Technology, Japan
10:45~11:05	PD0114 [MoC2-2]	A Novel Equivalent Circuit Model of an Ultrasonic Motor 753 Weijia Shi, Yafei Yang, Hui Zhao Harbin Institute of Technology, China
11:05~11:25	PD0162 [MoC2-3]	SVPWM Equivalent Algorithm Based on Carrier for Five-Phase Voltage Source Inverter 758 Hongwei Gao, Jianyong Su, Guijie Yang, Jian Liu Harbin Institute of Technology, China
11:25~11:45	PD0531 [MoC2-4]	Design of Smart Car Speed Control System Based on Fuzzy Algorithm and PID Algorithm 763 Hanlin Zhan, Lei Deng, Shengjun Xue Harbin Institute of Technology, China
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Room408 [D]

Oral Session : 6.3 Power Converters for Renewable Energy

**Session Chairs: Prof. Tomoki Yokoyama (Tokyo Denki University, Japan)
Prof. Zhiliang Zhang (Nanjing University of Aeronautics and Astronautics, China)**

10:25~10:45	PD0130 [MoD2-1]	Selection and Design of Ultra-Capacitor Modules for Power Conversion Applications: From Theory to Practice 771 Petar J. Grbović ¹ , Philippe Delarue ² , Philippe Le Moigne ³ 1. Huawei Technologies Dueseldorf GmbH, Germany 2. l'Université des Sciences et Technologies de Lille, France 3. Ecole Centrale de Lille, France
10:45~11:05	PD0830 [MoD2-2]	Fuzzy Control for Hybrid Energy Storage System Based on Battery and Ultra-capacitor in Micro-grid 778 Baoquan Liu, Fang Zhuo, Xianwen Bao Xi'an Jiaotong University, China
11:05~11:25	PD0761 [MoD2-3]	A Damping Control Method for a Matrix Converter with a Boost-up AC Chopper 783 Kazuhiro Koiwa, Jun-ichi Itoh Nagaoka University of Technology, Japan
11:25~11:45	PD0610 [MoD2-4]	Application of PCS6000 in Full-Power Wind Turbines 790 Xuchao Hu, Zhang Lin ABB Beijing Drive System Co., Ltd., China
11:45~12:05	PD0709 [MoD2-5]	Resonance Damping of LCL Filter based Grid-connected Inverter 796 Sang-Hyub Han ¹ , Jong-Hyoung Park ¹ , Heung-Geun Kim ¹ , Honnyong Cha ¹ , Tae-Won Chun ² , Eui-Cheol Nho ³ 1. Kyungpook National University, Korea 2. University of Ulsan, Korea

3. Pukyong National University, Korea

June 4, 2012(Monday)10:25~12:05 Room409 [E]		
Oral Session : 9.2 Inverters and Rectifiers		
Session Chairs: Prof. D. G. Holmes (RMIT University, Australia) Prof. Boroyevich Dushan(Virginia Tech. Blacksburg, USA)		
10:25~10:45	PD0699 [MoE2-1]	Interleaved Multicell Semi-Bridge Rectifiers for Cascaded H-Bridge Multilevel Converters 801 C. A. Teixeira, B. P. McGrath, D. G. Holmes RMIT University, Australia
10:45~11:05	PD0727 [MoE2-2]	Frequency Multiplying Circuit Constructed from a Multi-phase Inverter and Multi-core Transformers 807 Jun-ichi Itoh, Yusuke Fujita, Hideto Nishiyama Nagaoka University of Technology, Japan
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11:25~11:45	PD0187 [MoE2-4]	A Novel Time-Sharing Dual-Mode Control Strategy in Cascaded Sinusoidal Inverter 820 Wei Xu ¹ , Haihong Qin ^{1,2} , Bo Zhou ¹ , Henghuai Xue ^{2,3} , Lijun Yang ³ 1. Nanjing University of Aeronautics and Astronautics, China 2. Jiangsu Nicetown Electrical Equipment Group, China 3. Weifan Intelligent Electrical Hi-Tech Co., Ltd, China

June 4, 2012(Monday)10:25~12:05 Room410 [F]		
Oral Session : 10.2 Grid Detection and Converter Control		
Session Chairs: Prof. Vassilios Agelidis (University of New South Wales, Australia) Dr. Pierluigi Tenca (ABB Corporate Research, Sweden)		
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11:05~11:25	PD0461 [MoF2-3]	A Technique for FFT Harmonics Compensation and Leakage Current Suppression in 10kW PV Inverter 836 Hong Bin, Qiang Hua, Haixian Cui Sanken L.D Electric (J.Y) Co., Ltd., China
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[MoF2-5] Control 846
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 Osaka University, Japan

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Room411 [G]

Oral Session : 7.4 Electric Propulsion System

Session Chairs: Dr. Drazen Dujic (ABB Switzerland Ltd, Switzerland)

Prof. Zheng Ping (Harbin Institute of Technology, China)

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[MoG2-1] | Auxiliary Switch Control of Bi-directional Soft switching DC/DC Converter for EV
Dong-Ho Yu ¹ , Jung-Hyo Lee ¹ , Se-Chun Kim ¹ , Yong-Seok Lee ¹ , Chung-Yuen Won ¹ ,
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Harbin Institute of Technology, China | 859 |
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[MoG2-3] | A Novel Control Scheme for a Double-Input Contactless Resonant Converter
Hao Wu ¹ , Qianhong Chen ¹ , Xiaoyong Ren ¹ , Xinbo Ruan ¹ , Siu-Chung Wong ² , Chi.K
Tse ²
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Room412 [H]

Oral Session: 11.2 Modeling and Analysis for Power Converts

Session Chairs: Prof. Zhengming Zhao (Tsinghua University, China)

Dr. Bingsen Wang (Michigan State University, USA)

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 1. The University of Tennessee, USA
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 1. South China University of Technology, China
 2. Guangdong Key Laboratory of Clean Energy Technology, China
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 [MoH2-5] Inductor Multiplier 905
 Xin Xiang¹, Guiying Liu^{1,2}, Yuan Yao^{1,3}, Yi Zhao¹, Wuhua Li¹, Xiangning He¹
 1. Zhejiang University, China
 2. Guangxi Teachers Education University, China
 3. Zhenjiang Watercraft College of PLA, China

June 4, 2012 (Monday) 15:55~17:35

Room306 [A]

Oral Session : 12.1 Resonant and Z-source Converters

Session Chairs: Prof. Yan-fei Liu (Queen's University, Canada)

Dr. Kyo-Beum Lee (Ajou University, Korea)

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- 16:35~16:55 PD0453 Average Current-Mode Control for LLC Series Resonant DC-to-DC Converters 923
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 [MoA3-4] Sanbo Pan¹, Hongyong Xu²
 1. Anyang Normal University, China
 2. ABB Engineering (Shanghai) Ltd., China
- 17:15~17:35 PD0480 A Novel Dual-Channel Isolated Resonant Gate Driver to Achieve Gate Drive Loss
 [MoA3-5] Reduction for ZVS Full-Bridge Converters 936
 Feifei Li¹, Zhiliang Zhang¹, Yanfei Liu²
 1. Nanjing University of Aeronautics and Astronautics, China
 2. Queen's University, Kingston, Canada

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Room307 [B]

Oral Session : 13.1 Battery Charger and Energy Storage Systems

Session Chairs: Prof. W. G. Hurley (National University of Ireland, Ireland)

Prof. Xu Cai (Shanghai Jiao Tong University, China)

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16:55~17:15	PD0762 [MoB3-4]	Study of Single-Phase Bidirectional Battery Charger for High Power Application 958 Tuan Ngo ¹ , KilHo Lee ² , Jehyuk Won ³ , Kwanghee Nam ² 1. LS Industrial Systems 2. Pohang University of Science and Technology (POSTECH), Korea 3. Hyundai Heavy Industrial, Korea	
17:15~17:35	PD0666 [MoB3-5]	Two-Phase Interleaved Boost Converter with Voltage Multiplier under APS Control Method for Fuel Cell Power System 963 Longlong Zhang ¹ , Guoqiao Shen ¹ , Min Chen ¹ , Adrain Ioinovici ² , Dehong Xu ¹ 1. Zhejiang University, China 2. Holon Institute of Technology, Israel	
17:35~17:55	PD0866 [MoB3-6]	A Study of Parallel Operation of Flywheel Electric Storage with High Speed Network Operation 968 Koga Masashi ¹ , Tsuchida Kazuo ¹ , Yokoyama Tomoki ¹ , Ueda Tetsuya ² 1. Tokyo Denki University, Japan 2. Sanken Electric Co., Ltd. Japan	

June 4, 2012 (Monday) 15:55~17:35

Room407 [C]

Oral Session : 3.5 Motor Drive and Motion Control

Session Chairs: Dr. Bin Lu (Eaton China Innovation Center, China)

Mr. Baojun Si (Caterpillar Inc Peoria, USA)

15:55~16:15	PD0492 [MoC3-1]	Ripple Torque Analysis and Simulation of BLDC Motor With Different PWM Modes 973 Mingji Liu, Hanjin Guo, Meihong Song North China Electric Power University, China	
16:15~16:35	PD0522 [MoC3-2]	Minimum Copper Loss Drive Method of Three-Phase Dual-Rotor BLDC Machines 978 Sung-Jung Kim, Won-Sang Im, Je-Wook Park, Hyun-Woo Jung, Jang-Mok Kim Pusan National University, Korea	
16:35~16:55	PD0481 [MoC3-3]	Hybrid PI Speed Controllers for Permanent Magnet Brushless DC Motor N/A Vishal Verma, V Harish, Renu Bhardwaj Delhi Technological University, India	
16:55~17:15	PD0179 [MoC3-4]	Selecting Torque Motor of Large Load Inertial Stable Platform and Designing Drive System N/A Ming Li, Jiajia Feng, Zihui Qi Beijing University of Aeronautics and Astronautics, China	
17:15~17:35	PD0159 [MoC3-5]	The Design of SVPWM IP Core for Five-Phase Voltage Source Inverter 992 Hongwei Gao, Jianyong Su, Guijie Yang, Pinzhi Zhao Harbin Institute of Technology, China	
17:35~17:55	PD0197 [MoC3-6]	Current Regulation in Complex Vector Notation 997 Baojun Si, Osama Alkhouli Caterpillar Inc Peoria, USA	

June 4, 2012 (Monday) 15:55~17:35

Room408 [D]

Oral Session : 14.1 Interior Permanent Magnet Motor Control

Session Chairs: Prof. Thomas A. Iipo (University of Wisconsin, USA)

Prof. Lizhi Sun (Harbin Institute of Technology, China)

- | | | |
|-------------|--------------------|---|
| 15:55~16:15 | PD0489
[MoD3-1] | Three-Level Hysteresis Current Control for a Three-Phase Permanent Magnet Synchronous Motor Drive 1004
Hai Lin ¹ , Thomas A. Iipo ² , Byung-il Kwon ¹ , Sung Rock Cheon ³
1. Hanyang University, Korea
2. University of Wisconsin, USA
3. SNTech Co., Korea |
| 16:15~16:35 | PD0665
[MoD3-2] | High Efficiency Dual Inverter Drives for a PMSM Considering Field Weakening Region 1009
Yongjae Lee, Jung-Ik Ha
Seoul National University, Korea |
| 16:35~16:55 | PD0243
[MoD3-3] | Interior Permanent Magnet Synchronous Motor Control for Electric Vehicle Using Look-up Table 1015
Nanfang Yang, Guangzhao Luo, Weiguo Liu, Kang Wang
Northwestern Polytechnical University, China |
| 16:55~17:15 | PD0525
[MoD3-4] | The Preliminary Results on Direct Torque Control for an Fractional-slot Concentrated Winding Interior Permanent Magnet Synchronous Machine 1020
Dai Nguyen, R. Dutta, M. F Rahman
The University of New South Wales, Australia |
| 17:15~17:35 | PD0737
[MoD3-5] | Efficiency Optimization of PMSM Based Drive System 1027
Waleed Hassan, Bingsen Wang
Michigan State University, USA |

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Room409 [E]

Oral Session : 9.3 Inverters and Rectifiers

Session Chairs: Prof. Leon M. Tolbert (The University of Tennessee, USA)
Prof. Frede Blaabjerg (Aalborg University, Denmark)

- 15:55~16:15 PD0498 A High Power Density Three-Phase PFC Converter Based on VIENNA Topology 1034
[MoE3-1] Lijun Hang¹, Leon M. Tolbert¹, Gang Yan², Jifeng Chen²
1. The University of Tennessee, USA
2. Zhejiang University, China
- 16:15~16:35 PD0656 Bootstrap Power Supply for Three-Level Neutral-Point-Clamped Voltage Source
[MoE3-2] Inverters 1038
Nguyen Qui Tu Vo, Dong-Choon Lee
Yeungnam University, Korea
- 16:35~16:55 PD0799 Zero-Voltage-Switching Totem-Pole Bridgeless Boost Rectifier with Reduced
[MoE3-3] Reverse-Recovery Problem for Power Factor Correction 1044
Jae-Hyun Kim¹, Gun-Woo Moon¹, Jae-Kuk Kim²
1. Korea Advanced Institute of Science and Technology, Korea
2. Samsung Electro-Mechanics, Korea
- 16:55~17:15 PD0444 Digital Adaptive Current Source Driver for Interleaving Boost PFC Converters
[MoE3-4] under Critical Conduction Mode 1049
Chuangang Xu¹, Zhiliang Zhang¹, Yanfei Liu²
1. Nanjing University of Aeronautics and Astronautics, China
2. Queen's University, Kingston, Canada
- 17:15~17:35 PD0630 Research on High Efficient Single-Phase Multi-Stage Interleaved Bridgeless PFC
[MoE3-5] Frontend for Class-D Amplifiers 1054
Qingnan Li, Ole C. Thomsen, Michael A. E. Andersen
Technical University of Denmark, Denmark

June 4, 2012 (Monday) 15:55~17:35

Room410 [F]

Oral Session : 15.1 EMC

Session Chairs: Prof. Jian Sun (Rensselaer Polytechnic Institute, USA)
Dr. Xuning Zhang (Virginia Tech, USA)

- 15:55~16:15 PD0567 Filter Design Oriented EMI Prediction Model for DC-fed Motor Drive System
[MoF3-1] Using Double Fourier Integral Transformation Method 1060
Xuning Zhang¹, Dushan Boroyevich¹, Paolo Mattavelli¹ and Fred Wang²
1. Virginia Tech, Blacksburg VA, USA
2. University of Tennessee, USA
- 16:15~16:35 PD0767 Research on EMI Reduction of Interleaved Bridgeless Power Factor Corrector
[MoF3-2] using Frequency Dithering 1065
Qingnan Li, Ole C. Thomsen, Michael A. E. Andersen
Technical University of Denmark, Denmark
- 16:35~16:55 PD0312 Reduction of Conducted EMI for SiC JFET Inverters by Separating Heat Sinks 1070
[MoF3-3] Xun Gong, J. A. Ferreira
Delft University of Technology, The Netherlands
- 16:55~17:15 PD0331 An Improved Model for the Transfer Impedance Calculations of Braided Coaxial
[MoF3-4] Cables 1078
Xiaoling Wang, Chao Liu, Hao Ding, Lixin Wang

- 17:15~17:35 PD0464 Harbin Institute of Technology, China
 [MoF3-5] Radiated Emission Prediction of a SMPS Based on Time Domain EMF-Circuit
 Co-Simulation 1082
 Junping He¹, Qi Fu¹, Yuan Gao¹, Chunguang Zhang², Jianping Zhou²
 1. Harbin Institute of Technology(Shenzhen), China
 2. ZTE Corporation, Shenzhen, China

June 4, 2012 (Monday) 15:55~17:35

Room411 [G]

Oral Session : 16.1 Reluctance Motor and Drive

Session Chairs: Dr. X. Liu (University of Sheffield, UK)
 Prof. Hao Chen (China University of Mining and Technology, China)

- 15:55~16:15 PD0780 Consideration of CSI Drive for SRM Compared with VSI Drive 1087
 [MoG3-1] Takanori Nagai, Gaku Ando, KanAkatsu
 Shibaura institute of technology, Japan
- 16:15~16:35 PD0287 Analysis and Loss Reduction of a Canned Switched Reluctance Drive from the
 [MoG3-2] Windings Perspective 1095
 Q. Yu, C. Laudensack, D. Gerling
 Universitaet der Bundeswehr Muenchen, Germany
- 16:35~16:55 PD0734 Vibration and Noise in Novel Variable Flux Reluctance Machine with DC-Field
 [MoG3-3] Coil in Stator 1100
 X. Liu¹, Z.Q. Zhu¹, M. Hasegawa², A. Pride, R. Deodhar²
 1. University of Sheffield, UK
 2. IMRA Europe S.A.S. U.K. Research Center, UK
- 16:55~17:15 PD0736 Influence of Rotor Pole Number on Electromagnetic Performance of Novel
 [MoG3-4] Variable Flux Reluctance Machine with DC-Field Coil in Stator 1108
 X. Liu , Z.Q. Zhu
 University of Sheffield, UK

June 4, 2012 (Monday) 15:55~17:35

Room412 [H]

Oral Session : 11.3 Modeling and Analysis for Power Converts

Session Chairs: Dr. Tingan Lee (Mitsubishi-Electric Industrial Systems Corporation, Japan)
 Dr. Xuemei Zheng (Harbin Institute of Technology, China)

- 15:55~16:15 PD0585 Three-stage Solid State Transformer Modeling through Real Time Digital
 [MoH3-1] Simulation with Controller Hardware-in-the-loop 1116
 Ran Mo¹, Chengxiong Mao¹, Jiming Lu¹, Hui Li², Xiaohu Liu²
 1. Huazhong University of Science and Technology, China
 2. Florida State University, USA
- 16:15~16:35 PD0325 Analysis and Simulation of 3P-Bridge Cascaded Multilevel PWM Converter 1120
 [MoH3-2] Zhiguo Lu, Lili Zhao, Wanping Zhu, Chunjun Wu
 Chongqing University, China
- 16:35~16:55 PD0723 Modeling, Analysis, and Implementation of Real Time Network Controlled Parallel
 [MoH3-3] Multi-Inverter Systems 1125
 Weifeng Zheng, Hao Ma, Xiangning He
 Zhejiang University, China
- 16:55~17:15 PD0517 High-Efficiency Large-Capacity Uninterruptible Power Supply for 3-Phase 4-Wire
 [MoH3-4] Power System 1131
 TingAn Lee , Masahiro Kinoshita and Kazunori Sanada
 Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan
- 17:15~17:35 PD0544 5m-off-Long-Distance Inductive Power Transfer System Using Optimum Shaped

[MoH3-5] Dipole Coils 1137
 Changbyung Park, Sung-Woo Lee and Chun-taek Rim
 KAIST, Korea

June 5, 2012 (Tuesday) 8:30~10:10

Room306 [A]

Oral Session : 17.1 DC-DC Converters

Session Chairs: Prof. Adrian Ioinovici (Holon Institute of Technology, Israel)
 Dr. Zhe Zhang (Technical University of Denmark, Denmark)

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|-----------|--------------------|---|
| 8:30~8:50 | PD0764
[TuA1-1] | A DC-DC Full-Bridge Hybrid Series Resonant Converter Enabling Constant Switching Frequency Across Wide Load Range 1143
Yeh Ting, Sjoerd de Haan, Jan A. Ferreira
Delft University of Technology, The Netherlands |
| 8:50~9:10 | PD0528
[TuA1-2] | High Performance DC-DC Converter for Wide Voltage Range Operation 1151
River T. H. Li ¹ , Mircea-Florian Vancu ² , Francisco Canales ¹ , Daniel Aggeler ¹
1. ABB CRC Switzerland
2. ETH Zurich Switzerland |
| 9:10~9:30 | PD0688
[TuA1-3] | A New Active Power Decoupling Technique for Three-port Flyback Inverter 1159
Kyu-Dong Kim ¹ , Young-Ho Kim ¹ , Jun-Gu Kim ¹ , Yong-Chae Jung ² , Chung-Yuen Won ¹
1. Sungkyunkwan University, Korea
2. Namseoul University, Korea |
| 9:30~9:50 | PD0381
[TuA1-4] | A New Quadratic Boost Converter with High Voltage Step-up Ratio and Reduced Voltage Stress 1164
Ping Yang, Jianping Xu, Guohua Zhou, Shiyu Zhang
Southwest Jiaotong University, China |

June 5, 2012 (Tuesday) 8:30~10:10

Room307 [B]

Oral Session : 18.1 Control Strategy for LVRT and MPPT

Session Chairs: Prof. Jaeho Choi (Chungbuk National University, Korea)
 Dr. Lin Ma (Siemens Ltd., China)

- | | | |
|------------|--------------------|---|
| 8:30~8:50 | PD0409
[TuB1-1] | A LVRT Control Strategy Based on DC-link Voltage Limit for PMSG Wind Generation System 1169
Keqing Qu, Jinbin Zhao, Yuehong Xing
Shanghai University of Electric Power, China |
| 8:50~9:10 | PD0763
[TuB1-2] | A Hybrid LVRT Control Scheme for PMSG Wind Power System 1173
Mian Wang, Ye Tian, Xia Feng, Guozhu Chen
Zhejiang University, China |
| 9:10~9:30 | PD0369
[TuB1-3] | Analysis of Chinese Photovoltaic Generation System Low Voltage Ride Through Characters 1178
Lin Ma ¹ , Hua Liao ¹ , Jing Li ¹ , Xiang Yang ² , Kim Tschegodajew ² , Fen Tang ³
1. Siemens Ltd., China
2. Siemens Electrical Apparatus Ltd., China
3. Beijing Jiaotong University, China |
| 9:30~9:50 | PD0676
[TuB1-4] | Improvement of Grid-Connected Inverter Systems with PR Controllers under the Unbalanced and Distorted Grid Voltage 1183
Jong-Hyun Lee, Hea-Gwang Jeong, Kyo-Beum Lee
Ajou University, Korea |
| 9:50~10:10 | PD0862
[TuB1-5] | Novel Low Voltage Ride Through Strategy of Single-Stage Grid-Tied Photovoltaic Inverter with Supercapacitor Coupled 1188 |

Hao Tian, Feng Gao, Cong Ma
Shandong University, China

June 5, 2012 (Tuesday) 8:30~10:10

Room407 [C]

Oral Session : 3.6 Motor Drive and Motion Control

Session Chairs: Prof. Kwang-Hee Nam (POSTECH, Korea)
Prof. Jibin Zou (Harbin Institute of Technology, China)

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|------------|----------|--|
| 8:30~8:50 | PD0826 | A Novel Current Derivative Measurement Using Recursive Least Square Algorithms for Sensorless control of Permanent Magnet Synchronous Machine 1193 |
| | [TuC1-1] | Yu Duan, Mark Sumner
University of Nottingham, UK |
| 8:50~9:10 | PD0190 | System-on-Chip Sensorless Control of PMSM Combining Signal Injection and Flux Observer 1201 |
| | [TuC1-2] | Zhixun Ma, Ralph Kennel
Technische Universitaet Muenchen, Germany |
| 9:10~9:30 | PD0071 | The Analysis of Multipole Axial Flux Reluctance Resolver with Sinusoidal Rotor 1206 |
| | [TuC1-3] | Jing Shang, Hao Wang, Weiqiang Wang
Harbin Institute of Technology, China |
| 9:30~9:50 | PD0870 | DSP Based All-Digital Resolver-to-Digital Conversion Using DSRF-PLL 1210 |
| | [TuC1-4] | Yongxiang Xu, Dianchen Zheng, Yanyu Wei, Jibin Zou, Jing Shang
Harbin Institute of Technology, China |
| 9:50~10:10 | PD0188 | A Novel Sensorless Control Method of IPMSM using Dual PLL Structure 1216 |
| | [TuC1-5] | Yituo Li, Haifeng Lu, Wenlong Qu, Shuang Sheng
Tsinghua University, China |

June 5, 2012 (Tuesday) 8:30~10:10

Room408 [D]

Oral Session: 19.1 PV Inverter and Control Strategy

Session Chairs: Prof. Xinbo Ruan (Nanjing University of Aeronautics and Astronautics, China)
Dr. Deng Yan (Zhejiang University, China)

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|------------|----------|---|
| 8:30~8:50 | PD0617 | Design of LCC Resonant Converter for Renewable Energy Systems with Wide-Range Input Voltage 1221 |
| | [TuD1-1] | K. A. Cho ¹ , S. H. Ahn ¹ , S. B. Ok ¹ , H. J. Ryoo ² , S. R. Jang ² , G. H. Rim ²
1. University of Science & Technology, Korea
2. Electric Propulsion Research Center, Korea |
| 8:50~9:10 | PD0785 | Analysis and Design of a Single-Phase Flyback Microinverter on CCM Operation 1229 |
| | [TuD1-2] | T. V. Thang, N. M. Thao, Do-Hyun Kim, Joung-Hu Park
Soongsil Univ., Korea |
| 9:10~9:30 | PD0640 | Electrolytic Capacitor-less PV Converter for Full Lifetime Guarantee Interfaced with DC Distribution 1235 |
| | [TuD1-3] | Gab-Su Seo ¹ , Bo-Hyung Cho ¹ , Kyu-Chan Lee ²
1. Seoul national University, Korea
2. Interpower, Co., Ltd., Korea |
| 9:30~9:50 | PD0748 | A Soft-Switched, Flying Inductor DC-DC Converter Suitable for Photovoltaic Panels 1241 |
| | [TuD1-4] | I. Pecelj, S.W.H. de Haan, J.A. Ferreira
Delft University of Technology, The Netherlands |
| 9:50~10:10 | PD0695 | A Phase Lagging Compensation for Output Current of DCM Flyback Based PV Micro-Inverters 1247 |
| | [TuD1-5] | Young-Hyok Ji, Doo-Yong Jung, Jun-Gu Kim, Young-Ho Kim, Chung-Yuen Won |

June 5, 2012 (Tuesday) 8:30~10:10

Room409 [E]

Oral Session : 20.1 Wind Power Generation System

Session Chairs: Prof. Liu Jinjun (Xi'an Jiaotong University, China)

Dr. Zheng Dapeng (Emerson Network Power, China)

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|------------|--------------------|---|
| 8:30~8:50 | PD0204
[TuE1-1] | An Improved Vector Control Method for Dual Three Phase PMSG 1252
Jian Liu ¹ , Jianyong Su ¹ , Guijie Yang ¹ , Jinbo Yang ²
1. Harbin Institute of Technology, China
2. Beijing Institute of Space Launch Technology, China |
| 8:50~9:10 | PD0561
[TuE1-2] | Development of a Compact, Complete Shield PCS for Wind Turbine Generators 1257
Hiroyoshi Komatsu ¹ , Manabu Souda ¹ , Tatsuaki Ambo ¹ , Kimiyuki Koyanagi ² , Mitsuru Ishizuka ²
1. Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan
2. Mitsubishi Electric Corporation, Japan |
| 9:10~9:30 | PD0527
[TuE1-3] | A MPPT Vector Control Method for Wind Power PMSG System 1264
Keqing Qu ¹ , Qingquan Niu ¹ , Jie Li ²
1. Shanghai University of Electric Power, China
2. Shanghai Open University, China |
| 9:30~9:50 | PD0430
[TuE1-4] | FPGA Based Multiplex PWM Generator for Diode-clamped Cascaded Inverter in the Direct-driven Wind Power System 1268
Xianglian Xu ¹ , Pingting Xu ¹ , Gang Tang ¹ , Zilin Tang ¹ , Diankuan Ding ²
1. Wuhan University of Technology, China
2. Anyang Normal University, China |
| 9:50~10:10 | PD0645
[TuE1-5] | Application of Interphase Inductors for Parallel Generator-Side Converters in Direct-Drive Wind Turbine System 1273
Rui Li, Hui Zhu, Dianguo Xu
Harbin Institute of Technology, China |

June 5, 2012 (Tuesday) 8:30~10:10

Room410 [F]

Oral Session : 22.1 Renewable Energy and power system

Session Chairs: Dr. Yi Wang (North China Electric Power University, China)
Dr. Xunwen Su (Harbin Institute of Technology, China)

- 8:30~8:50 PD0820 Coordinated Control of Multi-terminal VSC-HVDC Transmission for Large Offshore
[TuF1-1] Wind Farms 1278
Gang Shi¹, Guoxiang Wu¹, Xu Cai¹, Zhe Chen²
1. Shanghai JiaoTong University, China
2. Aalborg University, Denmark
- 8:50~9:10 PD0500 PCC Voltage Control Using Flywheel System for Large Wind Farm 1283
[TuF1-2] Kamran Masteri Farahani¹, Bala Venkatesh¹, David Xu¹, Bob Singh², Aaron Lamp³,
Aisha Bukhari⁴
1. Ryerson University, Canada
2. Hydro One Inc, Canada
3. Temporal Power, Canada
4. Toronto Hydro Electric System, Canada
- 9:10~9:30 PD0804 Optimization of Social Welfare and Transmission Losses in Offshore MTDC Networks
[TuF1-3] through Multi- Objective Genetic Algorithm 1287
Sílvio Rodrigues¹, Rodrigo Teixeira Pinto¹, Pavol Bauer¹, Jan Pierik²
1. University of Delft, The Netherlands
2. Energy Research Centre of the Netherlands(ECN), The Netherlands
- 9:30~9:50 RD0014 The Influence of Large-scale Intermittent Power in Power Systems on Frequency
[TuF1-4] Regulation 1295
Yufeng Guo, Ye Tian, Jilai Yu
Harbin Institute of Technology, China
- 9:50~10:10 PD0845 Grid Integration of Offshore Wind Farms and Offshore Oil/Gas Platforms 1301
[TuF1-5] Gang Shi¹, Simin Peng¹, Xu Cai¹, Zhe Chen², Wei He³
1. Shanghai Jiao Tong University, China
2. Aalborg University, Denmark
3. Statoil, Norway

June 5, 2012 (Tuesday) 8:30~10:10

Room411 [G]

Oral Session : 22.1 Fault-Tolerant Technology

Session Chairs: Dr. Yong Yu (Harbin Institute of Technology, China)
Dr. Quntao An (Harbin Institute of Technology, China)

- 8:30~8:50 PD0113 Sensor Fault Detection and Fault Tolerant Control of Induction Motor Drivers for
[TuG1-1] Electric Vehicles 1306
Shicai Fan, Jianxiao Zou
University of Electronic Science and Technology of China, China
- 8:50~9:10 PD0364 A Fault-Tolerant Operation Method of PMSM Fed by Cascaded Two-Level Inverters 1310
[TuG1-2] Quntao An, Guanglin Wang, Li Sun
Harbin Institute of Technology, China
- 9:10~9:30 PD0291 Design and Optimization of a Six-phase Fault-Tolerant Permanent Magnet Motor 1314
[TuG1-3] Xiaochen Zhang, Jingwei Zhu, Qingguan Liu
Dalian Maritime University, China

9:30~9:50	PD0210 [TuG1-4]	Modeling and Simulation of Six-phase Fault-Tolerant Permanent Magnet Motor Vector Control System 1319 Fan Zhang, Jingwei Zhu, Dongxing Liu Dalian Maritime University, China
9:50~10:10	PD0374 [TuG1-5]	Research on the PMSM Servo System Position Sensor Correction 1324 Jun Liu ¹ , Xiajie Xie ¹ , Haiyun Han ² , Haihong Qin ² , Deming Zhu ² , Ran Ao ² 1. Shanghai Dianji University, China 2. Nanjing University of Aeronautics and Astronautics, China

June 5, 2012 (Tuesday) 10:25~12:05

Room306 [A]

Oral Session : 17.2 DC-DC Converters

Session Chairs: Dr. Zhe Zhang (Technical University of Denmark, Denmark)

Prof. Adrian Ioinovici (Holon Institute of Technology, Israel)

10:25~10:45	PD0458 [TuA2-1]	A Novel LLC Multi-Resonant DC–DC Converter with an Anti-Resonant Circuit 1328 Hiroto Mizutani ¹ , Tomokazu Mishima ¹ , Mutsuo Nakaoka ² 1. Kobe University, Japan 2. Kyungnam Univ./Prof. Emeritus Yamaguchi Univ, Korea/Yamaguchi, Japan
10:45~11:05	PD0606 [TuA2-2]	A Low Cost Low Power Flyback Converter with a Simple Transformer 1336 Siyang Zhao, Junming Zhang, Yang Shi Zhejiang University, China
11:05~11:25	PD0716 [TuA2-3]	Series-Connected Isolated-Switched-Capacitor Boost Converter 1343 Do-Hyun Kim, Sol Moon, Chan-In Kim, Joung-Hu Park Soongsil Univ., Korea
11:25~11:45	PD0692 [TuA2-4]	Series Input Parallel Output Interleaved Flyback Converter with Regenerative Leakage Inductance Energy 1347 Jong-Woo Kim ¹ , Il-Oun Lee ¹ , Gun-Woo Moon ¹ , Ki-Bum Park ² 1. KAIST, Daejeon, Korea 2. ABB Switzerland Ltd., Switzerland
11:45~12:05	PD0672 [TuA2-5]	Research on Feedback Linearization Control of Three-Phase Inverter Based on Inverse System 1353 Xiaorui Wang, Hao Ma Zhejiang University, China

June 5, 2012 (Tuesday) 10:25~12:05

Room307 [B]

Oral Session : 18.2 Control Strategy for LVRT and MPPT

Session Chairs: Dr. Lin Ma (Siemens Ltd., China)

Prof. Jiuhe Wang (Beijing Information Science & Technology University, China)

10:25~10:45	PD0562 [TuB2-1]	Comparison of Duty Ratio Perturbation & Observation and Reference Voltage Perturbation & Observation Methods Applied in MPPT 1358 Jie Dong, Chunjiang Zhang, Yanbang Li Yanshan University, China
10:45~11:05	PD0705 [TuB2-2]	Sensorless Current Balancing and MPPT Control For Photovoltaic AC Module Type Interleaved Flyback Inverter 1363 Young-Ho Kim ¹ , Ju-Suk Kang ¹ , Sun-Jae Youn ¹ , Yong-Chae Jung ² , Chung-Yuen Won ¹ 1. Sungkyunkwan University, Korea 2. Namseoul University, Korea
11:05~11:25	PD0744	Single MPPT Controller for Multi-module Converters using Wireless

	[TuB2-3]	Communication 1368 Sol Moon, Do-Hyun Kim, Chan-in Kim, Daniel Thena Thayalan, Joung-Hu Park Soongsil University, Korea
11:25~11:45	PD0217 [TuB2-4]	The Maximum Power Point Tracking Technology of Passivity-based Photovoltaic Grid-connected System 1372 Xueyu Bao, Jiuhue Wang, Hao Xiang, Yuling Ma BISTU, China
11:45~12:05	PD0446 [TuB2-5]	Maximum Power Point Tracking for Single Stage Grid-Connected PV System under Partial Shading Conditions 1377 Muhammad Fayyaz Kashif, Sehwa Choi, Yongsoon Park and Seung-Ki Sul Seoul National University, Korea

June 5, 2012 (Tuesday) 10:25~12:05
Room407 [C]

Oral Session : 3.7 Motor Drive and Motion Control

Session Chairs: Prof. Jibin Zou (Harbin Institute of Technology, China)
Prof. Kwang-Hee Nam (POSTECH, Korea)

10:25~10:45	PD0118 [TuC2-1]	Design of Rotor Flux Oriented Vector Control Systems for Induction Motor 1384 González Acevedo ¹ , Hernando ¹ , Neira Vargas ² , German Mauricio ² , Carreño Torres ² , John Jairo ² 1. Universidad Autónoma de Bucaramanga, Colombia 2. Unidades Tecnológicas de Santander, Spain
10:45~11:05	PD0857 [TuC2-2]	Research on Field Oriented Control System of Induction Motor Based on Computer 1389 Tiecheng Sun, Jingwei Han, Deyan Gao, Sanling Xu, Ningbo Lu Harbin Institute of Technology, China
11:05~11:25	PD0819 [TuC2-3]	Rotor Speed Optimization for Indirect Field Oriented Controlled Induction Motor using Genetic Algorithm N/A Moulay Rachid Douiri, Mohamed Cherkaoui Mohammadia School of Engineers, Morocco
11:25~11:45	PD0521 [TuC2-4]	Analysis of PWM based Single Phase Induction Motor Drive N/A Ashay Saxena Manipal Institute of Technology, India
11:45~12:05	PD0257 [TuC2-5]	A New Method for Dynamic Energy Management of Energy-Saving Elevators Based on Super Capacitors 1403 Damin Zhang, Lujun Wang, Lixiang Jin, Xiaoyuan Hong, Linghui Jin, Zhengyu Lv Zhejiang University, China

June 5, 2012 (Tuesday) 10:25~12:05
Room408 [D]

Oral Session: 19.2 PV Inverter and Control Strategy

Session Chairs: Dr. Yunqing Pei (Xi'an Jiaotong University, China)
Prof. Xinbo Ruan (Nanjing University of Aeronautics and Astronautics, China)

10:25~10:45	PD0674 [TuD2-1]	Fault Diagnosis and Fault-Tolerant Control of a DC-Link Voltage Sensor for PV Inverters 1408 Gwang-Seob Kim, Kyo-Beum Lee Ajou University, Korea
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Session Chairs: Dr. Zheng Dapeng (Emerson net-work power, China)
Prof. Liu Jinjun (Xi'an Jiaotong University, China)

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Dr. Yi Wang (North China Electric Power University, China)**

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1. Nanjing University of Aeronautics and Astronautics, China
2. An Hui University of Technology, China
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2. Beijing Institute of Technology, China
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		1. Chonnam National University, Korea 2. Mokpo National Maritime University, Korea	

3. Myongji University, Korea
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1. Xi'an University of Technology
2. Xi'an Jiaotong University
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1. Seoul Nat'l University of Science and Technology, Korea
2. Hyosung Corporation, Korea
- 12:05~15:55 PD0428 Research on Control Method for Avoiding Transformer Magnetic Biasing in
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1. Xi'an Jiaotong University, China
2. XJ Group Corporation, Xuchang, China
- 12:05~15:55 PD0782 The Control Strategy of Bidirectional Z-Source Inverter for Vehicle System 1971
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Dr. Xiangjun Zhang (Harbin Institute of Technology, China)

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Wenbin Yu¹, Shengwang Li¹, Song Cheng¹
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2. Beijing Xuji Power Optics Technology Co. Ltd., China
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Japan Aerospace Exploration Agency, Japan
- 12:05~15:55 PD0254 A Novel Fast Detection Algorithm for Grid Symmetrical Components Extraction 1998
[MoP097] Dakun Duan, Xueguang Zhang, Yicheng Liu, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0305 Feedback Control Strategy for Matrix Rectifier 2002

- [MoP098] Zhiping Wang^{1,2,3}, Yunxiang Xie¹, Yu Wang¹
 1. South China University of Technology, China;
 2. Guangdong Academy Of Science, China;
 3. Chinese Academy of Sciences, China
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 [MoP099] Generation System 2007
 Yandong Chen, An Luo
 Hunan University, China
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 Dong Jin Kim²
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 2. SUNKWANG LTI Co., Ltd, Korea
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 2. International Rectifier Corporation, China
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 2. Zhongshan polytechnic, China
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 2. Virginia Polytechnic Institute and State University, USA
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Dr. Xiangjun Zhang (Harbin Institute of Technology, China)

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1. Meiji University, Japan
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 1. Dongfang Electronic Corporation R&D Centre of China, China
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 2. Anyang Institute of Technology, China
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 [MoP196] MW-Level DDWT-PMSG 2506
 Fen Tang, Xinmin Jin, Xiao Zhou, Xuezhi Wu, Yibin Tong
 Beijing Jiaotong University, China
- 12:05~15:55 PD0172 Application of inverter-driven jet-fans to the high-way tunnel 2512
 [MoP197] Yoshitaka Kawabata¹, Takao Kawabata¹, Ichiro Nakabori², Kenichi Murakami²
 1. Ritsumeikan Univ, Japan
 2. Sohatsu Systems Laboratory Inc., Japan

- 12:05~15:55 PD0052 Research on Torque Ripple Modulation for Permanent Brushless DC Motor Based
[MoP198] on DSP 2516
Shengyao Bi¹, Meilan Zhou¹, Zhaoming Gao¹, Quan Gu²
1. University of Science and Technology, China
2. Harbin Hafei Automobile Industry Group Co., Ltd., China
- 12:05~15:55 PD0021 Simulation on Double Switched Reluctance Machines Parallel Drive System with
[MoP199] PI & VSS Control 2522
H. Chen, J. Fan, R. Gao
China University of Mining & Technology, China
- 12:05~15:55 PD0275 Comparative Research on Low Speed Sensorless Control of Permanent Magnet
[MoP200] Synchronous Motors 2527
Zhang Lei^{1,2}, Chunxia Gao¹, Huawei Zhou¹, Jinlei Meng¹
1. China University of Petroleum, China
2. Chinese Academy of Sciences, China
- 12:05~15:55 PD0641 Research on Variable Frequency System with Three-Level topology and SVPWM
[MoP201] Control 2532
Shicheng Zheng, Taotao Cui, Mutian Cheng, Long Chen
Anhui University of Technology, China
- 12:05~15:55 PD0685 A Sensorless I/f Control Method for Single-Phase BLDC Fan Motors with
[MoP202] Efficiency Optimization by Power Factor Control 2537
Kaisheng Kan, Yingyu Tzou
National Chiao Tung Univ., Taiwan, China
- 12:05~15:55 PD0131 Stability and Performance Analysis of Permanent Magnet Motors Operating in
[MoP203] Flux-Weakening Region 2542
Xibo Yuan¹, Jiabin Wang²
1. The University of Bristol, UK
2. The University of Sheffield, UK
- 12:05~15:55 RD0036 Research on System of Self-controlled Soft Start with Variable Frequency for
[MoP204] Synchronous Motor 2547
Guangzhe Jin, Changcheng Zhou, Qiang Gao, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0239 Control System of Switched Reluctance Machines Based on MCF5213 2552
[MoP205] H. Chen¹, C. Liu¹, F. Xie¹, J. Fan¹, Z. Chen²
1. China University of Mining & Technology, China
2. Aalborg University, Denmark
- 12:05~15:55 PD0867 Study on Fuzzy Control for Starting Torque of Vehicle with Motorized Wheels 2557
[MoP206] Liqiang Jin, Weibing Cai
Jilin University, China
- 12:05~15:55 WD0004 Research on Speed Raise Curve of Hybrid Electric Vehicle during Acceleration
[MoP207] Process Based on Optimal Efficiency 2561
Hailong Guo^{1,2,3}, Lifu Li^{1,2,3}, Yueqi Liu^{1,2,3}
1. South China University of Technology, China
2. Chongqing University, China
3. Guangdong Communication Polytechnic, China
- 12:05~15:55 PD0874 Research on A Electronic Cam Motion Control System Based on Embedded PC N/A
[MoP208] Yangbing Ou, Wenge Wang, Ting Nie
Hunan University, China
- 12:05~15:55 PD0090 Altered PWM for DC Link Current Translation to Phase Currents for Electric Drives 2570
[MoP209] Hamid Khan¹, El Hadj Miliani¹, Khalil El Khamlichi Drissi²
1. IFP Energies Nouvelles, France
2. Universite Blaise Pascal, France

- 12:05~15:55 PD0345 Rotor Position Estimation with Full-Order Sliding-Mode Observer for Sensorless
[MoP210] IPMSM 2577
Gaolin Wang, Guoqiang Zhang, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0879 Sensorless Control of Permanent Magnet Synchronous Motor Based on Sliding
[MoP211] Mode Observer 2582
Wei Chen, Yankun Chen, Hongfeng Li, Zhanfeng Song
Tianjin University, China
- 12:05~15:55 PD0307 Stator Structure Design and Analysis of Variable Reluctance Resolver for
[MoP212] Hybrid-Vehicle Motor Drive 2587
Shuimei Cui, Hao Ge
Harbin Institute of Technology, China
- 12:05~15:55 PD0631 Driving Characteristics Consideration of Interior Permanent Magnet Synchronous
[MoP213] Motor in High Speed Range 2593
Masakuni ISHIZUKA¹, Hiroki HIGURE¹, Dai KATO¹, Nobukazu HOSHI¹, Junnosuke
HARUNA¹, Hiroshi MATSUOKA², Hiroki SUEMASU², Yoshihiro UCHIYAMA²
1. Tokyo University of Science, Japan
2. ACR Co., Ltd, Japan
- 12:05~15:55 WD0002 Research and Design of Servo Electric Control System for Injection Mould
[MoP214] Machine N/A
Linna Shan, Chongran Jiang, Bin Wang, Jiandong Xu
Jiamusi University, China
- 12:05~15:55 PD0856 Design of PMSM Vector Control System Based on TMS320F2812 DSP 2602
[MoP215] Tiecheng Sun, Ce Liu, Ningbo Lu, Deyan Gao, Sanling Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0526 A SCR-Based Switch-Control Strategy of Delta/wye Switchover for Delta
[MoP216] Connected Induction Motors 2607
Pengfei Shi, Xueshen Cui, Liang Zhu
North China Electric Power University, China
- 12:05~15:55 PD0006 Design of a DSP-based Linear Switched Reluctance Motor Using Repetitive
[MoP217] Control 2612
Hang Ma¹, Song Yang¹, Junyou Yang¹, Huaiyang Shen¹, Geyuan Ding¹, Shengquan
Chang²
1. Shenyang University of Technology, China
2. Qingyang Special Chemical Industry Corporation, China
- 12:05~15:55 PD0235 Simulation Analysis of A New Electric Dynamic Load Simulator Based on
[MoP218] Double-stator Permanent-magnet Synchronous Motor 2617
Zhe Wang, Mingyan Wang, Guoqiang Wang
Harbin Institute of Technology, China
- 12:05~15:55 PD0534 A Novel Rotor Position Detection Method for Sensorless Brushless DC Motor N/A
[MoP219] Yagang Huang, Junzheng Wang, Youtong Zhang
Beijing Institute of Technology, China
- 12:05~15:55 RD0006 A Novel Structure for Maximum Power Extraction from a Variable Speed Wind
[MoP220] Turbine Driving an DFIG 2625
Mehdi Mohammadzadeh Rostami
Islamic Azad University, Iran

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Poster Session: 1.5 Electric Propulsion System

Session Chairs: Prof. Qiang Gao (Harbin Institute of Technology, China)

Dr. Xiangjun Zhang (Harbin Institute of Technology, China)

12:05~15:55	PD0885 [MoP221]	Fuzzy-PI Control Battery Equalization for Series Connected Lithium-Ion Battery String 2631 Rui Ling, Yan Dong, Hebiao Yan, Meirong Wu, Yi Chai Chongqing University, China
12:05~15:55	PD0621 [MoP222]	Fuzzy Control Strategy of Parallel HEV Based on Driving Cycle Recognition 2636 Wu Jian ^{1,2} 1. Shandong University, China 2. Shandong University of Political Science and Law, China
12:05~15:55	PD0560 [MoP223]	Efficiency Improvement of ESS for DC Transit System 2641 Kyoungmin Kwon ¹ , Eun-Kyu Lee ¹ , Jaeho Choi ² , Seung-Gil Baek ³ 1. Woojin Industrial Systems Ltd., Korea 2. Chungbuk National University, Korea 3. Daejeon Metropolitan Express Transit Co., Korea
12:05~15:55	PD0890 [MoP224]	Effect of Electric Arc Resistance on the Transition State Due To the Breakers Switching in Substations With Air Insulation 2647 Danial Hoseini ¹ , Ramin Shourvarzi ² , Mehdi Mohammadzadeh Rostami ³ 1. Islamic Azad University Shabestar Branch, Iran 2. Sadjad Institute of Higher Education, Iran 3. Independent Researcher, Iran
12:05~15:55	PD0452 [MoP225]	Experimental Discussion on Inductive Type Contactless Power Transfer System with Boost or Buck Converter Connected to Rectifier 2652 Kazuyuki IIMURA, Nobukazu HOSHI, Junnosuke HARUNA Tokyo University of Science, Japan
12:05~15:55	PD0858 [MoP226]	Power Management System Design for Small Size Solar-Electric Vehicle 2658 Hongjun Chen, Fei Lu, Fujuan Guo Harbin Institute of Technology, China
12:05~15:55	PD0557 [MoP227]	Distribution Management and Optimal Supply of Reactive Power in restructured Power Systems Using PSO Algorithm 2663 Ramin Shourvarzi ¹ , Navid Mehdizadeh Afroozi ² , Mohammad Vaziri Mirzaei ³ , Mehdi Mohammadzadeh Rostami ³ 1. K.N.Toosi University of Technology, Iran 2. Shiraz University, Iran 3. Independent Researcher, Iran
12:05~15:55	PD0658 [MoP228]	10kW Rapid-Charger for Electric Vehicle Considering Vehicle to Grid(V2G) 2668 Ga-Gang Choi ¹ , Doo-Yong Jung ¹ , Sung-Chon Choi ¹ , Chung-Yuen Won ¹ , Yong-Chae Jung ² , Jang-Hyoun Youm ³ 1. Sungkyunkwan University, Korea 2. Namseoul University, Korea 3. Samsung Electronics, Korea
12:05~15:55	PD0484 [MoP229]	EV battery charger that Uses Z-source AC/AC converter 2673 Xinyu Fang, Da Xie, Zhiwen Yu, Junqi Feng, Qian Ai Shanghai Jiaotong University, China
12:05~15:55	PD0150 [MoP230]	The State-of-Health Diagnosis of Li-Co Batteries with Fuzzy Identification 2678 Ho-Ta Lin, Tsorng-Juu Liang, Shih-Ming Chen National Cheng-Kung University, Taiwan, China

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Poster Session: 1.6 Power Quality Mitigation**Session Chairs: Prof. Qiang Gao (Harbin Institute of Technology, China)****Dr. Xiangjun Zhang (Harbin Institute of Technology, China)**

- 12:05~15:55 WD0231 The DC Capacitors' Voltage Balancing Strategy for Cascaded H-Bridge Converter Based STATCOM 2683
[MoP231] Zhonglai Su, Guang Zeng, Jinggang Zhang, Bo Zhou
Xi'an University of Technology, China
- 12:05~15:55 PD0596 The Coordination between Primary and Secondary Frequency Control based on Differential Games 2687
[MoP232] Rong Ye, Haoyong Chen, erjun Lou, Runge Lu
South China University of Technology, China
- 12:05~15:55 RD0033 Application and Performance of a Multilevel cascaded H-Bridge Converter on Static Var Generator 2694
[MoP233] Yannan Yu^{1,2}, Jichi Yan¹, Hongjuan Fang¹, Rongfeng Yang¹, Yong Yu¹, Dianguo Xu¹
1. Harbin Institute of Technology, China
2. Heilongjiang Institute of Science and Technology, China
- 12:05~15:55 PD0859 Study of Voltage Level Sequence of Distribution Network in Zhengzhou New district Based on AHP 2699
[MoP234] Qianye Zhang¹, Jianfei Yue²
1. Henan Electric Power Company, Xinxiang Power Supply Company, China
2. Taiyuan University of Technology, China
- 12:05~15:55 PD0467 A STATCOM Control Strategy in Support of Direct On Line Starting of Large Induction Motor in Offshore Oilfield Power Systems 2704
[MoP235] Daobiao Zou¹, Xiarong Xie², Ce Liu¹, Zhihai Zan¹, Feng Wu¹, Yipeng Dong²
1. China National Offshore Oil Corporation, China
2. Tsinghua University, China
- 12:05~15:55 PD0842 PSO-based Self-Tuning PI Control for STATCOM 2710
[MoP236] Hongjun Chen, Jing Li, Xin Zhou
Harbin Institute of Technology, China
- 12:05~15:55 PD0403 A Novel Adaptive Hysteresis Band Current Control Method for Three-level Based Active Power Filter 2716
[MoP237] Yangle Ping, Alian Chen, Chenghui Zhang
Shandong University, China
- 12:05~15:55 PD0516 Optimal Control Strategy for Cascaded STATCOM under Unsymmetrical Power System Conditions 2721
[MoP238] Zhichang Yuan, Tao Xia
Tsinghua university, China
- 12:05~15:55 PD0853 A Study on the DC Voltage Control Techniques of Cascaded Multilevel APF 2727
[MoP239] Hongjuan Fang, Rongfeng Yang, Yannan Yu, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0811 A Research on Cascade Five-level Aeronautical Active Power Filter 2732
[MoP240] Zhong Chen, Changyou Wang, Miao Chen, Jianxia Li
Nanjing University of Aeronautics and Astronautics, China
- 12:05~15:55 WD0008 Simulation of Current Active Power Filter and its Control Methods 2738
[MoP241] Xiaomeng Li, Jian Wu, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0419 Harmonic Suppression of Multi-Pulse AC-DC Converter with Recycling System of Harmonic Energy at DC Side 2743
[MoP242] Wei Yang, Fangang Meng, Shiyang Yang
Harbin Institute of Technology, China

12:05~15:55	PD0509 [MoP243]	A Novel Control Method for DC Voltage of Cascaded STATCOM 2748 Liansong Xiong, Fang Zhuo, Yixin Zhu Xi'an Jiaotong University, China
12:05~15:55	PD0038 [MoP244]	A Novel Control Strategy for Three-Phase Shunt Active Power Filter Using a Lyapunov Function 2754 Chao Meng ¹ , Lin Zhang ¹ , Yongqiang Hong ¹ , Junbin Lin ² 1. Xiamen University, China 2. Jiangsu Electric Power Construction Company, China
12:05~15:55	PD0148 [MoP245]	Research on Modular STATCOM Based on Dynamic Reactive Current Detection Method 2760 Jingsong Zhu, Lei Li, Min Pan NJUST, China
12:05~15:55	RD0024 [MoP246]	Research on Downhole Multi-parameters Monitoring System 2765 Jiqiang Han ¹ , Qiang Gao ² 1. Petro Equipment Group, China 2. Harbin Institute of Technology, China
12:05~15:55	PD0328 [MoP247]	An Optimized Strategy to Control DC Bus Voltage Decline for Three-phase VSR 2769 Jiaming Chen, Wenjie Zhang, Dakun Duan, Dianguo Xu Harbin Institute of Technology, China
12:05~15:55	PD0250 [MoP248]	Optimal Programmed Staircase Waveforms for Cascaded Multilevel Inverter 2774 Chang Xue, Jianze Wang, Yanchao Ji Harbin Institute of Technology, China
12:05~15:55	PD0620 [MoP249]	A Novel Control Strategy of Active Filter for Suppressing Background Harmonic Voltage Magnification in Power Distribution System 2779 Xiaofeng Sun ¹ , Zhichao Lee ¹ , Lu Gong ¹ , Zhe Chen ² 1. Yanshan University, China 2. Aalborg University, Denmark
12:05~15:55	PD0569 [MoP250]	An Experimental Research on Comparison of Two Kinds of Voltage Sag Generators 2784 Jian Wu ¹ , Zhihao Huang ¹ , Dianguo Xu ¹ , Ke Hua ² 1. Harbin Institute of Technology, China 2. Heilongjiang Electric Power Company Limited, China
12:05~15:55	PD0724 [MoP251]	Reactive Power Planning and Strategy Research Considering Backbone Grid Voltage Stability 2789 Tian Xin ¹ , Niu Xinsheng ¹ , Zang Hongzhi ¹ , Mu Hong ² , Zhang Weichang ² 1. Shan Dong Electric Power Research Institute, China 2. Shandong Electric Power Corporation, China
12:05~15:55	PD0040 [MoP252]	Research on Voltage Control Strategy of D-STATCOM N/A Jie Tang, Yueqiu Wang, Jintian Yin Shaoyang University, China
12:05~15:55	PD0425 [MoP253]	Mathematical Model Analysis and LCL Filter Design of VSC 2799 Di Wu ¹ , Yonghua Chen ¹ , Shasha Hong ² , Xiaodong Zhao ¹ , Jian Luo ¹ , Zhaogen Gu ¹ 1. China Electric Power Research Institute, China 2. Jiangsu Electric Power Company, China
12:05~15:55	PD0375 [MoP254]	Research on Cascade STATCOM Based on Pulse Step Modulation 2805 Zhou bo, Zeng Guang, Tian yangyang, Su zhonglai Xi'an University of Technology, China
12:05~15:55	PD0497	Stability Improvements of Grid-Connect Inverter Using Combination of Passive

- [MoP255] and Active Damping 2809
Xing Zhang¹, Changzhou Yu¹, Fang Liu¹, Fei Li¹, Renxian Cao²
1. Hefei University of Technology, China
2. Sungrow Power Supply Co., Ltd. , China
- 12:05~15:55 PD0571 A Research on Control Strategy of APF Combined with TSC 2814
[MoP256] Hou Rui¹, Wu Jian¹, Huang Zhihao¹, Xu Dianguo¹, Hua Ke²
1. Harbin Institute of Technology, China
2. Heilongjiang Electric Power Company Limited, China
- 12:05~15:55 PD0112 Application of AC Converter in STATCOM 2819
[MoP257] Jiaojiao Liu, Lei Li
Nanjing University of Science and Technology, China
- 12:05~15:55 RD0022 Dynamic Compensation Strategy for the Unbalanced Three-phase Reactive Power
[MoP258] System Based on TSC Device 2823
Siyu Wang, Yuanyuan Lv, Qiang Gao, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD1201 Design and Simulation Study of 3-Level APF Based on the Time-Fixed Hysteresis
[MoP259] Comparison Control 2828
Zhihao Huang, Jian Wu, Rui Hou, Dianguo Xu
Harbin Institute of Technology, China
- 12:05~15:55 PD0678 Research on PI and Repetitive Control Strategy for Shunt Active Power Filter with
[MoP260] LCL-Filter 2833
Zheng Zeng, Jiaqiang Yang, Nianchang Yu
Zhejiang University, China
- 12:05~15:55 PD0810 A Novel 400Hz Shunt Active Power Filter for Aircraft Electrical Power System 2838
[MoP261] Zhong Chen, Miao Chen
Nanjing University of Aeronautics and Astronautics, China
- 12:05~15:55 PD0563 Research on the Selection Method of Passive Power Filter Topologies 2844
[MoP262] Junpeng Ji, Guang Zeng, Haiwa Liu, Lei Luo, Jinggang Zhang
Xi'an University of Technology, China
- 12:05~15:55 PD0494 The Study of Transformerless Shunt Hybrid Active Power Filter Compensation for
[MoP263] Unbalanced Load 2849
Zheng Jiakun, Meng Chao, Li Po, Hong Yongqiang
Xiamen University, China
- 12:05~15:55 PD0385 A Digital Controller Design Method to Improve PFC Converter Performance N/A
[MoP264] Xiaoqiang Zhang^{1,2}, Weiping Zhang², Peng Mao^{1,2}, Yuanchao Liu²
1. Beijing Institute of Technology, China
2. North China University of Technology, China
- 12:05~15:55 PD0578 Multi-objective Optimal Design for Passive Power Filters in Hybrid Power Filter
[MoP265] System Based on Multi-island Particle Swarm Optimization 2859
Shengqing Li, Yongan Li, Xiaodong Luo, Lilin Zeng, Zhengping He
Hunan University of Technology, China
- 12:05~15:55 PD0739 Research on Robust H₂/H_∞ Optimization Control for Unified Power Quality
[MoP266] Conditioner in Micogrid 2864
Shengqing Li, Xiaodong Luo, Yong'an Li, Lilin Zeng, Zhengping He
Hunan University of Technology, China
- 12:05~15:55 PD0555 Comparison of SVC & STATCOM in Voltage Profile Improvement of Grid
[MoP267] Connected Asynchronous Generator Under Overload & Short Circuit Conditions 2868
Mehdi Mohammadzadeh Rostami, Soodabeh Soleymani
Islamic Azad University, Iran

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Poster Session: 1.7 Other Applications of Power Electronics

Session Chairs: Prof. Qiang Gao (Harbin Institute of Technology, China)

Dr. Xiangjun Zhang (Harbin Institute of Technology, China)

- | | | |
|-------------|--------------------|---|
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[MoP268] | A Novel Design Method of LCL Filter for a Grid-interconnected Three-Level Voltage Source Inverter 2873
Zhangping Shao ¹ , Xing Zhang ¹ , Fusheng Wang, Fei Li ¹ , Renxian Cao ²
1. Hefei University of Technology, China
2. Sungrow Power Supply Co., Ltd., China |
| 12:05~15:55 | PD0123
[MoP269] | Performance of a High Frequency Quasi-Resonant Inverter with Variable-Frequency Output for Induction Heating 2877
Masaki Miyamae ¹ , Takahiro Ito ¹ , Kouki Matsuse ¹ , Masayoshi Tsukahara ²
1. Meiji University, Kanagawa-ken, Japan
2. Nippon Thermonnics Co., Ltd., Kanagawa-ken, Japan |
| 12:05~15:55 | PD0132
[MoP270] | A Power Supply Solution for High-voltage IGBT Drivers 2883
Lei Jingyu, Wang Yue
Xi'an Jiaotong University, China |
| 12:05~15:55 | PD0272
[MoP271] | Simulation Study on the Novel SFC Control System Based on IGCT for Pumped-storage Power Station 2888
Jia Pei ¹ , Xueshen Cui ¹ , Jianguo Jiang ²
1. North China Electric Power University, China
2. Shanghai Jiao Tong University, China |
| 12:05~15:55 | PD0158
[MoP272] | The Study of novel PDM-based Induction Heating Frequency Tracking Control 2893
Hui Zhu, Chengyong Wang, Yonglong Peng, Yabin Li
North China Electric Power University, China |
| 12:05~15:55 | PD0371
[MoP273] | Application of the Voltage Loss Ride-Through Technology in Medium Voltage AC-AC Converter 2898
Chunsong Liu, Xuan Hu and Shibao Qian
Guodian Nanjing Automation Co.,Ltd., China |
| 12:05~15:55 | PD0747
[MoP274] | Design of Robust Controller for Single-Phase Double-Conversion UPS System 2903
Seung-Beom Lim ¹ , Young-Min Seo ¹ , Sang-Hoon Kim ² , Jin-Woo Lee ³ and Soon-Chan Hong ¹
1. Dankook University, Korea
2. Kangwon National University, Korea
3. Doowon Technical College, Korea |
| 12:05~15:55 | PD0421
[MoP275] | Research on Control Strategy of Sequential Phase Switch with Intelligent Hybrid Switch 2908
Li Weiguo, Cui Xueshen
North China Electric Power University, China |
| 12:05~15:55 | PD0501
[MoP276] | Design and Implementation of Photovoltaic Lighting System with High Luminous Efficacy LEDs 2914
Liqiang Yuan, Zhiping Chen, Xianlai Hu, Junjie Ge, Zhengming Zhao
Tsinghua University, China |
| 12:05~15:55 | PD0386
[MoP277] | Research On Some Key Problems of Self-exciting Electronic Ballast N/A
Peng Mao ^{1,2} , Weiping Zhang ² , Xiaoqiang Zhang ^{1,2} , Yuanchao Liu ²
1. Beijing Institute of Technology, China
2. North China University of Technology, China |
| 12:05~15:55 | PD0308
[MoP278] | Low-Cost Digitally Controlled DC/DC Converter for HID Electronic Ballast 2923
Wang Bin, Li Jun
Chongqing University, China |

12:05~15:55	WD0007 [MoP279]	Automatic Parking System Based on the Simulation Path Planning N/A Gao Qiang ¹ , Wang Tieliu ² , Sun Qi ² , Liu Yahui ¹ 1. Tsinghua University, China 2. Beijing University of Technology, China
12:05~15:55	PD0897 [MoP280]	Tangential Connection Clustering Routing Algorithm for L-PLC Based AMR Systems 2932 Xiaosheng Liu, Weiqi Wang, Jian Zheng, Tianxiang Hai, Liang Zhang, Bo Liu Harbin Institute of Technology, China
12:05~15:55	PD0704 [MoP281]	Comparison of Energy Storage Devices for Diagnostic X-Ray Generator 2937 Young-Min Seo ¹ , Soon-Chan Hong ¹ , Hee-Sun Kim ² 1. Dankook University, Korea 2. LS Industrial Systems Ltd., Korea
12:05~15:55	PD0154 [MoP282]	Design and Development of the Star-point Control High Voltage Power Supply of the ECRH System on HL-2A Tokamak 2943 Xiaohui Mao, Yali Wang, Qing Li, Lieying Yao, Yingqiao Wang SWIP, China
12:05~15:55	PD0152 [MoP283]	Design and Application of Measurement System for the HVPS based on PSM Technique on HL-2A 2947 Yali Wang, Yingqiao Wang, Xiaohui Mao, Lieying Yao SWIP, China
12:05~15:55	PD0091 [MoP284]	Micro-arc Oxidation Flyback Switching Current Pulse Unit and Combination of Multi-units 2952 Wei Yang, Shiyan Yang, Hongyang Liu Harbin Institute of Technology, China
12:05~15:55	PD0504 [MoP285]	Control of Improved RTGC System with Reduced Fuel Consumption 2957 Bayasgalan. D ¹ , J. S. Ryu ¹ , Y. M. Choi ¹ , S. H. Lee ¹ , D. H. Han ² , Y. J. Lee ² , G. H. Choe ² 1. Seoho Electric Corporation, Korea 2. Konkuk University, Korea
12:05~15:55	PD0893 [MoP286]	Applying AFDX to Improve the Real-time Performance of Substation Communication Network 2962 Xiaosheng Liu, Pengyu Zhang, Huifen Ren, Zhenfeng Zhao Harbin Institute of Technology, China
12:05~15:55	PD0383 [MoP287]	A Three-stage LED Driver with Pulse Modulator N/A Jianbo Yang, Futing wang, Weiping Zhang North China University of Technology, China
12:05~15:55	RD0032 [MoP288]	High Frequency High Density Low Profile Adapter 2972 Zhuang Zuo ¹ , Alpha ¹ Zhang, Dianguo Xu ² 1. Delta Electronics (Shanghai) Co., Ltd., China 2. Harbin Institute of Technology, China
12:05~15:55	RD0040 [MoP289]	A Hybrid Speed Sensorless Control Strategy for PMSM Based on MRAS and Fuzzy Control 2976 Shicai Fan ¹ , Wuqiao Luo ¹ , Jianxiao Zou ¹ , Gang Zheng ² 1. University of Electronic Science and Technology of China, China 2. Dongfang Electronic Corporation R&D Center of China, China
12:05~15:55	PD0749 [MoP290]	Design and Analysis of a DC-DC Converter for EVs Battery Charger 2981 Shunxiang Li, KwangHee Nam Pohang University of Science and Technology, Korea
12:05~15:55	PD0871 [MoP291]	DSP Controlled 10kW Interleaved Boost Converter Used for PV Applications N/A Yifeng Wang ¹ , Yanbo Che ¹ , Chengshan Wang ¹ , Xiangjun Zhang ² , Yijie Wang ² 1. Tianjin University, China

		2. Harbin Institute of Technology, China
12:05~15:55	RD0043 [MoP292]	Accurate Load Sharing Control in Autonomous Operation of Microgrid 2991 Hong Wang, Donglai Zhang Harbin Institute of Technology(Shenzhen), China
12:05~15:55	RD0044 [MoP293]	Control and Performance of a Medium-Voltage Cascade H-bridge STATCOM 2995 Ying Cui, Qiang Gao, Dianguo Xu Harbin Institute of Technology, China
12:05~15:55	RD0045 [MoP294]	An Analysis of Shunt Active Power Filter Based on Instantaneous Reactive Power Theory 3000 Juhai Zhang Chongqing Design and Research Institute of China, China
12:05~15:55	RD0046 [MoP295]	Experiment Study of Squirrel-Cage Induction Generator for the Full-Scale Wind Power Converter 3004 Han Wang, Zhenlan Dou, Jianwen Zhang, Peng Wang, Xu Cai Shanghai Jiaotong University, China
12:05~15:55	PD0059 [MoP296]	A Novel Control Method for Multilevel Converter Used in Envelope Tracking Power Supply 3010 Qing Liu, Donglai Zhang, Mingyu Liu Harbin Institute of Technology(Shenzhen), China
12:05~15:55	PD0463 [MoP297]	A Carrier Comparison PWM Method for Reducing Input Current THD of Three-Phase PWM Rectifier 3015 Yong-Sin Jin ¹ , Hee-Keun Shin ² , Hag-Wone Kim ¹ , Kwan-Yuhl Cho ¹ , Byung-Kook Lim ¹ 1. Korea Nat'I University of Transportation, Korea 2. VC Tech, R&D Center, Korea
12:05~15:55	RD0041 [MoP298]	Measurement of Thermophysical Properties by a Pulse-Heating Technique (1100 K to the melting point) N/A Peng Xiao, Delong Zhang, Sen Yang, Jingmin Dai Harbin Institute of Technology, China
12:05~15:55	RD0039 [MoP299]	The impact of plasma sheath on radio wave and its mitigations N/A Qiang Zhang, Binhao, Jiang Harbin Institute of Technology, China
12:05~15:55	PD0566 [MoP300]	Digital Control of Synchronous Buck Converter with Multi-mode for Wide Load Range 3028 Jongbok Baek, Woon Choi, Bohyung Cho Seoul National University, Korea