

IFEEC 2019 Technical Programme

TIME	25 November (Monday)		
8.30am – 5.00pm	Registration @ Grand Ballroom Foyer		
9.30am – 1.00pm	Tutorial Session 1 & 2 (Parallel)		
9.30am – 10.30am	Tutorial 1 : High Frequency and Very High Frequency Power Converters: Design and Optimization Speakers: Prof Xu Dianguo, Prof Wang Yijie & Prof Guan Yueshi / Harbin Institute of Technology, China Grand Ballroom 2	Tutorial 2: Multi-Cell & Multi-Level Power Converters - A Way to Go Beyond the Limits Speaker: Prof Petar J. Grbović, University of Innsbruck, Austria Grand Ballroom 3	
10.30am – 11.00am	Coffee Break		
11.00am – 1.00pm	Tutorial 1 : High Frequency and Very High Frequency Power Converters: Design and Optimization Speakers: Prof Xu Dianguo, Prof Wang Yijie & Prof Guan Yueshi / Harbin Institute of Technology, China Grand Ballroom 2	Tutorial 2: Multi-Cell & Multi-Level Power Converters - A Way to Go Beyond the Limits Speaker: Prof Petar J. Grbović, University of Innsbruck, Austria Grand Ballroom 3	
1.00pm – 2.00pm	Lunch		
2.00pm – 5.30pm	Tutorial Session 3 & 4, IFEEC x SPECS: Industry Seminar & Port Electrification Business Opportunity Roundtable (Parallel)		
2.00pm – 3.30pm	Tutorial 3: Photo-Electro-Thermal-Theory for LED Systems and its Applications Speakers: Prof Ron Hui & Prof Siew-Chong Tan, The University of Hong Kong, Hong Kong Grand Ballroom 2	Tutorial 4: Recent Advances in Permanent Magnet Synchronous Machines for Applications in Automotive and Renewable Energy Systems Speakers: Dr Rukmi Dutta & Prof Faz Rahman, University of New South Wales, Australia Grand Ballroom 3	IFEEC x SPECS: Industry Seminar Grand Ballroom 1
3.30pm – 4.00pm	Coffee Break		

TIME	25 November (Monday)		
4.00pm – 5.30pm	<p>Tutorial 3: Photo-Electro-Thermal-Theory for LED Systems and its Applications</p> <p>Speakers: Prof Ron Hui & Prof Siew-Chong Tan, The University of Hong Kong, Hong Kong</p> <p>Grand Ballroom 2</p>	<p>Tutorial 4: Recent Advances in Permanent Magnet Synchronous Machines for Applications in Automotive and Renewable Energy Systems</p> <p>Speakers: Dr Rukmi Dutta & Prof Faz Rahman, University of New South Wales, Australia</p> <p>Grand Ballroom 3</p>	<p>IFEEC x SPECS: Port Electrification Business Opportunity Roundtable (4.00pm – 6.00pm)</p> <p>Grand Ballroom 1</p>
5.30pm	End of Tutorial		End of Roundtable
6.00pm – 7.30pm	<p>Welcome Reception (BBQ Dinner)</p> <p>Venue: Level 4 Poolside, Parkroyal on Beach Road</p>		

TIME	26 November (Tuesday)			
7.45am – 5.30pm	Registration @ Grand Ballroom Foyer (7.45am – 5.00pm) Exhibition @ Grand Ballroom Foyer (9.00am – 5.30pm)			
8.30am - 9.00am	Opening Ceremony Welcome Address by Prof Tan Yap Peng Chair, School of Electrical and Electronic Engineering Nanyang Technological University, Singapore			
9.00am – 10.30am	Plenary Session A Grand Ballroom 1 & 2 Session Chair: Prof Jason Lai, Virginia Tech, USA & Nanyang Technological University, Singapore			
9.00am – 9.30am	Plenary Presentation 1 Topic: High-Power Bidirectional Isolated DC-DC Converters Using SiC-MOSFET Modules Speaker: Professor Hirofumi Akagi, University Distinguished Professor, Tokyo Institute of Technology, Japan and IEEE Fellow			
9.30am – 10.00am	Plenary Presentation 2 Topic: The Emerging Role of Power Electronics Technology for Resolving Recent Global Problems Speaker: Professor Gyu-Ha Choe, President, Korean Electrotechnology Research Institute (KERI), South Korea			
10.00am – 10.30am	Plenary Presentation 3 Topic: Impact of Wide-Band-Gap Devices on Three-Phase Power Conversion Systems Speaker: Professor Mark Dehong Xu, Professor, Zhejiang University, China and IEEE Fellow			
10.30am – 11.00am	Coffee break			
11.00am – 1.00pm	Technical Session 1 (A1-DC1) Grand Ballroom 1	Technical Session 2 (A1-CT1) Grand Ballroom 2	Technical Session 3 (A1-PEA1) Grand Ballroom 3	Technical Session 4 (A1-EMD1) Sky Ballroom 1
1.00pm – 2.00pm	Lunch & Poster Sessions (P1) Foyer and Grand Ballroom 3			
2.00pm – 3.30pm	Technical Session 5 (B1-MLC1) Grand Ballroom 1	Technical Session 6 (B1-PEA2) Grand Ballroom 2	Technical Session 7 (B1-SMG1) Grand Ballroom 3	Industry Session I Sky Ballroom 1
3.30pm – 4.00pm	Coffee Break			
4.00pm – 6.00pm	Technical Session 8 (C1-MLC2) Grand Ballroom 1	Technical Session 9 (C1-RET1) Grand Ballroom 2	Technical Session 10 (C1-SMG2) Grand Ballroom 3	Technical Session 11 (C1-EMD2) Sky Ballroom 1
6.45pm – 8.15pm	Social Dinner Venue: Function Room, Level 2, Hotel Grand Pacific <i>Transport leaves Conference Hotel at 6.15pm and returns to Conference Hotel approximately by 8.30pm</i>			

TIME	27 November (Wednesday)			
8.00am – 5.30pm	Registration @ Grand Ballroom Foyer (8.00am – 5.00pm) Exhibition @ Grand Ballroom Foyer (9.00am – 5.30pm)			
8.30am - 10.30am	Plenary Session B Grand Ballroom 1 & 2 Session Chair: Prof Fook Hoong Choo, Nanyang Technological University, Singapore			
8.30am - 9.00am	Plenary Presentation 4 Topic: Power Converters for Future Electronic Energy Systems Speaker: Professor Dushan Boroyevich, University Distinguished Professor, Associate Vice President of Research and Innovation and Director, Center for Power Electronics Systems (CPES), Virginia Tech, USA and IEEE Fellow			
9.00am – 10.30am	Plenary Presentation 5 Topic: AC to AC direct conversion technology and its applications Speaker: Professor Jun-ichi Itoh, Nagaoka University of Technology, Japan			
9.30am – 10.00am	Plenary Presentation 6 Topic: An Enhancement-mode GaN FEG-HEMT device for power switching applications Speaker: Professor Edward Yi Chang, Senior Vice President, Dean of International College of Semiconductor Technology Chair Professor of the Department of Materials Science and Engineering and Department of Electronics Engineering, National Chiao Tung University, Taiwan and IEEE Fellow			
10.00am – 10.30am	Plenary Presentation 7 Topic: Technical Challenges to Future Power Systems with More Electronic Converters and More Distributed Generations Speaker: Professor Jinjun Liu, University Distinguished Professor of Power Electronics, Director, The Institute of Power Electronics and Industrial Automation, Director, Power Electronics and Renewable Energy Center, School of Electrical Engineering, Xi'an Jiaotong University, China and IEEE Fellow			
10.30am – 11.00am	Coffee break			
11.00am – 1.00pm	Technical Session 12 (A2-DC2) Grand Ballroom 1	Technical Session 13 (A2-CT2) Grand Ballroom 2	Technical Session 14 (A2-EMD3) Grand Ballroom 3	Industry Session II Sky Ballroom 1
1.00pm – 2.00pm	Lunch & Poster Sessions (P2) Foyer and Grand Ballroom 3			
2.00pm – 3.30pm	Technical Session 15 (B2-PEA3) Grand Ballroom 1	Technical Session 16 (B2-CT3) Grand Ballroom 2	Technical Session 17 (B2-SMG3) Grand Ballroom 3	Technical Session 18 (B2-RET2) Sky Ballroom 1
3.30pm – 4.00pm	Coffee Break			
4.00pm – 5.00pm	Technical Session 19 (C2-MLC3) Grand Ballroom 1	Technical Session 20 (C2-PEA4) Grand Ballroom 2	Technical Session 21 (C2-SMG4) Grand Ballroom 3	Technical Session 22 (C2-RET3) Sky Ballroom 1
5.00pm – 6.00pm				
6.30pm – 8.00pm	Conference Banquet & Best Paper Award Presentation Venue: Grand Ballroom 1 & 2, Level 1, Parkroyal on Beach Road			

Technical Session 1 (A1-DC1): Devices and Components 1 (7)

Venue: Grand Ballroom 1

Chair: Prof. Tsorng Juu Peter Liang, National Cheng Kung University, Taiwan

Time: 26th November, 11.00am-12.45pm

Co-chair: Prof Toshihisa Shimizu, Tokyo Metropolitan University, Japan

Paper ID	Paper Title	List of Authors	Remarks	Presenter
1009	Practical Guidelines for Device Characterization and Power Converter Design involving SiC MOSFETs	Howe Li Yeo and Venkata Ravi Kishore Kanamarlapudi Energy Research Institute @ NTU, Nanyang Technological University Singapore, Singapore	11.00am – 11.15am	Yeo Howe Li
1041	More Accurate Miller Capacitor Modeling for SiC Switching Characteristic Prediction in High Frequency Applications	Zhipeng Cheng, Han Peng and Jimin Chen State Key Laboratory of Advanced Electromagnetic Engineering and Technology (AEET) School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, China	11.15am – 11.30am	Zhipeng Cheng
1106	Parasitic Inductance Reduction Design Method of Vertical Lattice Loop Structure for Stable Driving of GaN HEMT	Si-Seok Yang, Jae-Hwan Soh and Rae-Young Kim Energy & Power Electronics Control System Lab Department of Electrical Engineering, Hanyang University, Seoul, Korea	11.30am – 11.45am	Si Seok Yang
1192	Design and Experiment of a Gate Drive Circuit using SAW Filter with Signal and Power Transmission	Hiroshi Tokuyama, Keiji Wada and Shigeyoshi Goka Department of Electrical Engineering and Computer Science, Tokyo Metropolitan University, Tokyo, Japan	11.45am – 12.00pm	Keiji Wada
1208	Robust Gate Driving Vectors to Load Current and Temperature Variations for Digital Gate Drivers	Toru Sai ¹ , Koutaro Miyazaki ¹ , Hidemine Obara ² , Tomoyuki Mannen ³ , Keiji Wada ³ , Ichiro Omura ⁴ , Takayasu Sakurai ¹ and Makoto Takamiya ¹ ¹ The University of Tokyo, Tokyo, Japan, ² Yokohama National University, Kanagawa, Japan, ³ Tokyo Metropolitan University, Tokyo, Japan, ⁴ Kyushu Institute of Technology, Fukuoka, Japan	12.00pm – 12.15pm	Toru Sai
1210	Effect on Digital Active Gate Control of a Practical IGBT Full-Bridge Inverter with the Additional DC-Link Capacitor Close to Power Devices	Tomoyuki Mannen*, Daiki Yamaguchi*, Keiji Wada*, Hidemine Obara [†] , Toru Sai [‡] , Koutaro Miyazaki [‡] , Makoto Takamiya [‡] and Takayasu Sakurai [‡] *Tokyo Metropolitan University, Tokyo, Japan, [†] Yokohama National University, Kanagawa, Japan, [‡] University of Tokyo, Tokyo, Japan	12.15pm – 12.30pm	Tomoyuki Mannen
1145	Thermal Modelling of Planar Transformers Considering Internal Power Loss Distribution	Zhan Shen ¹ , Yanfeng Shen ² and Huai Wang ¹ ¹ Department of Energy Technology, Aalborg University Aalborg, Denmark, ² Department of Engineering, University of Cambridge, UK Cambridge, UK	12.30pm – 12.45pm	Huai Wang

Technical Session 2 (A1-CT1): Charging Technologies 1 (7)**Venue: Grand Ballroom 2****Chair: Prof Rached Dhaouadi, American University of Sharjah, UAE****Time: 26th November, 11.00am-12.45pm****Co-chair: Prof. Kai Jun Pai, Ming Chi University of Technology, Taiwan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1225	Fringing Effect Analysis of Parallel Plate Capacitors for Capacitive Power Transfer Application	Xu Chen ^{1,2} , Zhe Zhang ¹ , Shengbao Yu ² and Tiberiu-Gabriel Zsurzsan ¹ ¹ Department of Electrical Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark, ² College of Instrumentation and Electrical Engineering, Jilin University, Changchun, China	11.00am – 11.15am	Gabriel Zsurzsan
1036	Analysis and Design of the Class-E Resonant Regulated Wireless Power Receiver	Kerui Li, Keith Chi Yung Ho, Siew Chong Tan and Ron Shu Yuen Hui Department of Electrical and Electronics Engineering, The University of Hong Kong, Hong Kong	11.15am – 11.30am	Kerui Li
1142	A Constant Current and Constant Voltage Compensation Scheme for Wireless Charger	Bac Xuan Nguyen, Fook Hoong Choo, Leong Hai Koh, Pengfei Tu and Jaspreet Singh Narli Energy Research Institute @ NTU, Nanyang Technological University Singapore, Singapore	11.30am – 11.45am	Bac Xuan Nguyen
1182	A Novel Multi-port Bi-directional Inductive Power Transfer System with Simultaneous Main and Auxiliary Battery Charging Capability	Dannisworo Sudarmo Nugroho, Ryosuke Ota and Nobukazu Hoshi Department of Electrical Engineering, Tokyo University of Science, Chiba, Japan	11.45am – 12.00pm	Dannisworo Sudarmo Nugroho
1135	Resonant Network Transformation and Implementation of a Compacted Four-Plate Capacitive Power Transfer	Laskar Pamungkas, Marojahan Tampubolon, Yu-Chen Chang and Huang-Jen Chiu Department of Electronic and Computer Engineering, National Taiwan University of Science and Technology, Republic of China (ROC)	12.00pm – 12.15pm	Laskar Pamungkas
1013	A Three-Phase Battery Charger with Constant Current and Pulse-Ripple-Current Charging Capability	Cheng-Yu Tang, Pon-Tzu Chen and Yaow-Ming Chen Department of Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan	12.15pm – 12.30pm	Pon-Tzu Chen
1055	Analysis of Improved Buck-Boost Converter Based on Graph Theory	Shuailong Dai, Rui Liu, Yulei Li, Zhifei Shan and Yewen Wei College of Electrical Engineering & New Energy China, Three Gorges University, Yichang, China	12.30pm – 12.45pm	Shuailong Dai

Technical Session 3 (A1-PEA1): Power Electronics Applications 1 (8)**Venue: Grand Ballroom 3****Chair: Prof Jinjun Liu, Xi'an Jiaotong University, China****Time: 26th November, 11.00am-1.00pm****Co-chair: Prof Tzung Lin Lee, National Sun Yat Sen University, Taiwan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1189	LC Resonant Battery Equalizer	Liang-Rui Chen ¹ , Bo- Hong Chen ¹ , Cheng-Hung Hsu ¹ , You-Xun Yang ¹ , Chuan-Sheng Liu ² , Wen-Chin Wu ³ and Neng-Yi Chu ³ ¹ Department of Electrical Engineering, National Changhua University of Education, Changhua, Taiwan, ROC, ² Department of Aeronautical Engineering, National Formosa University, Yunlin, Taiwan, ROC, ³ Department of Electrical Engineering, National Penghu University of Science and Technology, Penghu, Taiwan, ROC	11.00am – 11.15am	Bo-Hong Chen
1012	An Active Direct Balancing Circuit for Series Connected Batteries	JiYe Han, Shiyang Yang, Xiaofang Liu and Wei Yang Department of Electrical Engineering Harbin Institute of Technology Harbin, China	11.15am – 11.30am	Xiaofang Liu
1229	Real-time Battery Cell Voltage Measurement Method Using LC Series Circuit Type Cell Voltage Equalizer	Daiki Satou Department of Mechanical and Electrical Engineering, Suwa University of Science, Chino, Nagano, Japan	11.30am – 11.45am	Daiki Satou
1034	Submodule Control Strategy and DC Fault Ride Through Strategy for Battery Energy Storage System-Based Hybrid MMC	Baorun Li, Jianfeng Zhao, Dongye Li, Seng Zhang and Chen Jin Department of Electrical Engineering, Southeast University, Nanjing, China	11.45am – 12.00pm	Baorun Li
1230	Novel state-of-health prediction method for lithium-ion batteries in battery storage system by using voltage variation at rest period after discharge	Emha Bayu Miftahullatif ¹ , Shin Yamauchi ² , Jagadeeswaran Subramanian ² , Youji Ikeda ³ and Tohru Kohno ¹ ¹ Energy Conversion Electronics Research dept. Hitachi, Ltd. Research & Development Group, Tokyo, Japan, ² Research & Development Center Hitachi India Pvt. Ltd, Bengaluru, India, ³ Business Operations dept. Hitachi Industrial Equipment Systems Co., Ltd., Tokyo, Japan	12.00pm – 12.15pm	Emha Bayu Miftahullatif
1028	Charge Equalization on Series-Connected Battery Modules by Digital Controller	Chao-Yuan Lo ¹ , Yao-Ching Hsieh ¹ , Po-Cheng Chen ² and Huang-Jen Chiu ² ¹ Department of Electrical Engineering National Sun Yat-sen University, Kaohsiung, Taiwan, ² Department of Electronic and Computer Engineering National Taiwan University of Science and Technology Taipei, Taiwan	12.15pm – 12.30pm	Chao-Yuan Lo
1234	Optimized Storage Battery Operation Strategy by Considering Long-term Variability of a Net Load with Photovoltaics	Kazufumi Yuasa ¹ , Miki Ueshima ² , Tadatosh Babasaki ² and Ichiro Omura ¹ ¹ Department of Life Science and Systems Engineering, Kyushu Institute of Technology, Fukuoka, Japan, ² Research & Development Division NTT FACILITIES, INC., Tokyo, Japan	12.30pm – 12.45pm	Kazufumi Yuasa
1049	Design of Bidirectional DC-DC Converter for Energy Storage System in High Power Application	¹ Nguyen Anh Dung, ¹ Hsin-Che Hsieh, ² Jing-Yuan Lin, ² Huang-Jen Chiu and ¹ Jih-Sheng Lai ¹ The Bradley Department of Electrical and Computer Engineering, Virginia Polytechnic Institute and State University, USA ² Department of Electronics and Computer Engineering, National Taiwan University of Science and Technology, Taiwan	12.45pm – 1.00pm	Hsin-Che Hsieh

Technical Session 4 (A1-EMD1): Electric Machines and Drives 1 (8)**Venue: Sky Ballroom 1****Chair: Prof. Sanjib Kumar Panda, National University of Singapore, Singapore****Time: 26th November, 11.00am-1.00pm****Co-chair: Prof. YaowMing Chen, National Taiwan University, Taiwan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1039	A Novel 3-Phase L-Dump Converter for Switched Reluctance Motors	Dodi Garinto and Harki Apri Yanto Product Development and Application of Technology (LP3T), Politeknik Manufaktur Astra, Jakarta, Indonesia	11.00am – 11.15am	Dodi Garinto
1158	Partial Discharge in Medium-voltage Motor Winding Insulation Exposed to Two-level PWM Waveforms	Risha Na, Boxue Hu, Haoyang You, Julia Zhang, Longya Xu and Jin Wang Department of Electrical and Computer Engineering, The Ohio State University Columbus, OH, USA	11.15am – 11.30am	Jin Wang
1153	Intelligent Online Auto-Tuning Technique for IPMSM Servo Drive	Faa-Jeng Lin, Shih-Gang Chen, Hsiao-Tse Chou and Jyun-Ru Lin Department of Electrical Engineering, National Central University, Chungli, Taiwan	11.30am – 11.45am	Shih Gang Chen
1183	A Sensorless IPMSM Drive Based on Current-Slope and Back-EMF Hybrid Approach	Tian-Hua Liu, Muhammad Syahril Mubarak and Chung-Yuan Tsai Department of Electrical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan	11.45am – 12.00pm	Tian-Hua Liu
1188	Model Predictive Direct Torque Control of Permanent Magnet Synchronous Motor for Torque Ripple Reduction	Lon-Jay Cheng ¹ , Zih-Jia Zeng ² , Le-Ren Chang-Chien ² , Mi-Ching Tsai ¹ , K.V. Ling ³ and I-Hsuan Wu ² ¹ Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan, ² Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, ³ School of Electrical & Electronic Engineering, Nanyang Technological University Singapore, Singapore	12.00pm – 12.15pm	I-Hsuan Wu
1101	A Method of Torque Ripple Reduction by Using Harmonic Current Injection in PMSM	Taichi Nishio ¹ , Yamauchi Ryosuke ² , Kondo Masahiko ² and Kan Akatsu ¹ ¹ Shibaura Institute of Technology, Department of Electrical Engineering and Computer Science, Tokyo, Japan, ² Nissan Motor Co.,Ltd., Powertrain Engineering Division, Kanagawa, Japan	12.15pm – 12.30pm	Taichi Nishio
1214	Analysis of Saliency-Based Position Estimation for Permanent Magnet Machine with Saturation Reflected Non-Sinusoidal Inductance	Kuo-Yuan Hung, Nai-Wen Liu and Shih-Chin Yang Department of Mechanical Engineering, National Taiwan University Taipei, Taiwan, R.O.C.	12.30pm – 12.45pm	Kuo-Yuan Hung
1089	Interval Type-2 T-S Fuzzy Control of Permanent-Magnet Synchronous Motor	Yuan-Chih Chang, Yi-Chien Liao and Chien-Yu Huang Department of Electrical Engineering, National Chung Cheng University, Chiayi, Taiwan	12.45pm – 1.00pm	Yuan-Chih Chang

Technical Session 5 (B1-MLC1): Multilevel Converters 1 (6)**Venue: Grand Ballroom 1****Chair: Prof. Tae Won Chun, University of Ulsan, South Korea****Time: 26th November, 2.00pm-3.30pm****Co-chair: Dr. Kui Wang, Tsinghua University, China**

Paper ID	Paper Title	List of Authors	Time	Presenter
1033	A New Multilevel Dual Active Bridge DC-DC Converter	Dharmendra Yadeo, Pradyumn Chaturvedi, H. M. Suryawanshi, Dipesh Atkar and Sai Krishna Saketi Department of Electrical Engineering, Visvesvaraya National Institute of Technology, Nagpur, India	2.00pm - 2.15pm	Dharmendra Devnath Yadeo
1062	High-Frequency Transformer Design for LLC Resonant Converter with High Insulation Capability	Chih-Shen Yeh, Hao Wen, Dong Jiao and Jih-Sheng Lai Future Energy Electronics Center, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA	2.15pm - 2.30pm	Hao Wen
1071	Optimal Design Methodology for High Frequency GaN Based Step-up LLC Resonant Converter	Hao Wen, Dong Jiao and Jih-Sheng Lai Future Energy Electronics Center, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA	2.30pm - 2.45pm	Hao Wen
1232	A Review on Bidirectional Matrix-Based AC-DC Conversion for Modular Solid-State-Transformers	Jaydeep Saha, Gorla Naga Brahmendra Yadav Gorla and Sanjib Kumar Panda Department of Electrical and Computer Engineering, National University of Singapore, Singapore	2.45pm - 3.00pm	Jaydeep Saha
1072	Bidirectional Dual-active DC-DC Converter Based on Traction Auxiliary Power Supply System	Weiwei Zhu ¹ , Deng Luo ² and Zeliang Shu ¹ ¹ School of Electrical Engineering, Southwest Jiaotong University (SWJTU), Chengdu, China, ² Products & Technologies, Yunda Science & Technology Group Co., Ltd, Chengdu, China	3.00pm - 3.15pm	Weiwei Zhu
1073	Characteristics of Multiple Converters Based Traction Substations and Grid-connected Power Control Strategy	Rongxin Chen, Lan Ma and Zheliang Shu School of Electrical Engineering, Southwest Jiaotong University (SWJTU), Chengdu, China	3.15pm - 3.30pm	Rongxin Chen

Technical Session 6 (B1-PEA2): Power Electronics Applications 2 (6)**Venue: Grand Ballroom 2****Chair: Prof. Huai Wang, Aalborg University, Denmark****Time: 26th November, 2.00pm-3.30pm****Co-chair: Dr. Xiaohui Qu, Southeast University, China**

Paper ID	Paper Title	List of Authors	Time	Presenter
1030	A Feed-Forward Control for Fast Line Transient in a Boost Converter	Pang-Jung Liu, Che-Wei Chang, Yuan-Hsin Kuo and Chung-Ju Chen Department of Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan	2.00pm - 2.15pm	Yuan-Hsin Kuo
1080	Temperature and Voltage Control Methods of Power Regulators Based on Inverter for Heat Treatment	Anh-Tuan Huynh and Tae-Won Chun Department of Electrical Engineering, University of Ulsan, Ulsan, Korea	2.15pm - 2.30pm	Anh-Tuan Huynh
1059	High Power Factor Single-Stage Flyback AC-DC Converter with Primary-Side Controlled Adapted to DCM and CCM	Li-Jie Huang, Tsorng-Juu Liang, Wei-Jing Tseng, Shi-Quan Chen, Jia-Wei Yeh and Sheng-Jie Zhan Green Energy Electronics Research Center (GREERC) / Hierarchical Green Energy Materials Research Center, National Cheng Kung University, Tainan, Taiwan	2.30pm - 2.45pm	Sheng-Jie Zhan
1090	Bridgeless Buck-Boost PFC Rectifier with Positive Output Voltage Suitable for LED Driving	K. I. Hwu ¹ , Y. K. Tai ¹ , Y. P. He ¹ and Jenn-Jong Shieh ² ¹ Department of Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan, ² Department of Electrical Engineering, Feng Chia University, Taichung, Taiwan	2.45pm - 3.00pm	Yu Kun Tai
1147	Design and Implementation of Active Bleeder for TRIAC Dimmable LED Driver	Pin-Yu Wu, Tsorng-Juu Liang, Wei-Jing Tseng and Chia-Yu Chen Green Energy Electronics Research Center (GREERC) / Hierarchical Green Energy Materials Research Center, National Cheng Kung University, Tainan, Taiwan	3.00pm - 3.15pm	Chia-Yu Chen
1015	Soft Switching Multichannel Magnetic Bearing Amplifier with Reduced Number of Switches	Hsin-Che Hsieh, Anh Dung Nguyen and Jih-Sheng (Jason) Lai The Bradley Department of Electrical and Computer Engineering, Virginia Polytechnic Institute and State University, Blacksburg, USA	3.15pm – 3.30pm	Hsin-Che Hsieh

Technical Session 7 (B1-SMG1): Smart and Micro Grids 1 (6)**Venue: Grand Ballroom 3****Chair: Prof. Chia Chi Chu, National Tsing Hua University, Taiwan****Time: 26th November, 2.00pm-3.30pm****Co-chair: Prof. Yinliang Xu, Tsinghua Berkeley Shenzhen Institute Tsinghua University, China**

Paper ID	Paper Title	List of Authors	Time	Presenter
1199	Overcurrent Detection Using an Integrated Rogowski Coil for an Electric Vehicles Inverter	Yoshikazu Kuwabara ¹ , Keiji Wada ¹ , Jean-Michel Guichon ² , Jean-Luc Schanen ² and James Roudet ² ¹ Electrical and Electronic Engineering, Tokyo Metropolitan University, Tokyo, Japan, ² G2Elab, Univ. Grenoble Alpes, Institute of Technology Grenoble, France	2.00pm - 2.15pm	Yoshikazu Kuwabara
1231	Small Signal Stability Analysis of Microgrid System Based on Real-time Grid Impedance Measurement using Quadratic Residue Binary Sequence (QRBS)	Srinivasarao Kamala [*] , Sanjib Kumar Panda [*] and Gehan Amaratunga [†] [*] Department of Electrical and Computer Engineering, National University of Singapore, Singapore, [†] Department of Electrical Engineering, University of Cambridge, UK	2.15pm - 2.30pm	Srinivasarao Kamala
1096	Revisit Nyquist-Bode Stability Criteria for Power Electronic System with Non-minimum Phase System	Linjing Miao, Jack Zhang Xin and Bohui Zhao School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore	2.30pm - 2.45pm	Xin Zhang
1095	Adaptive Impedance Shaping Method for Improving LCL-type GCI under Weak Grid	Bohui Zhao, Xin Zhang and Linjing Miao School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore	2.45pm - 3.00pm	Bohui Zhao
1029	Second Order Ripple Reduction in Switched Boost Inverter For Standalone Nanogrid Applications	Shivam Chaturvedi and Deepak M. Fulwani Indian Institute of Technology Jodhpur, Jodhpur, Rajasthan, India	3.00pm - 3.15pm	Shivam Chaturvedi
1077	MASERA: A Microgrid Testbed for Advanced Optimisation of Renewable Integration	Kevin Choletais ¹ , Ali El-Akoum ¹ , Bruno Prestat ¹ and Romain Migné ² ¹ R&D, EDF, Paris, France, ² Lab Singapore, EDF Singapore, Singapore	3.15pm - 3.30pm	Geoffrey Orlando

Technical Session 8 (C1-MLC2): Multilevel Converters 2 (7)**Venue: Grand Ballroom 1****Chair: Prof. Josep Pou, Nanyang Technological University, Singapore****Time: 26th November, 4.00pm-5.45pm****Co-chair: Dr. Tomoyuki Mannen, University of Tsukuba, Japan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1061	Optimized Multilevel Inverters Derived From Generalized Asymmetrical Topology	N Kranthi Kumar, Upender Reddy Muthyala and Ashwin Dhabale Electrical Engineering Department, VNIT Nagur, India	4.00pm – 4.15pm	Ashwin Dhabale
1217	Unidirectional Vienna Converter Design Based On Series-Connected Component	Myeongsu Son, Soyeon Kwon and Younghoon Cho Department of Electrical and Electronics Engineering, Konkuk University, Seoul, South Korea	4.15pm – 4.30pm	Myeongsu Son
1125	Implementation of the Three-Level DC-DC Converter Applied in Medium-Voltage Solid-State Transformer	Hsuan Liao, Jiann-Fuh Chen and Tsung-Hsun Lee Department of Electrical Engineering, National Cheng-Kung University, Tainan, Taiwan	4.30pm – 4.45pm	Hsuan Liao
1162	Modular Multilevel DC-DC Transformer and its Modulation Strategy	Yang Chen, Miao Zhu, Jianjun Ma, Han Wang and Xu Cai School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China	4.45pm – 5.00pm	Yang Chen
1042	A Novel Fault-Tolerant Control Method for Modular Multilevel Converters	Lixia Yang ¹ , Lixin Jia ¹ , Longfei Luo ² , Yanbin Zhang ¹ , Linlin Zhao ³ and Zhuxiang Zhang ¹ ¹ School of Electrical Engineering, Xi'an Jiaotong University Xi'an, China, ² XJ Power Electronics Technology Company Xi'an, China, ³ Lanzhou Kejin Taiji Corporation, Ltd, Lanzhou, China	5.00pm – 5.15pm	Lixia Yang
1132	Capacitor Condition Monitoring Based on an Adaptive Observer of the Low-Frequency Capacitor Voltage Ripples for Modular Multilevel Converters	Ezequiel Rodriguez ¹ , Liang Gaowen ¹ , Glen G. Farivar ¹ , Hossein Dehghani Tafti ¹ , Christopher D. Townsend ² , Ramon Leyva ³ and Josep Pou ¹ ¹ School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore, ² School of Electrical, Electronic and Computer Engineering, University of Western Australia, Australia, ³ Department of Electronic, Electrical and Automatic Engineering, Universitat Rovira i Virgili, Catalonia, Spain	5.15pm – 5.30pm	Ezequiel Rodriguez Ramos
1134	An Optimal Modulation Technique and Duty Cycle Compensation in High Frequency Link Matrix Rectifier under DCM	Xu Zhi Yue, Lan Dongdong and Sahoo Sanjib Kumar Electrical and Computer Engineering, National University of Singapore, Singapore	5.30pm – 5.45pm	Zhi Yue Xu

Technical Session 9 (C1-RET1): Renewable Energy Technologies 1 (8)**Venue: Grand Ballroom 2****Chair: Prof. Cheng Yu Tang, National Taipei University of Technology, Taiwan****Time: 26th November, 4.00pm-6.00pm****Co-chair: Prof. Dong Choon Lee, Yeungnam University, South Korea**

Paper ID	Paper Title	List of Authors	Time	Presenter
1198	Output Pulsating Current Reduction for Two-Phase Interleaved Boost Converters	Wan-Ju Lin, Pon-Tzu Chen and Yaow-Ming Chen Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan	4.00pm – 4.15pm	Yaow-Ming Chen
1243	High Gain Module Integrated Converter Combating Partial Shading on PV Panel	Vandana Arora and Vishal Verma Electrical Engineering Department, Delhi Technological University, Delhi, India	4.15pm – 4.30pm	Vandana Arora
1163	LPV-based Cascade Control for Three Mode Non-inverting Buck-Boost Converter	Jianjun Ma, Miao Zhu, Yijia Chen, Han Wang and Xu Cai School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, China	4.30pm – 4.45pm	Miao Zhu
1240	A GaN-based High Step-Up Half-Bridge Resonant Converter for Interfacing PV modules to DC Data Centers	Kawsar Ali ¹ , Gurupraanesh Raman ² , Weidong Xiao ³ and Jimmy Chih-Hsien Peng ² ¹ Department of Engineering Science, University of Oxford, Oxford, UK, ² Department of Electrical and Computer Engineering, National University of Singapore, Singapore, ³ School of Electrical and Information Engineering, University of Sydney, Sydney, Australia	4.45pm – 5.00pm	Gurupraanesh Raman
1194	Operation and Control of Five-level Bi-directional Flying Capacitor DC-DC converter in DC microgrid	Vijesh Jayan and Amer Ghias School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore	5.00pm – 5.15pm	Amer Ghias
1065	Performance Enhancement of High Step-up DC-DC Converter to Attain High Efficiency and Low Voltage Stress	Waqas Hassan ¹ , Rasedul Hasan ¹ , Dylan Dah-Chuan Lu ² , Weidong Xiao ¹ and John Long Soon ³ ¹ School of Electrical and Information Engineering, The University of Sydney, NSW, Australia, ² School of Electrical and Data Engineering, University of Technology, Sydney, Australia, ³ Department of Electrical and Computer Engineering, National University of Singapore, Singapore	5.15pm – 5.30pm	Waqas Hassan
1180	A High Step-Up Single Switch DC-DC Converter With Switched-Inductors and Switched-Capacitors	Shoya Okochi and Hirotaka Koizumi Department of Electrical Engineering, Tokyo University of Science, Tokyo, Japan	5.30pm – 5.45pm	Shoya Okochi
1074	Impedance Measurement of Grid-Tied Inverter With Deviate-Frequency Harmonic Current Injection	Peijun Zhong ¹ , Jianjun Sun ¹ , Qionglin Li ² , Yi Wang ² and Xiaoming Zha ¹ ¹ School of Electrical Engineering and Automation, Wuhan University, Wuhan, China, ² Electric Power Research Institute, State Grid Henan Electric Power Company, Zhengzhou, China	5.45pm – 6.00pm	Peijun Zhong

Technical Session 10 (C1-SMG2): Smart and Micro Grids 2 (8)**Venue: Grand Ballroom 3****Chair: Prof. Kuo Yuan Lo, National Kaohsiung University of Science and Technology, Taiwan****Time: 26th November, 4.00pm-6.00pm****Co-chair: Prof. Nobukazu Hoshi, Tokyo University of Science, Japan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1215	PV Powered DC Microgrid with Plug-in Energy Support	Min Ze Lu, Pin Hong Jhou and Chang-Ming Liaw Department of Electrical Engineering ,National Tsing Hua University, Hsinchu, Taiwan	4.00pm – 4.15pm	Min Ze Lu
1076	Calculation method for time domain parameters of DC/DC output waveform under sparse sampling	Mini Wu ¹ , Cancan Wang ² , Yumin Wang ² and Xidong Xu ¹ ¹ Electrical Engineering Laboratory, Zhejiang University, Zhejiang, China, ² State Grid Lishui Power Supply Company, Zhejiang, China	4.15pm – 4.30pm	Yumin Wang
1098	Research on Symmetrical LLC Converter Applied to DC Transformer	Shih-Hao Kuo, Chien-Chun Huang, Li-Shiun Tsai and Huang-Jen Chiu Department of Electronic and Computer Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan	4.30pm – 4.45pm	Chien-Chun Huang
1131	Operation and Control Strategy of Energy Management System for LVDC Distribution System	Hoon Lee, Jin-Wook Kang, Bong-Yeon Choi, Kyung-Min Kang, Chang-Gyun An and Chung-Yuen Won Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon, Republic of Korea	4.45pm – 5.00pm	Hoon Lee
1140	Comparative Study of Isolated and Symmetrical Bidirectional DC-DC Converters based on Flyback and Forward Topologies	Nurhakimah Mohd Mukhtar ^{1,2} and Dylan Dah-Chuan Lu ^{1,3} ¹ School of Electrical and Information Engineering, University of Sydney, Australia, ² School of Electrical System Engineering, University Malaysia Perlis, Malaysia, ³ School of Electrical and Data Engineering, University of Technology, Sydney, Australia	5.00pm – 5.15pm	Nurhakimah Mohd Mukhtar
1222	DC Microgrid implementation based on Powerline Communication (PLC)	Thanh Kha Tran ¹ , Denis Genon-Catalot ² and Hamed Yahoui ¹ ¹ Ampere Laboratory Claude Bernard Lyon 1 Lyon, France, ² LCIS Laboratory, Grenoble Institute of Technology, Valence, France	5.15pm – 5.30pm	Hamed Yahoui
1244	Dual Channel Bidirectional Interleaved Cuk Converter for Battery Source interfaced with LVDC μ Grid	Pankhuri Asthana and Vishal Verma Electrical Engineering Department, Delhi Technological University, Delhi, India	5.30pm – 5.45pm	Pankhuri Asthana
1078	Analysis of common-mode voltages in flexible DC system with single-pole grounded fault	Wenkang Qin ¹ , Chenggang Yang ² , Weifeng Xu ² and Xidong Xu ¹ ¹ College of Electrical Engineering, Zhejiang University , Hangzhou, China, ² State Grid Lishui Power Supply Company, Lishui, China	5.45pm – 6.00pm	Wenkang Qin

Technical Session 11 (C1-EMD2): Electric Machines and Drives 2 (8)

Venue: Sky Ballroom 1

Chair: Prof. Jiann Fuh Chen, National Cheng Kung University, Taiwan

Time: 26th November, 4.00pm-6.00pm

Co-chair: Prof. Yuan Chih Chang, National Chung Cheng University, Taiwan

Paper ID	Paper Title	List of Authors	Time	Presenter
1043	Resource-Saving Circulation Pump on basis of an Integrated Synchronous-Reluctance Drive System	Juri Dolgirev ¹ , Marc Kalter ¹ , Sven Urschel ¹ , Ralph Funck ² , Jens Jung ² and Volker Schimmelpfennig ² ¹ Electrotechnical Systems in Mechatronics, University of Applied Sciences Kaiserslautern, Kaiserslautern, Germany, ² CirComp GmbH, Kaiserslautern, Germany	4.00pm – 4.15pm	Juri Dolgirev
1075	A Double-Sided Flat Permanent Magnet Linear Motor with Dual Halbach for Free-Piston Linear Generator	Feixue Chen ^{1,2} , Chi Zhang ¹ , Jinhua Chen ¹ , Jie Zhang ¹ , Mengfei Wei ^{1,2} , ChenXia Xu ³ and Guilin Yang ¹ ¹ Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology of Zhejiang Province, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China ² University of Chinese Academy of Sciences, Beijing, China, ³ Phase Motion Control Ningbo Ltd.	4.15pm – 4.30pm	Chi Zhang
1191	Research on Adaptive Direct Torque Control Based on Online Parameter Estimation Applied to Surface Permanent Magnet Motor	Lon-Jay Cheng ¹ , I-Hsuan Wu ² and Mi-Ching Tsai ¹ ¹ Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan, ² Department of Electrical Engineering National Cheng Kung University Tainan, Taiwan	4.30pm – 4.45pm	I-Hsuan Wu
1193	System Response of Permanent Magnet Synchronous Motor Drive Based on SiC Power Transistor	Min-Fu Hsieh, Nian-Ci Chen and That-Dong Ton Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan	4.45pm – 5.00pm	That Dong Ton
1205	A Modulated Model Predictive Current Controller for Four-Switch Three-Phase Inverter-Fed SynRMs	Crestian Almazan Agustin, Jyun-Ting Wang and Cheng-Kai Lin Department of Electrical Engineering, National Taiwan Ocean University, Keelung City, Taiwan	5.00pm – 5.15pm	Crestian Almazan Agustin
1197	A Modified of DTC Control Applied to Novel FI-PMA-SynRM for Torque Ripple Reduction	Thanh Anh Huynh ¹ , Ngoc-Duy Le ¹ , Min-Fu Hsieh ¹ and Duc-Kien Ngo ² ¹ Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan ² Department of Systems and Naval Mechatronic Engineering, National Cheng Kung University, Tainan, Taiwan	5.15pm – 5.30pm	Thanh Anh Huynh
1082	Pole Assignment of Full-Order Flux Observer to Realize Both MTPA Control and Position Sensorless Control of IPMSM	Soma Kato ¹ , Takato Hatanaka ¹ , Mutuwo Tomita ¹ , Atsushi Matsumoto ² , Masaru Hasegawa ² and Shinji Doki ³ ¹ Department of Electrical and Computer Engineering, National Institute of Technology, Gifu College, Motosu, Gifu, Japan, ² Department of Electrical Engineering, Chubu University, Kasugai, Aichi, Japan, ³ Department of Information and Communication Engineering, Nagoya University, Nagoya, Japan	5.30pm – 5.45pm	Soma Kato
1083	Position Sensorless Control of Synchronous Reluctance Motors at Low-Speeds	Takato Hatanaka ¹ , Soma Kato ¹ , Mutuwo Tomita ¹ , Masaru Hasegawa ² , Shinji Doki ³ and Shinji Kato ¹ ¹ Department of Electrical and Computer Engineering, National Institute of Technology, Gifu College, Motosu, Gifu, Japan, ² Department of Electrical Engineering, Chubu University, Kasugai, Aichi, Japan, ³ Department of Information and Communication Engineering, Nagoya University, Nagoya, Japan	5.45pm – 6.00pm	Takato Hatanaka

Technical Session 12 (A2-DC2): Device and Components (8)**Venue: Grand Ballroom 1****Chair: Prof. Keiji Wada, Tokyo Metropolitan University, Japan****Time: 27th November, 11.00am-1.00pm****Co-chair: Prof. Atsuo Kawamura, Yokohama National University, Japan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1161	A 10MHz GaN Based Buck Converter with Dynamic Pull-up Resistor Gate Driver	Sheng Teng Li ¹ , Pin Ying Wang ¹ , Ching-Jan Chen ¹ and Chih-Chao Hsu ² ¹ Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, ² National Chung-Shan Institute of Science and Technology, Taoyuan, Taiwan	11.00am – 11.15am	Sheng Teng Li
1057	Reduction of Stray Capacitance in an Inverter Main Circuit Using Multilayer Printed Circuit Boards	Kohsuke Ishikawa, Satoshi Ogasawara, Masatsugu Takemoto and Koji Orikiwa Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan	11.15am – 11.30am	Kohsuke Ishikawa
1165	Experimental Verification of a Model of Switching Transients Considering Device Parasitic Capacitance for the Loss Estimation of Soft-Switching Power Converters	Daiki Tochigi ¹ , Kaoru Takashima ¹ , Takanori Isobe ² , Hiroshi Tadano ² and Mannen Tomoyuki ² ¹ Graduate School of Pure and Applied Sciences, University of Tsukuba, Ibaraki, Japan, ² Faculty of Pure and Applied Sciences, University of Tsukuba, Ibaraki, Japan	11.30pm – 11.45am	Daiki Tochigi
1235	Integrated Voltage Regulator for Low-Power Mobile Applications	Leo John Chemmenda, Raju Salahuddin and Ravinder Pal Singh Integrated Circuits Design, Institute of Microelectronics, A*STAR, Singapore	11.45am – 12.00pm	Leo John Chemmenda
1130	Life Prediction of Aluminum Electrolytic Capacitors under Normal Operation	Yan-Ru Chen, Hsuan Liao and Jiann-Fuh Chen Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, R.O.C.	12.00pm – 12.15pm	Yan-Ru Chen
1236	Digital Assisted Current Sensing Scheme for on-chip Power Management	Neelakantan Narasimman and Ravinder Pal Singh Integrated Circuits & Systems Laboratory, Institute of Microelectronics, A*STAR, Singapore	12.15pm - 12.30pm	Neelakantan Narasimman
1241	The Energy Loss Due to Interconnections in Paralleled Cell Configurations of Lithium-Ion Batteries in Electric Vehicles	Mohamed Ahmeid, Musbahu Muhammad, Zoran Milojevic, Simon Lambert and Pierrot Attidekou School of Engineering, Newcastle University, Newcastle upon Tyne, UK	12.30pm - 12.45pm	Musbahu Muhammad
1239	Integrated Linear Regulator for GaN-based Gate Driver Applications	Ting Chieh Lin and Chin Hsia Department of Electrical Engineering, National Central University, Taoyuan City, Taiwan	12.45pm - 1.00pm	Ting Chieh Lin

Technical Session 13 (A2-CT2): Charging Technologies 2 (8)**Venue: Grand Ballroom 2****Chair: Prof. Zhe Zhang, Technical University of Denmark, Denmark****Time: 27th November, 11.00am-1.00pm****Co-chair: Prof. Hag-Wone Kim, Korea National University of Transportation, South Korea**

Paper ID	Paper Title	List of Authors	Time	Presenter
1037	Multimode LLC Resonant DC–DC Converters for Wide Range Input Voltage	Kerui Li, Cho Kin Yeung, Siew Chong Tan and Ron Shu Yuen Hui Department of Electrical and Electronics Engineering, The University of Hong Kong, Hong Kong	11.00am – 11.15am	Kerui Li
1086	The Voltage and Current Oscillation Analyzation at Non-ZVS Model of Phase-Shift Full Bridge Converter	Kui Li, Xinyue Chen, Xiaonan Zhu, Wenhui Mo, Xiumei Yue and Hongliang Wang Department of Electrical and Information Engineering, Hunan University, Changsha, China	11.15am – 11.30am	Kui Li
1223	Cascaded Switched-Capacitor dc-dc Converters for a USB Power Delivery Compliant Charger	Jacob E. F. Overgaard, Jens Christian Hertel, Gabriel Zsurzsan and Zhe Zhang Department of Electrical Engineering, Technical University of Denmark, Kongens Lyngby, Denmark	11.30am – 11.45am	Gabriel Zsurzsan
1143	A Novel Zero-Voltage-Switching On-Board EV Charger	Ruizhe Wang, Changsheng Hu, Xiaoyu Jia and Dehong Xu Institute of Power Electronics, Zhejiang University Hangzhou , China	11.45am – 12.00pm	Ruizhe Wang
1150	Unidirectional Isolated High-Frequency-Link DC-DC Converter Using Soft-Switching Technique	Cao Anh Tuan, Naoki Hirose and Takaharu Takeshita Nagoya Institute of Technology, Nagoya, Aichi, Japan	12.00pm – 12.15pm	Cao Anh Tuan
1185	A Compact Wireless Charger Design with Decoupled Quadrature-D Inductor for LCC-Series Topologies	Shuxin Chen ¹ , Yang Chen ² , Nguyen Anh Dung ³ , Ruikun Mai ² and Yi Tang ¹ ¹ School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore, ² School of Electrical Engineering, Southwest Jiaotong University, Chengdu, China, ³ The Bradley Department of Electrical and Computer Engineering, Virginia Polytechnic Institute and State University, USA	12.15pm – 12.30pm	Shuxin Chen
1111	Spherical Flux Concentration Transmitter for Omnidirectional Wireless Power Transfer with Improved Power Transmission Distance	Kwang-Rock Park, Hwa-Rang Cha and Rae-Young Kim Energy & power Electronics Control System Lab, Department of Electrical Engineering, Hanyang University, Seoul, Korea	12.30pm – 12.45pm	Kwang-Rock Park
1155	Constant DC-Capacitor Voltage-Control-Based Strategy of Smart Charger for Electric Vehicles in Actual Single-Phase Three-Wire Distribution Feeders	Fuka Ikeda ¹ , Kouki Hamasaki ² , Hiroaki Yamada ² , Toshihiko Tanaka ² and Masayuki Okamoto ¹ ¹ National Institute of Technology, Ube College Ube, Japan, ² Yamaguchi University, Ube, Japan	12.45pm – 1.00pm	Fuka Ikeda

Technical Session 14 (A2-EMD3): Electric Machines and Drives 3 (8)**Venue: Grand Ballroom 3****Chair: Prof. Tian Hua Liu, National Taiwan University of Science and Technology, Taiwan****Time: 27th November, 11.00am-1.00pm****Co-chair: Dr. Kan Akatsu, Shibaura Institute of Technology, Japan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1216	Switch-Mode Rectifier fed Switched-Reluctance Motor Drive with Battery Energy Storage Support	Chen Wei Yang and Chang-Ming Liaw Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan	11.00am – 11.15am	Chen Wei Yang
1017	A New Design of PMSM Robust Current Controller Based on Model-Free Adaptive Control Strategy	Xingu Yuan ¹ , Wei Zhang ¹ and Xinbing Wu ² ¹ College of Electrical Engineering, Zhejiang University, Hangzhou, China, ² Polytechnic Institute, Zhejiang University, Hangzhou, China	11.15am – 11.30am	Xingu Yuan
1133	Loss reduction of WBG inverter by PWM techniques for the motion control of PMSM	Hoan Tran Duc, Bernardo Cougo and Gilles Segond More Electrical Aircraft, IRT Saint Exupéry, Toulouse, France	11.30am – 11.45am	Hoan Duc Tran
1171	An Improved Sliding Mode Observer of Sensorless SPMSM Control with Complex Feedback Vector	Bao Chen, Anwen Shen, Xin Luo and Baiqiang Yu School of Artificial Intelligence and Automation, Huazhong University of Science and Technology, Wuhan, China	11.45am – 12.00pm	Bao Chen
1103	A 3 rd Harmonic Current Control of the Open-Winding Permanent Magnet Synchronous Motor for the Torque Ripple Reduction	Kazunari Honda ¹ and Kan Akatsu ² ¹ Shibaura Institute of Technology, Department of Electrical Engineering and Computer Science, Tokyo, Japan, ² Shibaura Institute of Technology, Department of Electrical Engineering, Tokyo, Japan	12.00pm – 12.15pm	Kazunari Honda
1123	Reduction Method of Current RMS Value, DC Current Ripple, and Radial Force Ripple for SRM based on Mathematical Model of Magnetization Characteristic	Takahiro Kumagai ¹ , Keisuke Kusaka ² and Jun-ichi Itoh ¹ ¹ Department of Science of Technology Innovation, Nagaoka University of Technology, Nagaoka, Japan, ² Department of Electrical, Electronics, and Information Engineering, Nagaoka University of Technology, Nagaoka, Japan	12.15pm – 12.30pm	Takahiro Kumagai
1127	Design and Analysis of A Novel AFPM with Opposite-Rotation Dual Rotors	Mengfei Wei ² , Chi Zhang ^{1,2} , Jinhua Chen ¹ and Chenxia Xu ³ ¹ Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology of Zhejiang Province, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China, ² University of Chinese Academy of Sciences, Beijing, China, ³ Phase Motion Control Ningbo Ltd.	12.30pm – 12.45pm	Chi Zhang
1138	Space Vector-Based Common-Mode Currents Reduction Method for H8 Inverter Topology in Low-Voltage DC Microgrid	Won-Sang Jeong, Kyoung-Min Choo, Jae-Hyung Lee and Chung-Yuen Won Department of Electrical and Computer Engineering, Sungkyunkwan University, Suwon, Republic of Korea	12.45pm – 1.00pm	Won-Sang Jeong

Technical Session 15 (B2-PEA3): Power Electronics Applications 3 (6)**Venue: Grand Ballroom 1****Chair: Prof. Jenhao Teng, National Sun Yat Sen University, Taiwan****Time: 27th November, 2.00pm-3.30pm****Co-chair: Prof. Ashwin Dhabale, VNIT Nagur, India**

Paper ID	Paper Title	List of Authors	Time	Presenter
1048	A Modulation Strategy for Neutral-Point Voltage Ripple Reduction in a Three-Level T-type Inverter	Tzung-Lin Lee, Ting-Lien Wu and Bing-Rong Chuang Department of Electrical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan	2.00pm - 2.15pm	Bing-Rong Chuang
1102	Battery Impedance Measurement Using Fast Square Current Perturbation	Qi Yao, Dylan Lu and Gang Lei School of Electrical and Data Engineering, University of Technology Sydney, NSW, Australia	2.15pm - 2.30pm	Qi Yao
1107	Maximum Efficiency Point Tracking for Two-Stage Server Power Supply	Yen-Shin Lai and Min-Hsiang Yu Center for Power Electronics Technology, National Taiwan University of Science and Technology, Taipei, Taiwan	2.30pm - 2.45pm	Yen-Shin Lai
1156	Design and Implementation of SiC-Based Wide Input Voltage Range Full-Bridge DC-to-DC Resonant Converter	Ciao-Yin Pan, Tsorng-Juu Liang, Wei-Jing Tseng, Kuo-Fu Liao, Jia-Wei Yeh and Sheng-Jie Zhan Green Energy Electronics Research Center (GREERC) / Hierarchical Green Energy Materials Research Center, National Cheng Kung University, Tainan, Taiwan	2.45pm - 3.00pm	Jia-Wei Yeh
1178	Frequency Domain Behavior Study of Supercapacitor Based on Fractional-order Model	Mengdi Yan ¹ , Li Wei ¹ and Peng Song ² ¹ School of Electrical Engineering, Tongji University, Shanghai, China, ² R&D Department, Chuangqu Technology Co., Ltd, Shanghai, China	3.00pm - 3.15pm	Mengdi Yan
1227	Emergency Backup Power to a Rural Hospital in Disaster Condition	Arik Subhana ¹ , Faizah Zahin ² , Fahim Abid ³ and Md. Ziaur Rahman Khan ¹ ¹ Department of Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, ² Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada, ³ Department of Electric Power Engineering, Norwegian University of Science and Technology, Trondheim, Norway	3.15pm - 3.30pm	Arik Subhana

Technical Session 16 (B2-CT3): Charging Technologies 3 (6)**Venue: Grand Ballroom 2****Chair: Dr. Wen Liu, Xi'an Jiaotong-Liverpool University, China****Time: 27th November, 2.00pm-3.30pm****Co-chair: Dr Shuli Wen, Nanyang Technological University, Singapore**

Paper ID	Paper Title	List of Authors	Time	Presenter
1246	Assessment of spent EV batteries for second-life application	M. Muhammad, M. Ahmeid, P.S. Attidekou, Z. Milojevic, S. Lambert and P. Das School of Engineering, Newcastle University, Newcastle upon Tyne, UK	2.00pm -2.15pm	Musbahu Muhammad
1126	Design Method of Cooling Structure Considering Load Fluctuation of High-power Wireless Power Transfer System	Jun-ichi Itoh, Kosuke Mizoguchi, Le Hoai Nam and Keisuke Kusaka Department of Electrical, Electronics, and Information Engineering, Nagaoka University of Technology, Nagaoka, Japan	2.15pm - 2.30pm	Kosuke Mizoguchi
1146	DC-DC Converter and Rectifier with Resonator for Solar and Wireless Charging in Advanced Driver Assistance Systems	Wen-Cheng Lai Department of Electrical Engineering, National Penghu University of Science and Technology, Taiwan, R.O.C.	2.30pm - 2.45pm	Wen Cheng Lai
1085	Optimal Coil Design for a Quadrotor Wireless Charging System	Muhammad Zahid ¹ , Jamil Fayyad ² , Rached Dhaouadi ³ , Shayok Mukhopadhyay ³ and Nasser Qaddoumi ³ ¹ Mechatronics Engineering, American University of Sharjah, Sharjah, United Arab Emirates, ² American University of Sharjah, Sharjah, United Arab Emirates, ³ Electrical Engineering, American University of Sharjah Sharjah, United Arab Emirates	2.45pm - 3.00pm	Rached Dhaouadi
1056	High Efficiency WPT System for Electric Vehicles with LCL-S and SS compensation	Yuan Li ¹ , Yuhao Zhu ¹ , Wen Liu ¹ , Yongsheng Zhu ² , Yi Pei ² , Huiqing Wen ¹ and Cezhou Zhao ¹ ¹ Xi'an Jiaotong-Liverpool University (XJTLU), China, ² Gpower Semiconductor company Suzhou, Jiangsu Province, China	3.00pm - 3.15pm	Wen Liu
1068	Proposal of SOC Unbalancing Solution Combined with Flux-weakening Control for Two-battery HEECS Chopper-based EV Powertrain	Takayuki Ishibashi, Hidemine Obara and Atsuo Kawamura Division of Electrical and Computer Engineering, Yokohama National University, Yokohama-city, Japan	3.15pm - 3.30pm	Takayuki Ishibashi

Technical Session 17 (B2-SMG3): Smart and Micro Grids 3 (6)**Venue: Grand Ballroom 3****Chair: Prof. Eui Cheol Nho, Pukyong National University, Korea****Time: 27th November, 2.00pm-3.30pm****Co-chair: Prof. Lei Chen, Wuhan University, China**

Paper ID	Paper Title	List of Authors	Time	Presenter
1245	Study and Application on Data Center Infrastructure Management System Based on Artificial Intelligence (AI) and Big Data Technology	Shuguang Qi ¹ , Yu Zhang ² and Mengdi Wang ¹ ¹ China Academy of Information and Communication Technology; China Telecommunication Technology Labs, Beijing, China, ² China Mobile Group Design Institute Co., Ltd, Beijing, China	2.00pm - 2.15pm	Mengdi Wang
1242	A Community-scale Energy Management System for Demand Response Participation of Households with DERs and EVs	Herie Park ¹ , Sungwoo Bae ¹ , Munseok Chang ¹ , Sang-ho Park ² and Gi-gab Yoon ² ¹ Department of Electrical Engineering, Hanyang University, Seoul, Korea, ² Korea Electric Power Corporation (KEPCO), Daejeon, Korea	2.15pm - 2.30pm	Herie Park
1104	An Artificial Neural Network-Based Frequency Nadir Estimation Approach for Distributed Virtual Inertia Control	NanJun Lu Energy Research Institute @ NTU, Interdisciplinary Graduate School, Nanyang Technological University Singapore, Singapore	2.30pm - 2.45pm	NanJun Lu
1122	Real-time Grid Impedance Measurement of Three-Phase Micro-grid System in D-Q Frame using Quadratic Residue Ternary Sequence (QRTS)	Srinivasarao Kamala [*] , Sanjib K. Panda [*] and Gehan Amaratunga [†] [*] Department of Electrical and Computer Engineering, National University of Singapore, Singapore, [†] Department of Electrical Engineering, University of Cambridge, UK	2.45pm - 3.00pm	Srinivasarao Kamala
1097	A Method for Calculating Overload Risk of Distribution Network Accessed to Flexible Distribution Switch	Yundong Liu ¹ , Qianhong Lin ² , Shaowei Yang ² , Yongqing Tang ² and Xidong Xu ¹ ¹ College of Electrical Engineering, Zhejiang University, Hangzhou, China ² Lishui Liandu District Power Supply Company of State Grid, Lishui, China	3.00pm - 3.15pm	Yundong Liu
1050	Optimized Size and Placement of Resistive SFCLs in Active Distribution Networks Using SAPSO	Xuyang Zhang, Lei Chen, Hongkun Chen and Guocheng Li School of Electrical Engineering and Automation, Wuhan University, Wuhan, China	3.15pm - 3.30pm	Xuyang Zhang

Technical Session 18 (B2-RET2): Renewable Energy Technologies 2 (6)

Venue: Sky Ballroom 1

Chair: Prof. ChungYuen Won, Sungkyunkwan University, South Korea

Time: 27th November, 2.00pm-3.30pm

Co-chair: Prof. Toshihiko Tanaka, Yamaguchi University, Japan

Paper ID	Paper Title	List of Authors	Time	Presenter
1141	A Comparative Study of Flexible Power Point Tracking Algorithms in Photovoltaic Systems	Hossein Dehghani Tafti ¹ , Georgios Konstantinou ² , Christopher D. Townsend ³ , Glen G. Farivar ¹ , Ariya Sangwongwanich ⁴ , Yongheng Yang ⁴ , Josep Pou ¹ and Frede Blaabjerg ⁴ ¹ School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore, ² School of Electrical Engineering and Telecommunications, University of New South Wales, Australia, ³ School of Electrical, Electronic and Computer Engineering, University of Western Australia, Australia, ⁴ Department of Energy Technology, Aalborg University, Denmark	2.00pm - 2.15pm	Josep Pou
1166	Slow-Scale Instability Analysis of Voltage Controlled Z-Source Converter	Yijia Chen, Miao Zhu, Xiuyi Li, Jianjun Ma and Xu Cai School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China	2.15pm - 2.30pm	Yijia Chen
1226	Impacts of Wind Gust and Cloud-Shading on Renewable Energy Generation	Sheng-Huei Lee ^{1,4} , Ying-Yi Hong ¹ , Chia-Chi Chu ² , Meng-Yun Lee ³ and Hao-Ping Liu ⁴ ¹ Department of Electrical Engineering, Chung Yuan Christian University & Chien Hsin University of Science and Technology, Taoyuan, Taiwan R.O.C, ² Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan R.O.C, ³ Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan R.O.C, ⁴ Department of Electrical Engineering, Chien Hsin University of Science and Technology, Taoyuan, Taiwan R.O.C	2.30pm – 2.45pm	Sheng Huei Lee
1010	Hybrid Active Power Filter for Resonance Damping	Sami Pettersson ABB Switzerland Ltd, Corporate Research, Baden-Daettwil, Switzerland	2.45pm - 3.00pm	Sami Pettersson
1181	Modified Adaptive Sliding Mode Control for Sensorless Direct-Drive Permanent Magnet Synchronous Generator Wind Turbines based on Fuzzy Logic Control	Ahmed A. Zaki Diab, M. S. Hassan and Masahito Shoyama Department of Electrical and Electronic Engineering, Kyushu University, Japan	3.00pm - 3.15pm	M. S. Hassan
1201	A Hybrid Common-Mode Voltage Cancellation Using an Passive Filter and an Active Feedback Circuit for PWM Inverters	Shunsuke Ohara ¹ , Satoshi Ogasawara ¹ , Masatsugu Takemoto ¹ , Koji Orikawa ¹ and Yushin Yamamoto ² ¹ Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan, ² Power Electronics Systems Division, Toshiba Mitsubishi-Electric Industrial Systems Corporation, Tokyo, Japan	3.15pm – 3.30pm	Shunsuke Ohara

Technical Session 19 (C2-MLC3): Multilevel Converters (4)**Venue: Grand Ballroom 1****Chair: Prof. Rae Young Kim, Hanyang PE Center Energy and PE Control System Lab, South Korea****Time: 27th November, 4.00pm-5.00pm****Co-chair: Prof. Wen Cheng Lai, National Penghu University of Science and Technology, Taiwan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1154	A Synchronized Switching Technique for Elimination of Unexpected Output Pulses in Hybrid Active NPC inverter	Min-Geun Song, Seok-Min Kim and Kyo-Beum Lee Department of Electrical and Computer Engineering, Ajou University, Suwon, Korea	4.00pm – 4.15pm	Kyo-Beum Lee
1018	Heat Dissipation System Modeling of Three-level Converter Considering Thermal Coupling Effects	Qiang Wang, Fengyou He, Xiaofei Zhou, Chengfei Geng and Weifeng Zhang School of Electrical and Power Engineering, China University of Mining and Technology, Xuzhou, China	4.15pm – 4.30pm	Wang Qiang
1119	Implementation of a Novel Self-Balancing Seven-Level Inverter with Coupled Inductor	Cong-Ren Wang, Hsuan Liao, Jiann-Fuh Chen and Jia-Yi Chen Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, R.O.C	4.30pm – 4.45pm	Cong-Ren Wang
1137	Suppression of Common-Mode Voltage Based on Space-Vector Modulation for Four-Level Hybrid Inverters	Jonathan Pribadi ¹ , Dong-Choon Lee ¹ and Byung-Moon Han ² ¹ Department of Electrical Engineering, Yeungnam University, Gyeongsan, Korea, ² Department of Electrical Engineering, Myongji University, Yongjin, Korea	4.45pm – 5.00pm	Jonathan Pribadi

Technical Session 20 (C2-PEA4): Power electronics applications (4)**Venue: Grand Ballroom 2****Chair: Prof. MaohChin Jiang, National Ilan University, Taiwan****Time: 27th November, 4.00pm-5.00pm****Co-chair: Prof. Hidemine Obara, Yokohama National University, Japan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1159	Electromagnetic Dynamic of Medium frequency Transformer in Electrostatic Precipitation	Zhiguang Li, Zhan Shen, Peng Pan and Long Jin College of Electrical Engineering, Southeast University, Nanjing, China	4.00pm - 4.15pm	Zhiguang Li
1025	Electrolytic Capacitor-Less Multilevel Inverter with AC-DC Energy Conversion	Guo-Kai Wu, Ke-Sin Su and Jiann-Fuh Chen Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, R.O.C.	4.15pm – 4.30pm	Guo-Kai Wu
1200	Design and Implementation of a Novel Multi-function and Frequency Tunable Ionizer	Sheng-Yuan Ou, Cheng-Yu Tang and Chun-Yi Chang Department of Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan, R.O.C.	4.30pm – 4.45pm	Sheng-Yuan Ou
1023	The Vds Signal of Power Switch for Boost PFC Current Detection	Che-Wei Hsu, Kuei-Pin Chiu and Jiann-Fuh Chen Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, R.O.C.	4.45pm – 5.00pm	Che Wei Hsu

Technical Session 21 (C2-SMG4): Smart and Micro Grids 4 (8)

Venue: Grand Ballroom 3

Chair: Prof. Zheng Xuemei, Harbin Institute of Technology, China

Time: 27th November, 4.00pm-6.00pm

Co-chair: Dr Sami Pettersson, ABB Switzerland Ltd

Paper ID	Paper Title	List of Authors	Time	Presenter
1186	Comparison of PWM Techniques for 3-Phase Inverters Connected in Parallel	Wee-Kiat Teh ¹ and Yen-Shin Lai ² ¹ Department of Research & Development Center, Yungtay Engineering CO., LTD., Taoyuan, Taiwan, R.O.C., ² Department of Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan, R.O.C.	4.00pm – 4.15pm	Yen-Shen Lai
1054	Multi-inverters Pre-synchronization VSG Control Strategy for the Microgrid System	Xuemei Zheng ¹ , Hannan Cao ² , Haoyu Li ¹ , Tongfei Cui ¹ , Yuchao Jiang ¹ and Mengxiang Zhang ¹ ¹ Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China, ² Department of Computer Science and Engineering, Nanyang Technological University Singapore, Singapore	4.15pm – 4.30pm	Zheng Xuemei
1120	Coupling Effect of Active and Reactive Power Controls on Synchronous Stability of VSGs	Deng Han ¹ , Jingyang Fang ² , Yi Tang ² and Vincent Debusschere ³ ¹ Energy Research Institute @ NTU, Interdisciplinary Graduate School, Nanyang Technological University Singapore, Singapore, ² School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore, ³ Univ. Grenoble Alpes, CNRS, Grenoble INP, G2Elab, Grenoble, France	4.30pm – 4.45pm	Han Deng
1008	Distributed Power Balancing Control Strategy for Unbalanced Hybrid AC/DC Microgrids	Jianguo Zhou, Yinliang Xu and Zhongkai Yi Smart Grid and Renewable Energy Laboratory, Tsinghua-Berkeley Shenzhen Institute (TBSI), Tsinghua Shenzhen International Graduate School (TsinghuaSIGS), Tsinghua University Shenzhen, Guangdong, China	4.45pm – 5.00pm	Jianguo Zhou
1190	A Hybrid AC/DC Microgrid with Bidirectional Virtual Inertia Support	Zhe Zhang, Jingyang Fang and Yi Tang School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore	5.00pm – 5.15pm	Zhang Zhe
1121	A Transformless Electric Spring with Decoupled Real and Reactive Power Control	Yang Qi ¹ , Tianbo Yang ¹ , Yi Tang ² , Krishna Raj Ramachandran Potti ³ and Kaushik Rajashekara ³ ¹ Energy Research Institute @ NTU, Nanyang Technological University Singapore, Singapore, ² School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore, ³ Department of ECE, University of Houston, Texas, USA	5.15pm – 5.30pm	Yang Qi
1006	Single-Phase Enhanced Phase-Locked Loops Based on Multiple Delayed Signal Cancellation Filters	Srinivas Gude and Chia-Chi Chu Department of Electrical Engineering, National Tsing Hua University, Hsinchu, Taiwan	5.30pm – 5.45pm	Chia-Chi Chu
1109	A Consideration of Multi-Port Six-Switch Single-Phase Inverter using Matrix Converters	Junnosuke Haruna ¹ , Kyo Miura ² and Hirohito Funato ¹ ¹ Information, Electronics, and Optics Course, Department of Fundamental Engineering, School of Engineering, Utsunomiya University, Utsunomiya, Japan, ² Department of Electrical & Electronic Systems Engineering, Graduate School of Engineering, Utsunomiya University, Utsunomiya, Japan	5.45pm – 6.00pm	Junnosuke Haruna

Technical Session 22 (C2-RET3): Renewable Energy Technologies 3 (8)**Venue: Sky Ballroom 1****Chair: Prof. Katherine Kim, National Taiwan University, Taiwan****Time: 27th November, 4.00pm-6.00pm****Co-chair: Prof. Hirotaka Koizumi, Tokyo University of Science, Japan**

Paper ID	Paper Title	List of Authors	Time	Presenter
1195	Fixed Frequency Model Predictive Control of Five-level Bi-directional Flying Capacitor DC-DC converter in DC microgrid	Vijesh Jayan and Amer Ghias School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore	4.00pm – 4.15pm	Amer Ghias
1016	Efficiency Optimization for Single-Phase Voltage-Sourced Inverter with ZVS-CV	Pei-Chin Chi ¹ , Irwan Purnama ² , Yu-Chen Chang ¹ and Huang-Jen Chiu ¹ ¹ Electronic and Computer Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan, ² Technical Implementation Unit for Instrumentation Development, Indonesian Institute of Sciences (LIPI), Bandung, Indonesia	4.15pm – 4.30pm	Pei-Chin Chi
1144	Transformerless Single Stage High Boost PV Inverter with Reduced Leakage Current	Balaji Veerasamy ¹ , Kanagaraj Jagannathan ¹ and Takaharu Takeshita ² ¹ Department of Electrical & Electronics Engineering, PSG College of Technology, Coimbatore, India, ² Department of Electrical & Mechanical Engineering, Nagoya Institute of Technology, Nagoya, Japan	4.30pm – 4.45pm	Balaji Veerasamy
1167	Phase Error Analysis of Phase-locked Loop under Voltage Perturbation	Chuanchuan Hou, Miao Zhu, Zhengzhao Li and Xu Cai School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China	4.45pm – 5.00pm	Miao Zhu
1113	Solar Photovoltaics Based Modified Power Quality Conditioner	Prathamesh Jagtap, Chinmay Chobe, Mahwash Siddiquee, Milind Bagewadi and Sanjay Dambhare Department of Electrical Engineering, College of Engineering Pune, Pune, India	5.00pm – 5.15pm	Prathamesh Satish Jagtap
1221	Grid Support During Asymmetrical Faults using Negative Sequence Current Injection	Mohammad Bani Shamseh, Ruben Inzunza, Issei Fukasawa, Tsuguhiro Tanaka and Tatsuaki Ambo Power Electronics Systems Division, TMEIC, Tokyo, Japan	5.15pm – 5.30pm	Ruben Inzunza
1058	Study on the Influence of Structural Parameters of Semiconductor Thermoelectric Units on Power Generation Characteristics	Yan Chen, Wentao Wu, Chunyan Ma, Yinke Dou and Jinmeng Wu College of Electrical and Power Engineering, Taiyuan University of Technology, Taiyuan, Shanxi, China	5.30pm – 5.45pm	Wentao Wu
1031	Design Considerations for MHz PCB Winding Magnetic Components	Yong Liu, Hao Wen, Nguyen Anh Dung and Jih-Sheng Lai Future Energy Electronics Center, Virginia Polytechnic Institute and State University, Blacksburg, USA	5.45pm – 6.00pm	Hao Wen

Poster Session P1 (30)

Venue: Grand Ballroom 3

Chair: Prof. Indong Kim, Pukyong National University, South Korea

Time: 26th November, 1.00pm-2.00pm

Paper ID	Paper Title	List of Authors	Presenter
1014	A novel modular multilevel transformerless step-down DC/DC converter	Shuxin Zhang, Binbin Li, Yujie Zhang, Da Cheng, Xiaodong Zhao, Wei Wang and Dianguo Xu School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China	Wei Wang
1051	Implementation of Fault-Tolerant Control for Five-Level Double-Boost Power Factor Corrector Converter	Hung-Chi Chen ¹ and Jonathan José Vásquez López ² ¹ Department of Electrical and Computer Engineering, National Chiao Tung University (NCTU), Hsinchu, Taiwan, ² Institute of Electrical and Control Engineering, NCTU, Hsinchu, Taiwan	Hung-Chi Chen
1091	Symmetrical Hybrid Multilevel Inverters for Ship Electric Propulsion Drives	Wenfeng Long ¹ , Nianzhou Liu ¹ , Kui Wang ² , Zedong Zheng ² and Yongdong Li ² ¹ Science and Technology on Ship Integrated Power System Technology Laboratory, Wuhan, China, ² China State Key Lab. of Power System, Department of Electrical Engineering, Tsinghua University, Beijing, China	Kui Wang
1164	A Single-Stage Soft-Switching AC/DC Converter	Chien-Ming Wang, Jyun-Che Li and Yu-Ting Lai Department of Electrical Engineering, National Ilan University, Yilan, Taiwan	Yu-Ting Lai
1170	Effects on Capacitor Lifetime of DPWM Method for Vienna Rectifier	Il-Seob Kwon, Seung-Woo Baek, Kwan-Yuhl Cho and Hag-Won Kim Department of Control & Instrumentation Engineering, Korea National University of Transportation, Chungju, Korea	Il-Seob Kwon
1175	A New Control Strategy for Converters Based on Hybrid Switch	Lianyong Wei ^{1,2} , Zixin Li ^{1,2} , Hang Zhang ^{1,2} , Fei Xu ¹ , Fanqiang Gao ¹ , Cong Zhao ¹ , Ping Wang ^{1,2} and Yaohua Li ^{1,2} ¹ Key Laboratory of Power Electronics and Electric Drive, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China, ² University of Chinese Academy of Sciences, Beijing, China	Cong Zhao
1070	A Finite Set Model Predictive Current Control for Three-Level NPC Inverter with Reducing Switching State Combination	Mon Van Doi ¹ , Bac Xuan Nguyen ² and Nho-Van Nguyen ¹ ¹ Ho Chi Minh City University of Technology, Ho Chi Minh, Vietnam, ² Energy Research Institute@NTU, Nanyang Technological University Singapore, Singapore	Mon Van Doi
1157	A Study of Quasi Multi-rate Deadbeat Control for Modular Multi-level Converter using FPGA based Hardware controller	Natsumi Kanai, Shogo Kurita, Takashi Ando and Tomoki Yokoyama Department Robot and Mechatronics, Tokyo Denki University, Tokyo, Japan	Tomoki Yokoyama
1228	Design and Evaluation of High-frequency GaN Based DC/DC Converter	Ravinder Pal Singh, Neelakantan Narasimman, Leo John Chemmunda and Yoshio Nishida Integrated Circuits and Systems Laboratory, A*STAR Institute of Microelectronics, Singapore	Ravinder Pal Singh
1203	Investigation on Different Buffer to Suppress the RF-Loss in AlGaIn/GaN-on-Si HEMTs	Wei-Cheng Tzeng ¹ , Yu-En Jeng ² , Li-Cheng Chang ¹ , Yung-Ting Ho ² , Chao-Hsin Wu ^{1,2} and Chih-Chao Hsu ³ ¹ Graduate Institute of Electronics Engineering, National Taiwan University, Taipei, Taiwan, ² Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taipei, Taiwan, ³ National Chung-Shan Institute of Science & Technology, Taoyuan, Taiwan	Wei-Cheng Tzeng
1204	Small-Signal Modeling of GaN-on-Si HEMT with Leaky Buffer	Yi-Ting Chen ¹ , Li-Cheng Chan ² , Yu-Li Ho ³ , Yung-Ting Ho ³ and Chao-Hsin Wu ⁴ ¹ National Chung-Shan Institute of Science & Technology, Taoyuan, Taiwan, ² Graduate Institute of Electronics Engineering, National Taiwan University, Taipei, Taiwan, ³ Graduate Institute of Optoelectronics, National Taiwan University, Taipei, Taiwan, ⁴ Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taipei, Taiwan	Yu Li Ho

Paper ID	Paper Title	List of Authors	Presenter
1207	The Design of Quasi-Super Junction and Novel Edge Termination in Junction Barrier Schottky Diode	Jhen-Min Hong ¹ , Yun-Kai Lai ¹ , Chen-Dong Tzou ¹ , Kung-Yen Lee ¹ and Chih-Chao Hsu ² ¹ Department of Engineering Science and Ocean Engineering, National Taiwan University, Taipei, Taiwan, ² National Chung-Shan Institute of Science and Technology, Taoyuan, Taiwan	Yun-Kai Lai
1052	Experimental Evaluation of the Relationship between Filter Inductor Impedances and Dimensional Resonances of MnZn Ferrites	Shotaro Takahashi ¹ , Satoshi Ogasawara ¹ , Masatsugu Takemoto ¹ , Koji Orikawa ¹ and Michio Tamate ² ¹ Graduate School of Information Science and Technology, Hokkaido University, Sapporo, Japan, ² Fuji Electric Co., Ltd., Hino City, Tokyo, Japan	Shotaro Takahashi
1105	Electro-Thermal Modeling of a Boost Converter Considering Device Self-heating	Tian Cheng, Dylan Dah-Chuan Lu and Yam Siwakoti School of Electrical and Data Engineering, University of Technology Sydney, Sydney, Australia	Tian Cheng
1053	Distance Traveled Dependence of Environmental Performance of Plug-In Hybrid Vehicles: Validations with Series-hybrid Vehicle Simulation	Wei-hsiang Yang ¹ , Cheng-ping Yang ² , Shohei Shinta ¹ and Yushi Kamiya ¹ ¹ Graduate School of Environment and Energy Engineering, Waseda University Tokyo, Japan, ² Precision Transmission Technology Department, Industrial Technology Research Institute, Hsinchu, Taiwan	Wei-hsiang Yang
1068	Detailed Analysis of Regenerative Energy of Electric Bus Running on Expressways	Hirokazu Miyoshi ¹ , Wei-hsiang Yang ¹ , Yushi Kamiya ¹ and Shuichi Obayashi ² ¹ Graduate School of Environment and Energy Engineering, Waseda University, Tokyo, Japan, ² Wireless System Laboratory, Corporate R&D Center, R&D Division, Toshiba Corporation Kawasaki, Japan	Hirokazu Miyoshi
1115	A Study on Feedback and Feedforward Control of High Power Transmitters for Active Sonar	Seung-Min Song ¹ , In-Dong Kim ¹ , Byung-Hwa Lee ² and Jeong-Min Lee ² ¹ Department of Electrical Engineering, Pukyong National University, Busan, Korea, ² Maritime Technology Research Institute, Agency for Defense Department, Changwon, Korea	Seung-Min Song
1022	Study on Fast Starting of Air Bearing Permanent Magnet Motors	Lixiang Chu and Quan Jiang Department of Electrical Engineering, University of Shanghai for Science and Technology, Shanghai, China	Lixiang Chu
1026	Vibration and Noise of High Speed Amorphous Alloy Permanent Magnet Synchronous Motor with Different Slot Width	Peng Chen ^{1,2} , Jinhua Chen ¹ , Youyong Liao ¹ , Chi Zhang ¹ and Jianke Du ² ¹ Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology of Zhejiang Province, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China, ² School of Mechanical Engineering and Mechanics, Ningbo University, Ningbo, China	Jinhua Chen
1173	A Novel Moving Coil Linear-Rotary Electromagnetic Actuator based on Unipolar Permanent Magnet	Rui Ma ^{1,2} , Fengge Zhang ¹ , Jinhua Chen ² , Chi Zhang ² and Xianbei Sun ² ¹ School of Electrical Engineering, Shenyang University of Technology, Shenyang, China, ² Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology of Zhejiang Province, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China	Jinhua Chen
1129	Analysis of Magnet Configuration on Electromagnetic Performance of High-Speed Generators Using Post-assembly Magnetization	Thanh Anh Huynh and Min-Fu Hsieh Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan	Thanh Anh Huynh
1114	PCB Layout Parasitic Parameter Verification Using Multi-Frequency Analysis	Shiang-Ren Jeng and Yaow-Ming Chen Department of Electrical Engineering National Taiwan University, Taipei, Taiwan	Yaow-Ming Chen
1148	Integrated Single-Stage Driver for BLDC Motors	Yu Lin Juan, Tsair Rong Chen, Shu Ming Chen, Li Ling Chen, Chi Yang Cheng and Shih Hsiang Hsiao Department of Electrical Engineering, National Changhua University of Education, Changhua, Taiwan	Shih Hsiang Hsiao
1176	Performance Comparison of SynRM and Novel FI-PMa-SynRM with Different Rotor Surface Layouts	Duc-Kien Ngo ¹ and Min-Fu Hsieh ² ¹ Department of Systems and Naval Mechatronic Engineering, National Cheng Kung University, Tainan, Taiwan, ² Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan	Duc-Kien Ngo

Paper ID	Paper Title	List of Authors	Presenter
1219	Interoperability Testing Coil for EV Wireless Power Transfer System	Xu Jinxing ¹ , Wang Songcen ¹ , Zhang Yun ^{2,3} , Xu Chong ¹ and Wei Bin ¹ ¹ Electrical Engineering and New Material Department, China Electric Power Research Institute, Beijing, China, ² Key Laboratory of Power Electronics and Electric Drive, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China, ³ University of Chinese Academy of Sciences, Beijing, China	Zhang Yun
1151	A Novel Current Reference to Enhance Input Power Quality of Single-stage LED Driver	Huan Li, Waqas Hassan and Weidong Xiao School of Electrical and Information Engineering, The University of Sydney, Sydney, Australia	Weidong Xiao
1124	Fast Simulation Technique for Photovoltaic Power Systems using Simulink	Shuang Jiao, Ruoqian Wu and Weidong Xiao School of Electrical and Information Engineering, The University of Sydney, Sydney, Australia	Weidong Xiao
1152	An Improved Topology of Sub-module for MMC with DC Fault Clearing Ability	Zhuxiang Zhang ¹ , Lixin Jia ¹ , Lixia Yang ¹ , Zhongde Zhang ² , Zhihao Zhai ¹ and Yi Wang ¹ ¹ School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China, ² Ningxia Northwest Junma Electric Manufacturing Co., LTD, Ningxia, China	Zhuxiang Zhang
1220	Active Gate Control method for Voltage Balancing of Series-Connected SiC MOSFETs	Jinwoo Kim, Dongkwan Yoon and Youngchoon Cho Department of Electrical and Electronics Engineering, Konkuk University, Seoul, South Korea	Jinwoo Kim
1218	Load and mutual inductance estimation of wireless power transfer system for electric vehicles	Xiulan Liu ¹ , Yanxia Chen ¹ , Shufan Li ² , Qian Zhang ¹ , Zhimeng Liu ² and Yuan Jin ¹ ¹ State Grid Beijing Power Research Institute Beijing, China, ² Key Laboratory of Power Electronics and Electric Drives, IEECAS, Beijing, China	Shufan Li

Poster Session P2 (31)

Venue: Grand Ballroom 3

Chair: Prof. HungChi Chen, National Chiao Tung University, Taiwan

Time: 27th November, 1.00pm-2.00pm

Paper ID	Paper Title	List of Authors	Presenter
1021	Design Optimization of Distributed PV Power Station Based on the Efficiency Modelling and Analysis	L. Ren ¹ , Fei Wang ¹ , Li Li ² , Xu Liu ³ and Yu Zhang ³ ¹ School of Mechatronics Engineering and Automation, Shanghai University, Shanghai, China, ² Faculty of Engineering and Information Technology, University of Technology Sydney, NSW, Australia, ³ SHANGHAI BAOSTEEL ENERGY TECH CO., Shanghai, China	Lintao Ren
1035	Designing DC Optimizer for EMC/EMI Compliance	Hueh Chuah Ong, Bac Xuan Nguyen, Fu Cheng Zhang, Leong Hai Koh and Wai Kuan Loh Energy Research Institute @ NTU, Nanyang Technological University Singapore, Singapore	Ong Hueh Chuah
1047	A Modified Y -Source Inverter With An Absorbing Circuit	Enda Shi, Wei Wang, Zichao Zhou, Wentao Wu and Hongpeng Liu Department of Electrical Engineering, Harbin Institute of Technology, Harbin, China	Enda Shi
1174	Eliminating The Problem of Trapping in Local Maximum Power Point under Partial Shading Conditions for PV System	Chang-Hua Lin ¹ , Hwa-Dong Liu ¹ and Chien-Ming Wang ² ¹ Department of Electrical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan, R.O.C., ² Department of Electrical Engineering, National Ilan University, Yilan, Taiwan, R.O.C.	Chang-Hua Lin
1112	Step-Up Battery Charger for Stand-Alone Wind Power System	Jia-Hao Kuo, Wei-Yu Wang and Kuo-Yuan Lo Department of Electrical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan	Kuo-Yuan Lo
1172	Study of Black Startup Strategy of the Turn-off Device Based Current Source HVDC Converter	Kedong Luan ^{1,2} , Yaohua Li ^{1,2} , Zixin Li ^{1,2} , Bing Xia ^{1,2} , Cong Zhao ¹ , Fanqiang Gao ^{1,2} , Fei Xu ^{1,2} and Ping Wang ¹ ¹ Key Laboratory of Power Electronics and Electric Drive, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, China, ² University of Chinese Academy of Sciences, Beijing, China	Cong Zhao
1005	Control and Operation of an AC Micro-grid Based on Real-time Simulation	Yanwei Yu ¹ , Weijie Wang ² , Yongmei Gan ² and Hui Cheng ¹ ¹ School of Electrical Engineering, Henan Mechanical and Electrical Vocational College, Xinzheng, China, ² School of Electrical Engineering, Xi'an Jiaotong University, Xi'an, China	Weijie Wang
1081	A new Inverter Side Output Current Control Method for Grid-connected Inverter with Small LCL Filter	Kwon-Sik Park, Byuong-Jun Seo, Kwang-Rae Jo, JinYong Heo, Kyoung-Suk Kang, Haksoo Kim and Eui-Cheol Nho Department of Electrical Engineering, Pukyong National University, Busan, South Korea	JinYong Heo
1202	Transient Time-delay Stability Analysis of the Distributed Coordination in AC Microgrids	Chaoyu Dong ¹ , Dongdong Li ² , Zhe Zhang ¹ , Yu Wang ³ , Qian Xiao ⁴ , Chi Jin ¹ , Hongjie Jia ⁴ and Peng Wang ⁵ ¹ Energy Research Institute @ NTU, Nanyang Technological University Singapore, Singapore, ² College of Electrical Engineering, Shanghai University of Electric Power, Shanghai, China, ³ Rolls-Royce@NTU Corporate Lab, Singapore, ⁴ Key Laboratory of Smart Grid, Ministry of Education, Tianjin University, Tianjin, China, ⁵ School of Electrical and Electronic Engineering, Nanyang Technological University Singapore, Singapore	Chaoyu Dong
1206	Delay Impact Kernel and Multiple Delay Coupling Mechanism during the Interaction of Coordinated DC Microgrids	Qian Xiao ¹ , Qingbin Gao ² , Yang Mi ³ , Xingwu Yang ³ , Chaoyu Dong ⁴ , Chi Jin ⁴ , Zhe Zhang ⁴ and Hongjie Jia ¹ ¹ Key Laboratory of Smart Grid, Ministry of Education, Tianjin University, Tianjin, China ² Department of Mechanical Engineering, University of Alabama, Alabama, USA, ³ College of Electrical Engineering, Shanghai University of Electric Power, Shanghai, China ⁴ Energy Research Institute @ NTU, Nanyang Technological University Singapore, Singapore	Chaoyu Dong

Paper ID	Paper Title	List of Authors	Presenter
1038	Design of an IPT Battery Charger with Configurable Constant Current and Constant Voltage Outputs	Xiaohui Qu ¹ , Dule Wang ¹ and Zhicong Huang ² ¹ School of Electrical Engineering, Southeast University, Nanjing, China, ² State Key Laboratory of Analog and Mixed-Signal VLSI, University of Macau, Macau, China	Xiaohui Qu
1046	A Novel WPT System with Digitally Closed-loop Control Featuring High Misalignment Tolerance	Kaixing Lu, Yijie Wang, Yousu Yao, Yueshi Guan and Dianguo Xu School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China	Wang Yijie
1067	Design of a Constant-voltage Output Wireless Power Transfer Device	Baohui Li, Xiangjun Zhang, Hua Yang, Yousu Yao, Yijie Wang and Dianguo Xu School of Electrical Engineering & Automation, Harbin Institute of Technology, Harbin, China	Xiangjun Zhang
1118	Comparative Study of Constant Current Modulations for Wireless Electric Vehicle Battery Charging Against Misalignment Effect Without Wireless Communication	Io-Wa lam ^{1,2,3} , Iok-U Hoi ^{1,2,3} , Zhicong Huang ¹ and Chi-Seng Lam ^{1,2,3} ¹ State Key Laboratory of Analog and Mixed-Signal VLSI, University of Macau, Macao, China, ² Institute of Microelectronics, University of Macau, Macao, China, ³ Department of Electrical and Computer Engineering, Faculty of Science and Technology, University of Macau, Macao, China	Paul lam (Io-Wa lam)
1128	Particle Swarm Optimization Based Modulation Design of Series-Series Compensated Inductive Power Transfer for Constant Voltage Output With High Efficiency over a Wide Load Range	Iok-U Hoi ^{1,2,3} , Io-Wa lam ^{1,2,3} , Zhicong Huang ¹ and Chi-Seng Lam ^{1,2,3} ¹ State Key Laboratory of Analog and Mixed-Signal VLSI, University of Macau, Macao, China, ² Institute of Microelectronics, University of Macau, Macao, China, ³ Department of Electrical and Computer Engineering, Faculty of Science and Technology, University of Macau, Macao, China	Charles Hoi (Iok-U Hoi)
1011	A Hybrid Model Integrating Three-Terminal Switch with PNGV Battery Models for LiFePO ₄ Battery Chargers	Kai-Jun Pai Department of Electrical Engineering, Ming Chi University of Technology, New Taipei City, Taiwan, R.O.C	Cary Pai (Kai-Jun Pai)
1169	Hybrid Current Mode Control for Phase-Shift Full-Bridge Converter	Jae-Hak Ko, Seung-Woo Baek, Hag Won Kim and Kwan-Yuhl Cho Department of Control & Instrumentation Engineering, Korea National University of Transportation, Chungju, Korea	Jae-Hak Ko
1160	A Single-Phase Soft-Switching AC Voltage Regulator With Fictitious DC-Link	Maoh-Chin Jiang, Ya-Chi Chien, Ling-Yi Chen and Chia-Wei Huang Department of Electrical Engineering, National Ilan University, Yilan, Taiwan	Maoh-Chin Jiang
1094	ZETA Dual-Loop Control Based on Voltage Across Transferring Capacitor Sensed	Y.T. Yau ¹ , K. I. Hwu ² , C.W. Wang ² and Jenn-Jong Shieh ³ ¹ Asian Power Devices Inc., Taoyuan, Taiwan, ² Department of Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan, ³ Department of Electrical Engineering, Feng Chia University, Taichung, Taiwan	Chao Wei Wang (C.W. Wang)
1024	Research on Operation of Modular Multilevel Converter under Asymmetric Grid Conditions	Zigao Xu, Binbin Li, Jian Ding, Shiguang Zhang, Wei Wang and Dianguo Xu School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China	Dianguo Xu
1027	An active cell-to-cell balancing circuit with planar coupled inductors for series connected batteries	Wei Yang, Jiye Han, Xiaofang Liu and Shiyan Yang School of Electrical Engineering and Automation, Harbin Institute of Technology, Harbin, China	Xiaofang Liu
1045	Bidirectional DC-DC Converter with a Wide-Range Voltage Conversion Ratio	Jen-Hao Teng, Chen Si-Wei, Shang-Wen Luan and Xu Jia-Rui Departmental of Electrical Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan	Jenhao Teng
1092	A Star-Structured LC Resonant Switched Capacitor Equalizer for Lithium-ion Battery Strings	Utpal Kumar Das ¹ , Kok Soon Tey ¹ , Mohd Yamani Idna Idris ¹ and Saad Mekhilef ² ¹ Department of Computer System and Technology, Faculty of Computer Science and Information Technology, University of Malaya, Malaysia, ² Power Electronics and Renewable Energy Research Laboratory (PEARL), Department of Electrical Engineering, Faculty of Engineering, University of Malaya, Malaysia	Kok Soon Tay
1108	Accurate Measurements of Key Parameters of Film Capacitors for EV Power Control Unit	Hansan Zhang and Quan Jiang Department of Electrical Engineering, University of Shanghai for Science and Technology, Shanghai, China	Hansen Zhang
1149	Efficiency Coordinated Control for Modularized Parallel DC-DC converters	Yu Lin Juan, Yi Lung Lee, Chiung Ying Huang, Hui Mei Chang, Yu Yang Tai and Ming Hsun Lu Department of Electrical Engineering, National Changhua University of Education, Changhua, Taiwan	Ming Hsun Lu

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1168	Analysis, Simulation and Design of Soft-Switching Mechanisms in DC to DC Step-Down Converter	Pin-Chih Chen ¹ , Wei-Che Lin ² , Mi-Ching Tsai ³ , Guan-Chyun Hsieh ⁴ and Hung-I Hsieh ⁵ ¹ Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan, ² Electrical Motor Tech. Res. Center, National Cheng Kung University, Tainan, Taiwan, ³ Department of Mechanical Engineering, National Cheng Kung University, Tainan, Taiwan, ⁴ Department of Electrical Engineering, Chung Yuan Christian University, Chung-Li, Taiwan, ⁵ Department of Electrical Engineering, National Chiayi University, Chiayi, Taiwan	Pin-Chih Chen
1179	Electro-thermal coupling model of supercapacitor for online application	Ming Wu, Li Wei and Yuzhuo Shen School of Electrical Engineering, Tongji University, Shanghai, China	Ming Wu
1209	Sensor Fusion-based Cell-to-Cell Inhomogeneity Reflection for Accurate SOC Estimation of the Serial/Parallel Battery Pack	Kim Jonghoon, Park Jinhyeong, Kim Gunwoo and Pyeong-Yeon Lee Department of Electrical Engineering, Chungnam National University, Daejeon, Korea	Jonghoon Kim
1233	A bidirectional and isolated DC/DC converter connecting mobile battery systems to a DC grid in commercial buildings	Matthias Siegmund Schulz ¹ , Moritz Wild ¹ , Raphael Chacon ² , Bernd Wunder ³ and Martin März ³ ¹ Power Electronics Division, Fraunhofer IISB, Erlangen, Germany, ² CEUS UG, Erlangen, Germany, ³ Friedrich-Alexander University, Erlangen-Nuremberg, Germany	Matthias Siegmund Schulz
1237	Multi-Input Boost DC-DC Converter with Continuous Input-Output Current for Renewable Energy Systems	Saman A. Gorji ¹ , Hosein G. Sahebi ² , Mahmood Movahed ³ and Mehran Ektesabi ¹ ¹ School of Software and Electrical Engineering, Swinburne University of Technology, Melbourne, Victoria, Australia, ² Department of Electrical and Computer Engineering, Babol Noshirvani University of Technology, Babol, Iran, ³ Department of Electrical Engineering, Amir Kabir University of Technology, Tehran, Iran	Mehran Ektesabi
1238	A Comparative Study on PFC Bridgeless Flyback and SEPIC AC-DC Rectifiers Operating in DCM and BCM	Saman Asghari Gorji, Ali Mostaan and Mehran Ektesabi School of Software and Electrical Engineering, Swinburne University of Technology, Melbourne, Victoria, Australia	Mehran Ektesabi

Industry Session I**Venue: Sky Ballroom 1****Time: 26th November, 2.00pm-3.30pm****Chair: Dr Y.K. Lo, LITE-ON Technology Corporation, Taiwan****Co-Chair: Dr L.H. Koh, Nanyang Technological University, Singapore**

Presentation Topic	Speaker	Time
48 V = eGaN® Technology	Mr Cheng Cheng-I, Peter Asia Pac FAE Director Efficient Power Conversion Corporation (EPC)	2.00pm – 2.30pm
Loss Measurement of Inductors used in Power Converters	Prof Toshihisa Shimizu Vice President Tokyo Metropolitan University, Japan and IEEE-Fellow, IEEJ-Fellow	2.30pm – 3.00pm
Transformer Design for Common-Mode Noise Reduction	Dr Yu-Kang Lo (Dr Y.K. Lo) Director of Product Competence Center (PCC) in Power Conversion BG LITE-ON Technology Corporation, Taiwan	3.00pm – 3.30pm

Industry Session II**Venue: Sky Ballroom 1****Time: 27th November, 11.00am- 1.00pm****Chair: Dr L.H. Koh, Nanyang Technological University, Singapore****Co-Chair: Dr Y.K. Lo, LITE-ON Technology Corporation, Taiwan**

Presentation Topic	Speaker	Time
Dynamically Reconfigurable Motor and Drive Technology	Dr Hengchun Mao President Quanten Technologies Inc, USA	11.00am – 11.30am
MV EV Fast Charging Technology Trend	Dr Herman Chang Senior Vice President Wanbang New Energy Investment Group Co., Ltd, China	11.30am – 12.00pm
Model-Based Design for Power Electronics Control	Mr Takumi Toyama IA&M Industry Manager MathWorks, Japan	12.00pm – 12.30pm
Advances in Power Semiconductors	Mr Rory Dickman Global Account Manager ABB Switzerland Ltd	12.30pm – 1.00pm