6 June 2024, Day 2

Offline Sessions

11:30 am - 12:30 pm

Session I - A （Z204）

Industrial Session

RS Group plc

Session I - B （Z208）

Battery and Energy Storage

27	Zewen Li, Yuanliang Fan, Xutao Wen, Lingfei Li, Jianli Lin and	Energy cooperative control strategies for distributed energy storage systems
98	Qirui Yang, Zhanghai Shi, Wang Tian, Dong Liu and Ka-Wai Eric	A Simplified DAB Converter Suitable for Low Voltage and Large Current Applications
107	Xin Cheng, Kin Lung Jerry Kan and Ka Wai Eric Cheng	Optimization Design of Photovoltaic Array in Hong Kong
29	Dameng Liu, Xuepeng Mou, Bohao Shi, Julong Chen, Bin Wang, Chen Luo, Chengjun Zhong and Zhen Li	Research on Mechanical-Electrical Co-Simulation Method of Slope Gravity Energy Storage System Based on Multi-Software

01:30 pm - 02:30 pm

Session II - A （Z204）

Motor and Drive I

40	Zhang Zhang, Zhenghua Nie, Jiahao An, Kaiwen Chen and Jianfei Pan	Sliding Mode Control of Permanent Magnet Linear Synchronous Motors Based on an Adaptive Sliding Mode Reaching Law
41	Kuncheng Lai, Zhang Zhang, Kai Huang and Jianfei Pan	Adaptive Fuzzy based Sliding Mode Speed Control for Permanent Magnet Synchronous Motor with Sliding Mode Disturbance
42	Jiahao An, Zhang Zhang and Jianfei Pan	Sensorless Control of Permanent Magnet Synchronous Motor Based on Adaptive Sliding Mode Observer and Phase Locked Loop
51	Junhua Li, Zhenghong Zhang, Haowei Luo, Taozi Mo, Neng Li and Jianfei Pan	Torque ripple suppression of dual-stator electric machine based on active disturbance rejection control

02:30 pm - 03:30 pm

Session III - A （Z204）

Motor and Drive II

44	Taozi Mo, Neng Li, Zhang Zhang, Junhua Li, Zhenghong Zhang and Jianfei Pan	A droop control method based on adaptive virtual impedance for parallel control of distributed generators
45	Kai Huang, Zhang Zhang, Kuncheng Lai and Jianfei Pan	Sensorless Field Oriented Control of Brushless Direct Current Motor with Disturbance Compensated Sliding-Mode Observer
48	Li Li, Guolong Jiang and Jianfei Pan	The Design and Making of Multi-functional Intelligent Baby Crib Based on Wio Terminal
62	Y.L. Ho, K.W.E. Cheng and Wan Yee Lam	Wide Output of LLC Implementation for Power Tool Charger Application

03:45 pm - 04:45 pm

Session IV - A（Z204）

New Energy

33	Renbo Wu, Yiming Peng, Yang Zhang, Chong Zhao and Wenqing Xu	A Photovoltaic Power Generation Data Repair Method Based on Clustering and GAIN
36	Shuiqiang Zou, Yuanjun Chen, Peng Zhou, Qia Xiong, Zhipeng Huang, Tuo Zeng and Jingyao Zeng	A Comprehensive Evaluation Method for Power Quality of Distributed Photovoltaic Integration into Distribution Networks Based on Credibility
90	Zhiheng Zhao and Jinhong Sun	Enhanced Misalignment Tolerance in Wireless Charging for Electric Motors through Special Coil Design
91	Qiurui Chen, Zhihui Wang, Hanyu Xie, Yue Zuo and Yingjie Li	Research on electric vehicle charging position alignment based on three auxiliary coils

Session IV - B （Z208）

Power Generation

39	Zhipeng Huang, Shuiqiang Zou, Jingyao Zeng, Zhiyong Chen, Yuanjun Chen, Dingji Zeng and	Research on Comprehensive Evaluation Methods for Residential Area Power Quality Assessment in the Context of Building-
47	Yuanjun Chen, Jingtao Wu, Yuee Wang, Bin Liang, Chunhui Dong, Lian He and Simiao Yu	Short-Term Prediction of Photovoltaic Power Based on TCN-LSTM-Attention model and Kmeans++
54	Peijie Liu, Shuiqiang Zou, Huanhuan Ye, Wensi Lai, Simiao Yu, Chunyu Tao and Chunhui	Distributed photovoltaic power prediction based on spatio-temporal diffusion map convolution with dynamic graph networks
86	Xiangdang Xue, K. W. E Cheng and Cuidong Xu	Review of Energy Management Strategies of Solar Photovoltaic Energy Systems for Grid-connected and Standalone Applications

04:45 pm - 05:45 pm

Session V - A（Z204）

Future Smart City

50	Zhenghong Zhang, Zhang Zhang, Junhua Li, Taozi Mo, Haowei Luo and Jianfei Pan	Design of a Dual-stator Generator for a Portable Hand Crank Generating system
52	Huiwen Xiao, Kawai Eric Cheng and Zilin Li	Analytical Harmonic Suppression with Controller Design for Electric Spring System
18	Qing Li	A new method for calculating energy of matter
93	Heshou Wang, Huiwen Xiao and Ka Wai Eric Cheng	An Advanced Coil Design for Improved Misalignment Tolerance and Performance in Dynamic Wireless Power Transfer

Online Session

Starts from 01:30 pm

Online session I

19	Tade Hrutuja Sanju, Junxiang Yang, Rui Liang, Tenghao Ji, Shuye Shang and Yajie Jiang	Parameter Identification of Electrical and Thermal Model of a Lithium Polymer Battery using Particle Swarm Optimization
25	Wanting Yin, Zhimin Wang, Yixin Sun, Yuhang Liu, Fei Peng, Yongjian Wang and Fangyuan Xu	A Digital Support Investment Decision Model for Observable, Measurable, and Controllable Distribution Network
26	Hao Lin, Peixiang Lin, Fengrui Chang, Xiaowen Chen, Qifan Yang, Xiangang Peng and Fangyuan Xu	A Study on the Digital Out-Building Survey Material Estimation Method for Low-voltage Power Connection Expansion
55	Feifei Bu, Yuhang Liu, Yibo Jia, Yuanpeng Hua, Ding Han, Yanpeng Zhai and Fangyuan Xu	An Investment Decision Support Analysis Model for UAV Utilization in Transmission Line Inspection
20	Qingdong Zhuo, Wendi Liu, Zhaoyang Xu, Haipeng Zhang, Yanpeng Zhai, Ling Yang and	Active power-frequency oscillation suppression strategy for parallel VSG grid-connected power system
11	Muhamad Danish Karlin Bin Mohamed Isa, Huajun Wang, Rui Liang, Tenghao Ji, Yajie Jiang and	Smart Cost-based Charging Profile Management and Optimisation for Multiple Electric Vehicles in Power Grids
13	Junting Bao, Yuan Mao, Youbing Zhang, Yajie Jiang, Zhiming Zhang and Yun Yang	A Comparative Study on Parameter Identifications of Battery Thermoelectric Coupling Model
14	Ke Tang, Junxiang Yang, Zhen Sun, Kaiyan Wang, Junming Zeng and Heshou Wang	Load and Mutual Detect Methods for Omnidirectional Wireless Power Transfer Systems Based on Third Harmonic Analysis
15	Boxuan Tang, Yunfeng Deng, Yici Wang, Rui Liang, Kaiyan Wang and Jinhong Sun	Precise Modeling of Silicon Carbide-Based Power Switches
24	Haipeng Zhang, Yanpeng Zhai, Qingdong Zhuo, Wendi Liu, Jiajie Wang, Fangyuan Xu and Ling Yang	A Study on Compensation Strategy for Distributed Inertia in a Novel Power System
28	Congjia Zhang, Qi Yu, Yanglin Zhou, Yuxin Li, Baochang Liu, Ende Lin and Song Ci	Building a Large-Scale Intrinsically-Safe Energy Storage System by Using Retired EV Batteries
6	Shuye Shang, Junxiang Yang, Tenghao Ji, Minghao Fan, Kaiyuan Wang and Heshou Wang	Investigations of A Simplified PCB-Based Wireless Power Resonator Operating at 13.56MHz
22	Xue Wang, Wendi Liu, Qingdong Zhuo, Zhaoyang Xu, Yanpeng Zhai, Haipeng Zhang, Ling Yang and	Adaptive control strategy for VSG inertia and damping in the new power system
87	Hao Lin, Peixiang Lin, Fengrui Chang, Xiaowen Chen, Qifan Yang, Xiangang Peng and Fangyuan Xu	A Study on Connection Point Selection Strategy in Low-Voltage Grid Expansion Digitalization Considering Three-Phase Imbalance Degree
96	Sisi Liang, Xiaolin Wang and Yuanmao Ye	An Improved Virtual Impedance Droop Control of Three-Port Converter Interfaced Hybrid Energy Storage Systems
20	Qingdong Zhuo, Wendi Liu, Zhaoyang Xu, Haipeng Zhang, Yanpeng Zhai, Ling Yang and	Active power-frequency oscillation suppression strategy for parallel VSG grid-connected power system
12	Shuye Shang, Kaiyuan Wang, Junxiang Yang, Rui Liang, Zhen Sun, Yao Wang and Yun Yang	Omnidirectional Wireless Charging of Battery-Free Drones in Octagonal Prism Chamber
32	Bin Wang, Ju Long Chen, Da Jie Chen, Yong Qing Zhu, Zhen Li, Xue Peng Mou and Jian Wang	Multi-software collaborative modeling and simulation of ramped gravity energy storage traction devices
60	Heshou Wang, Zhenxing Ye and Eric Cheng	Advancements in Three-Coil Wireless Power Transfer: A Path to Flexible Energy Solutions
16	Yunfeng Deng, Boxuan Tang, Yici Wang, Junxiang Yang, Kaiyuan Wang and Jinhong Sun	Research on High-Speed Switching Characteristics and Parasitic Parameter Optimization of Enhancement-Mode GaN Devices
17	Zekai Zhao, Huajun Wang, Rui Liang, Junxiang Yang, Yajie Jiang and Kaiwen Chen	Electric Vehicles Charging and Discharging Strategy Based on Differential Evolution (DE) Algorithm
14	Ke Tang, Junxiang Yang, Zhen Sun, Kaiyan Wang, Junming Zeng and Heshou Wang	Load and Mutual Detect Methods for Omnidirectional Wireless Power Transfer Systems Based on Third Harmonic Analysis
4	Qinyu Li, Fazil Arhanifsyah, Zhen Sun, Rui Liang, Junxiang Yang and	A Jerusalem Electromagnetic Compatibility Coat for a Cubic Wireless Charging Container
5	Tingting Zhong, Kuan Yue Lian, Shuye Shang, Zhen Sun, Kaiyuan Wang and Yun Yang	Exploration of A New Metamaterial for A “Qi”-Compatible Wireless Power Transfer System
9	Chen Chen, Tenghao Ji, Junxiang Yang, Rui Liang, Kaiyuan Wang and Jinhong Sun	Design and Analysis of Class Φ Inverters in the Wireless Power Transfer
10	Huajun Wang, Rui Liang, Xuewei Jin, Siyang Liu, Yajie Jiang and Kaiwen Chen	Economy Optimization-based Power Distribution Scheme for Multiple Dual-Active-Bridge Converters in DC Charging Stations
56	Hebing Liu, Jinhong Sun, Heshou Wang and Ka Wai Eric Cheng	The path-tracking method based on deep deterministic policy gradient and applied for high-speed driving
21	Jinlong Li, Ling Yang, Zhaoyang Xu, Wendi Liu, Qingdong Zhuo and Fangyuan Xu	Inertia Estimation Method for VSG-Dominated Power System Based on Improved Extended Kalman Filter
23	Xue Wang, Yanpeng Zhai, Wendi Liu, Qingdong Zhuo, Jiajie Wang, Fangyuan Xu and Ling Yang	Rotational inertia ancillary services based on system inertia pricing scheme for consumers

7 June 2024, Day 3

Offline Sessions

11:30 am - 12:30 pm

Session VI - A (Z204)

Power Transfer Implementation

106	Yiming Peng, Jing Wan, Dongxu Li, Xing Chuan and Jinbo Huang	An Ultra-short-term Photovoltaic Output Prediction Method based on QR-PSO-BiLSTM
35	Akshay Sharma	Implementing Google Kubernetes Engine Cluster using Terraform and Jenkins in two environments
49	Akshay Sharma	Enhancing Cloud Security through a Blend of Symmetric and Asymmetric Cryptography Methods

Session VII - A （Z204）

Design and Optimization of Power Electronics

01:30 pm - 02:30 pm

59	Heshou Wang, Teke Hua and Ka Wai Eric Cheng	An Overview of Innovations in Magnetic Coupler Design for Electric Vehicle Wireless Charging Systems
105	Shu-Chuen Chris Ip and Ka-Wai Eric Cheng	The torque performance analysis of a zero-gearing ratio Contra-rotating Switched Reluctance Motor (CR-SRM)Design
92	Zhenxing Ye, Teke Hua and Ka-Wai Eric Cheng	Simulation of a novel conical coil for multi-output wireless power transfer
53	Huiwen Xiao, Kawai Eric Cheng and Zilin Li	Comparative Studies of Carbon Footprint for Traditional and All-electric Homes: A Case Study of Hong Kong

Session VIII - A （Z204）

Wireless Power Transfer Technology

02:30 pm - 03:30 pm

103	Jie Mei and Ka-Wai Eric Cheng	High-order step-up current mode converter controlled by tapped inductor
88	Teke Hua, Zhenxing Ye, Heshou Wang and Ka Wai Eric Cheng	Multiple Inputs and Multiple Outputs Wireless Power Transfer System with Independent Regulation Capability
46	Zhenghua Nie, Kaiwen Chen, Zhang Zhang, Xiaodong Yang, Chongxu Yan and Jianfei Pan	A Novel Mutual Inductance Estimation Approach for Different Compensated Multi-Txs Wireless Power Systems
43	Chongxu Yan, Kaiwen Chen, Xiaodong Yang, Zhenghua Nie, Zhang Zhang and Jianfei Pan	Position Prediction for Dynamic Wireless Power Transfer Based on BP Neural Network

Session IX - A （Z204）

Advanced Control in Power Electronics

03:45 pm - 05:15 pm

37	Hao Lin, Qiujing Lin, Mingjie He, Yu Huang, Kemao Li, Jungfeng Liu and Pingyi Xie	Line Fault Classification of Power Grid Using Dung Beetle Optimization-Support Vector Machine
38	Xin Mo, Liguo Han, Lilin Wu, Wentao Tang, Jingming Li, Junfeng Liu and Junhao Fan	Fault Location of Active Distribution Network Based on Differential Evolution Grey Wolf Optimization Algorithm
100	Lin Yiyou	Developing Diesel Truck to Electric A Practical Case
85	Yuanchao Lei and Ka-Wai Eric Cheng	Stair-climbing Wheelchair: A Review on Mechanism, Safety, and Performance Evaluation

Online Session

Starts from 01:30 pm

Online Session II

80	Xiaorui Wu, Jing Xiao, Fanbin Meng, Shaonan Chen, Ning Wu and Yuhong Mo	Modeling and Analysis of Coupling Structure Loss of Bidirectional WPT System Based on Finite Element Simulation
82	Xiaoyu Zhu, Chunsen Tang, Xiaorui Wu, Wenlan Gong and Yuhong Mo	A Wide Power Range Segment Control and Soft-Switching Implementation Method Based on AVC-VF Control
101	Luo Lihua, Li Xiaofei and Ren Feifan	Analysis and Design of Single-Input Dual-Output MC-WPT System with High Offset Resistance
102	Yanling Li and Xiang Mi	An Synchronization Method for Track Type Wireless Power Transfer System Existing Energy Feedback Route
79	Tong Zhang, Chunsen Tang, Xiaorui Wu, Wenlan Gong and Yuhong Mo	Design of a High-Power MC-WPT System for Variable Distance Based on Modular Parallel Technology
76	Jing Xiao, Shaonan Chen, Hualin Tan, Xiaorui Wu, Yuhong Mo and Ning Wu	Parameter Design of 30kW Coupling Mechanism for Electric Vehicles
64	Wei Meng, Hongbo Lan, Nana Hu and Ruyan Yang	A High Anti-offset Wireless Power Transfer Method for Rotary Steerable Systems
65	Wei Meng, Nana Hu, Hongbo Lan and Tao Lv	Lightweight Design of Magnetic Coupling Mechanism of Wireless Power Transfer System for Underground Rotary Guidance Device
69	Yuhong Mo, Jing Xiao, Wenjie Yuan, Shaonan Chen and Quan Liu	Coil Current Synchronization Control Method for EV-DWPT System
57	Heming Wang	Leveraging Edge Machine Learning for Energy-Efficient Communication in IoT Networks for Carbon-Neutrality
67	Yuning Zhang, Xiaorui Wu, Jing Xiao, Shaonan Chen and Yuhong Mo	Electric Vehicle Wireless Power Transfer System with Pick-Up Side Position Detection
68	Haonan Lin, Jing Xiao, Xiaorui Wu, Shaonan Chen, Ning Wu and Yuhong Mo	Integrated Design of Double-Layer FOD Coil and its Excitation Frequency Selection for MC-WPT System
89	Zining Yang and Ruby Sun	Advanced Coil Design for UAV Wireless Charging for Enhanced Magnetic Linkage
74	Jiatian Liang, Jing Xiao, Lijie Hou, Shaonan Chen and Yuhong Mo	High-Misalignment Tolerance Wireless Charging System for Constant Voltage/Current Output Using Variable Structure Hybrid Topology
83	Jiang Xiao, Yuhong Mo and Jing Xiao	Active Disturbance Rejection Constant Current Control for Dynamic Wireless Charging of Electric Vehicles
84	Xiaorui Wu, Jing Xiao, Zhi Geng, Shaonan Chen and Yuhong Mo	Analysis and Design of Both CC and CV Dual Outputs WPT System Based on LCC-S/LCC Compensation
66	Ning Wu, Jing Xiao, Haonan Shi, Xiaorui Wu and Yuhong Mo	Multi-frequency identification method for Foreign Object Detection in Wireless Power Tranfer systems
72	Jing Xiao, Shaonan Chen, Xingbang Fang, Yuhong Mo and Quan Liu	Research on Fault Diagnosis Method of Electric Vehicle Dynamic Wireless Power Transfer
75	Jing Xiao, Shaonan Chen, Yuhong Mo, Xiaorui Wu and Rui Ding	Design of α-β Digital Filtering Algorithm for Foreign Object Detection in Wireless Charging of Electric Vehicles
63	Yuhong Mo, Shaonan Chen, Heqing Feng, Kunjie Huang, Jing Xiao and Xiaorui Wu	Design and Analysis of Wireless Power Transfer System for both Inductive and Capacitive Coupled UAVs
70	Xiaorui Wu, Jing Xiao, Chen Hu, Shaonan Chen and Yuhong Mo	Primary side synchronous phase-shift control method of EV-DWPT system based on equivalent mutual inductance estimation
77	Yuhong Mo, Jing Xiao, Jiahe Hou, Xiaorui Wu, Shaonan Chen and Ning Wu	Efficiency Optimization Method of BIPT System with Asymmetrical Double-Sided LCC Compensation Network
34	Xiangrong Zhang, Junxiang Yang, Rui Liang, Shuye Shang and Kaiyuan Wang	High Frequency Inverter Design for Wireless Power Transfer System
104	Liangbi Wu, Zhicheng Li, Hao Lin, Linhan Wu, Zhiyi Feng, Zhikun Zeng and Jungfeng Liu	Series DC Arc Detection of Photovoltaic System Based on Ensemble Learning
78	Quan Liu, Jing Xiao, Jianxin Wang, Shaonan Chen and Yuhong Mo	Power fluctuation suppression technology of EV-DWC system based on LCC-S series hybrid topology
94	Jiatong Li, Jing Xiao, Xiaorui Wu, Wenlan Gong and Yuhong Mo	A design method for high power density coupling mechanism with zero air gap