

2024 IEEE 10th International Power Electronics and Motion Control Conference (IPEMC2024-ECCE Asia)

**Chengdu, China
17 – 20 May 2024**

Pages 1-590



**IEEE Catalog Number: CFP24792-POD
ISBN: 979-8-3503-5134-7**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24792-POD
ISBN (Print-On-Demand):	979-8-3503-5134-7
ISBN (Online):	979-8-3503-5133-0

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

0004	An Intelligent and Precise Grid Impedance Identification Scheme <i>Yuan Qiu; Yanbo Wang; Yanjun Tian; Zhe Chen</i>	1
0005	Design of a Rapid Control Prototype System for Permanent Magnet Synchronous Motor Based on SimulLab <i>Jie Jing; Jianfeng Zhang</i>	7
0006	Multilevel Pulse Train Control for Three-Phase Voltage Source Inverter in dq Rotating Coordinate System <i>Yifan Wang; Jianping Xu; Xia Guo</i>	19
0007	Smooth Structure Transfiguration Methodology for Half- and Full-Bridge LLC Resonant Converter via State Plane Approach <i>Jiahao Li; Jie Chen; Jingke Cai; Yong Wang</i>	25
0009	Advanced Asymmetrical Switching Sequences Based Model Predictive Control with Minimum Current THD for Single-Phase NPC Rectifiers <i>Zhikang Guo; Weifeng Zhang; Zang Ling; Zhaoxun Li; Jingwei Zhang; Guojun Tan</i>	31
0013	Modeling and Optimization of Film Capacitor for Motor Controllers Considering the Distribution of Internal Loss <i>Kaining Kuang; Xinhua Guo; Xiuwan Li; Chunzhen Li</i>	37
0014	Optimized Design the Shell of Film Capacitor Used in Controller Considering Surface Roughness <i>Kaining Kuang; Xinhua Guo; Xiuwan Li; Chunzhen Li</i>	43
0016	Static and Dynamic Voltage Balancing for an IGCT-Based Resonant DC Transformer <i>Renan Pillon Barcelos; Nikolina Djekanovic; Drazen Dujic</i>	49
0017	Circulating Current Mitigation in IGBT-based Master-Slave centralized Inverters <i>Liangjie Liu; Prashant Jain; Bin Liu; Qingwei Zhu; Zechun Dou; Yu Qi; Chengxi Li</i>	57
0018	Review of research status of efficient gas cooling technology for motors <i>Shanshan Yang; Chuang Liu; Zhou Zhou; Xuezhong Zhu</i>	62
0019	New Compensation Strategy of the Active Power Filter Integrating the Dynamic Optimization Compensation of Odd-Order Harmonics and the Algorithm of Operating Inverter Output Current Within the Limit Range for the Longest Time <i>Tsai-Fu Wu; Jui-Yang Chiu; Chien-Chih Hung; Yun-Hsiang Chang</i>	66
0021	Bilateral Common-mode Voltage Injection Method with Minimized Low-frequency Ripple Buffering of AC/AC Solid-State Transformer <i>Zhenchao Li; Yan Zhang; Ziyin Wang; Jinjun Liu; Ziyue Ji; Fei Chang</i>	70
0022	Online Data-driven Fault Detection for the HTPEM Fuel Cells based on EIS: Equivalent Electrical Circuit Model Analysis <i>Dan Yu; Xingjun Li; Samuel Simon Araya; Simon Lennart Sahlin; Vincenzo Liso</i>	78

0025	Research on the identification method of travelling wave reflection signal aliasing for IGBT fault feature extraction <i>Weiyu Yuan; Shu Cheng; Chang Liu; Chaoqun Xiang; Wangyu Xie; Weijie Wang</i>	84
0027	Development of Smart Operation and Maintenance Platform for Distributed Large-scale Battery Energy Storage Power Stations Based on Cloud Edge Collaboration <i>Guoqing Li; Jiahui Zhao; Mingyi Liu; Guohui Zhang; Dawei Liu; Yong Zhu; Sheng Yong; Jianxing Wang; Wei Zhang; Sheng Lin; Chenghao Liu; Yue Sun; Hao Jing; Chuanzhao Cao; Xi Cao; Jie Pei; Yaoyu Li; Ye Qin; Jiangjiang Jin; Min Zhang</i>	92
0028	Wide Output Range PWM Controlled Dual Resonant Capacitor LLC Resonant Convert <i>Sihong Li; Caixue Chen; Zongyuan Liu; Yikun Liu; Ziyi Luo; Fanming Liu</i>	99
0032	A Fast Calculation Method Of IGBT Junction Temperature <i>Hai Tao Liu; Jie Liu; Shun Meng Xie; Yu Qi</i>	105
0033	Study of Voltage Feedforward Damping Control Strategy for Grid-Connected Inverters Operating in Weak Grid Conditions <i>Chaoran Zhuo; Weizhang Song; Hao Yi</i>	110
0034	Passive Harmonic Reduction for 12-Pulse Rectifier Using two Kinds of Unconventional Multi-tap Inter-Phase Reactors <i>Jingfang Wang; Pengying Xiong; Chen Zhao; Teng Liu; Tianlong Yu</i>	120
0035	The Impedance Reconstruction Strategy Based on Machine-Side Converter for SSO Suppression in PMSG Wind Generator <i>Ruixun Ma; Meng Li; Xueguang Zhang</i>	126
0037	Switching Effects from External Anti-Parallel 10kV SiC JBS Diode <i>Benjamin Futtrup Kjærsgaard; Zhixing Yan; Dipen Narandra Dalal; Jannick Kjær Jørgensen; Szymon Beczkowski; Michael Møller Bech; Christian Uhrenfeldt; Hongbo Zhao; Stig Munk-Nielsen</i>	132
0039	A Model Predictive Control Strategy with Virtual Vectors Visualization Analysis for Grid-Connected Converter <i>Nan Jin; Zhengwei Wang; Zifan Xu; Leilei Guo</i>	140
0040	A Rapid Multi-Area Load Frequency Control Method Involving Thermostatically Controlled Loads <i>Li Li; Mi Dong</i>	145
0042	Selective Inertia Response Control of Self-synchronous Voltage Source Doubly-fed Wind Turbines in the Whole Wind Speed Range <i>Siyang Xu; Han Wang; Yunfeng Cao; Seiki Igarashi; Jun Li; Xu Cai</i>	151
0043	Model Predictive Current Control of Four-Level Inverter and Modulation With Two Capacitors <i>Yiyuan Zhang; Bihua Hu; Xiaoxue Luo; Xiangyun Qin; Zhenwen Xiao</i>	157
0044	Fault Diagnosis Method with Feature Fusion Module Based on BiLSTM <i>Jianye Li; Lin Zhang; Pengcheng Song; Ming Yang</i>	162
0047	A Parallel-Connection Voltage Equalizer With A Shadow Fault Detection Method	168

	<i>Xue Wang; Huiqing Wen; Peichao Xu</i>	
0048	A Full-ANN Control Scheme of Single-Phase Grid-Connected Inverter <i>Kaizhe Nie; Feng Gao; Tao Xu; Yayue Cao</i>	173
0049	Sensorless control of Synchronous Reluctance Motor based on High Frequency Square Wave Injection <i>Jie Liu; Changjiang Wang; Dayang Yu</i>	178
0050	Evaluation of Closed-loop Control Techniques for Single-stage MVAC-LVDC Solid-State-Transformers in Compact EV Ultra-Fast Charging Stations <i>Jaydeep Saha; Prasanth Sundararajan; Sanjib Kumar Panda</i>	182
0051	Evolutionary Optimization Algorithm Based Optimal Tuning of Cascaded Control Scheme for Single-Stage AC-DC Solid-State-Transformers <i>Jaydeep Saha; Diptak Pal; Sanjib Kumar Panda</i>	188
0055	An Isolated Hybrid Sigma Bi-directional BESS Interface with Extra-Wide Voltage Gain <i>Bima Nugraha Sanusi; Pinhe Wang; Ziwei Ouyang</i>	194
0058	EMI Suppression Scheme Based on Spread Spectrum Technology for High Power Wireless Electric Vehicle Charging <i>Zhecheng Zhang; Guoao Li; Ying Mei; Yizhen Lin; Jiande Wu; Xiangning He</i>	200
0059	Output Voltage Ripple Suppression Strategy for Light DC-link Capacitor DC-Type EV Charger <i>Jingke Cai; Junzhong Xu; Kaihong Cao; Yuxuan Bi; Yuxin Zhang; Yong Wang</i>	204
0060	Model Predictive Control Strategy for High-Power Wind Turbine based on Paralleled Active Neutral Point Clamped Converter <i>Pedro Catalán; Yanbo Wang; Joseba Arza; Zhe Chen</i>	210
0061	Comparisons of Decentralized Model Predictive Control without Weighting Factors for Electrical Drive Systems <i>Haotian Xie; Yao Wei; Dongliang Ke; Xinhong Yu; Dongxiao Huang; Fengxiang Wang; Jose Rodriguez; Ralph Kennel; Marcelo Heldwein</i>	216
0062	Adaptive Fuzzy Sliding Mode Based Current Control for PMSM Servo Drive Systems <i>Bing Zhang; Qianwen Duan; Nanfang Lv; Xinglong Chen; Yao Mao</i>	220
0064	Error Storage Based Online Linearization of the Nonlinear Transfer Function of a High Power Dual Active Bridge <i>Tobias Merz; Fabian Sommer; Rüdiger Schwendemann; Hongyi Sui; Marc Hiller</i>	226
0065	Fault-Tolerant Control of Open-phase Fault in Sensorless PMSM Drives <i>Yun Zhang; Yao Mao; Xueqing Wang; Lei Kong; Ting Zhang; Qianwen Duan; Jiuqiang Deng</i>	233
0066	Estimated Load Feedforward instead of Voltage Integrator for Phase-Shifted Full Bridge Converter to Enhance Dynamic <i>Mingyu Xue; Bin Cao; Kaiwei Cao; Haicong Zhang; Jifeng Chen; Xu Chu; Xiaohua Jiang</i>	237

0067	A Low-Frequency Ripple Suppression Strategy for Multi-Module DAB Fed Single-Phase VSI	243
	<i>Jia Shu; Zhenchao Li; Ziyin Wang; Junhua Wang; Yan Zhang; Jinjun Liu</i>	
0069	Performance Instability of 650 V p-GaN Gate HEMTs under Temperature-Induced Negative Gate Bias Stresses	249
	<i>Renze Yu; Saeed Jahdi; Phil Mellor</i>	
0070	Anti-disturbance Control Scheme based on Cascade GPIO for Induction Motor	255
	<i>Huaibin Pang; Kun Gao; Hanbing Dan; Mengchao Qian; Mei Su</i>	
0072	Research on Coupling Error Compensation Method of Macro-micro Composite Platform	260
	<i>Tianrun Kang; Mingyi Wang; Yiyi Li</i>	
0073	Analysis and Compensation of Position Estimation Errors in Zero-Sequence BEMF-Based Sensorless Method for OW-PMSM	264
	<i>Wenhao Han; Hanlin Zhan; Licheng Zheng; Sifan Qian; Dianguo Xu</i>	
0074	Deadbeat Control Method for T-type Three-Phase Four-leg Three-Level Inverters	270
	<i>Junlong Ding; Yi Zhu; Yong Yang; Xiaoping Chen; Jose Rodriguez</i>	
0075	Sensorless Control of Synchronous Reluctance Motors Based on MRAS	276
	<i>Xingmei Zhao; Wenxiang Song; Yukun Liu</i>	
0077	Separation of on-load thrust ripple of moving-magnet linear motor based on frozen permeability	282
	<i>Qinwei Sun; Mingyi Wang; Minghong Liu; Liyi Li</i>	
0079	Model Predictive Control with Parameter Identification of DC-Transformer (DCX) in Class-D Audio Amplifier	288
	<i>Jiazheng Huang; Zheng Dong; Yulin Liu; Feng Jing; Jingdong Gao; Bing Zou; Hongzheng Liu; Tianqu Hao</i>	
0081	Quantitative Impacts Analysis of the Inner Current Loop on Grid-Tied Converters' Transient Synchronous Stability	294
	<i>Xilin Li; Ruiqi Zhang; Zhen Tian; Meng Huang; Xiaoming Zha</i>	
0082	Comparison of Coupled Direct Digital Control and Decoupled Direct Digital Control Based on D-Σ Processes for Three-phase-three-wire Inverter	300
	<i>Po-Chang Lee; Tsai-Fu Wu; Jei-Yang Chiu; Chien-Chih Hung</i>	
0085	System analysis of integration methods in novel electric motor drive systems	305
	<i>Yury Mikhaylov; Giampaolo Buticchi</i>	
0087	A novel TS/S-SP variable structure wireless power transfer converter	311
	<i>Yiming Zhang; Zhilei Yao</i>	
0088	Reinforcement Learning based Weight-Tuning Model Predictive Control of Permanent Magnet Synchronous Motor	317
	<i>Aole Deng; Weilin Yang; Guanyang Hu; Wentao Huang; Dezhi Xu</i>	

0089	Low-frequency Oscillation Analysis of Railway Train-Network System Considering the Two Feeding Sections of the Traction Substation Based on Harmonic State-space Modeling	323
	<i>Qiqi Yang; Xiaoqin Lyu; Wenwen Zhu</i>	
0090	Soft-Start Procedure for Four-Switch Buck-Boost Converter with PCCM ZVS Modulation Scheme	329
	<i>Feiming Liu; Jianping Xu; Zhengge Chen</i>	
0091	Inverse Polarity Half-Bridge Series Resonant Converter with Full-range Regulation	334
	<i>Jiayi Kong; Rui Sun; Xiaojing Liu; Mingjin Xu; Boyang Chen; Jiaze Song</i>	
0093	Soft Switching Modulation Strategy for Modular Multilevel Solid-State Transformer with Integrated Switching Pairs	339
	<i>Yinyu Yan; Yichao Sun; Carlos Teixeira; Xiong Yang</i>	
0094	Stability Analysis and Current-loop Reshaping for Voltage-Source Converters with Power Control	345
	<i>Bao Xie; Weike Zheng; Pingyu Li</i>	
0095	A Switching Frequency Selection Method for Single-phase PWM Rectifier Considering Lifespan and THD	350
	<i>Zhen Wang; Bi Liu; Xu Chen; Meichen Lin; Lin Peng; Wenjie Zhu; Haoran Li; Kun Tan; Cungang Hu; Zhenyu Wu</i>	
0098	Comparison of Short-Term Over-current Capability of SiC Devices using Microchannel Cooling below and on top of the Chip	356
	<i>Shubhangi Bhadoria; Soundhariya G S; Hans-Peter Nee</i>	
0099	High Gain DC/DC Converter Topology With Switching Capacitor	363
	<i>Zongyuan Liu; Caixue Chen; Sihong Li</i>	
0101	Piezoelectric Based Class-E Resonant Inverter for Driving Surface Dielectric Barrier Discharge Plasma	367
	<i>Mingyu Yang; Eric Stolt; Zhechi Ye; Juan Rivas-Davila</i>	
0102	Virtual Oscillator Control Without Third Order Harmonics Using Average Filtering Method	373
	<i>Wenxuan Zhang; Weimin Wu; Kaixiang Yu; Xiaobin Mu; Henry Chung; Frede Blaabjerg; Mohamed Orabi</i>	
0104	Compensated power sensor for semiconductor switching loss measurement	378
	<i>Mike Zäch; Szymon Bęczkowski; Asger Bjørn Jørgensen; Stig Munk-Nielsen</i>	
0105	Research on Bidirectional Wireless Charging System for Electric Vehicles Based on H_{∞} Robust Control	383
	<i>Xinheng Li; Chenyang Xia; Haipan Li</i>	
0106	Four-quadrant operation for self-synchronous voltage source PWM converter	389
	<i>Ziteng Guo; Han Wang; Yunfeng Cao; Xu Cai</i>	
0108	Research on Redundant Control Technology of $\pm 10\text{kV}/10\text{MW}$ ACDC converter	395
	<i>Anmin Tian; Jiayuan Ma; Jiayu Wang; Guangmiao Sun; Wenbing Lu</i>	

0109	Analysis of a Novel Motor Drive System with Zero Common mode Voltage <i>Haoyan Zhuang; Xiaobin Mu; Wenbin Liu; Hao Yi; Yanhui Qiu; Zhiyuan Cai</i>	400
0111	Extended Kalman Filter based Sensorless Control of PMSM using Flux-immune MPC <i>Junqiang Luo; Kai Yang; Jincheng Yu; Yixiao Luo</i>	405
0112	Communication Method of SOC Based on Power and Signal Dual Modulation in the DC Microgrid <i>Hong Chen; Zhilei Yao</i>	411
0113	GaN Advantage over MOSFET in Inverters for Drones. An Experimental Comparison. <i>Marco Palma; Federico Unnia; Michael De Rooij</i>	416
0114	Fault Diagnosis of PMSM Drives Based on Digital Twin Modeling <i>Luhan Jin; Yao Mao; Xueqing Wang; Linlin Lu; Jincong Zhu</i>	422
0115	Stability Analysis for Energy Storage Converter with VSG Control <i>Ruixun Ma; Ao Zhang; Chuanzhuo Yi; Xueguang Zhang</i>	426
0116	Analysis of Ferrite Core Loss Under Multi-level Stair Voltage Excitation Considering the Voltage Sequence <i>Zhanlei Liu; Lingyu Zhu; Yongliang Dang; Shengchang Ji</i>	431
0117	A new Quasi-Z source inverter with high voltage boost ability <i>Chongyang Song; Shihong Gan</i>	437
0118	Linear Active Disturbance Rejection Control of Virtual DC Mahince for Pulsed-power Load Compensation <i>Jinli Zhang; Wei Chen; Yang Qi; Weilin Li; Boning Li</i>	443
0119	Self-Triggered Dynamic Consensus-based Distributed Secondary Control of DC Microgrid <i>Xuecheng Li; Changbin Hu; Shanna Luo; Heng Lu; Zhengguo Piao; Liuming Jing</i>	447
0120	Constant Voltage Charging of Inductive Power Transfer System under Various Coupling Coefficients and Load Conditions Based on Switched-Controlled Capacitor <i>Huang Li; Fei Gao; Xin Liu; Huanjun Niu; Kai He; Yuxin Liu; Zhenghao Wang</i>	453
0121	Adaptive Torque Ripple Suppression Strategy for Switched Reluctance Machine Based on Fuzzy Iterative Learning Control <i>Qingkun Yang; Shoujun Song; Chenyi Yang; Yu Sui; Qiyuan Cheng; Chong Bao</i>	457
0122	Research on An Asymmetric Modulation Scheme With Minimum Rms Inductor Current Stress <i>Pengyu Gao; Jiachen Tian; Haotian Deng; Jiayu Tang; Feng Wang; Fang Zhuo</i>	462
0123	Reactive Power Compensation Strategy for Open Winding Synchronous Reluctance Motor <i>Yu Sui; Chong Bao; Chenyi Yang; Qingkun Yang; Haina Sun; Shoujun Song</i>	467

0125	A Dynamic Thermal Model of the Forced Air Cooling Heatsinks and the Optimal Design Closed to the Limit <i>Zixuan Geng; Hongyi Lin; Dongdong Chen</i>	471
0128	A Novel 36-pulse Rectifier with a Voltage-quadrupling Interphase Reactor <i>Jingfang Wang; Chen Nie; Bin Wang</i>	479
0129	Analysis and Design of Three Phase Y-Y LLC Converters for Battery Chargers Based on Time-Domain Model <i>Ning Guo; Jinjun Liu; Sixing Du</i>	484
0130	Synthetic Reliability Evaluation framework of Three-Port Hybrid AC/DC/DS Microgrids <i>Qingzuo Meng; Pengfeng Lin; Chen Yang; Xiaofeng Dong; Pengfei Tu; Miao Zhu; Peng Wang</i>	490
0131	Ripple Voltage and Loss Reduction of Single-Phase ISOP SST by Eliminating the Second Harmonic Current in LLC Converters <i>Wei Tianyu; Cervone Andrea; Dujic Drazen</i>	496
0133	Research on optimization control strategy of DC microgrid based on PSA-PSO algorithm <i>Yichen He; Changli Shi; Xiaoqiang Guo; Qunhai Huo</i>	504
0135	Dynamic Characteristic Enhancement of Interleaved Parallel Boost based on High Order Extended State Observer <i>Shuangshuang Wang; Yong Li; Chengjun Liu; Jianhui Hu</i>	510
0136	A Fast Electromagnetic Transient Modeling for Modular Multilevel Converter <i>Libang Wang; Yufei Yue; Yawen Zhang; Luhang He; Xinglong Wu; Wen Wang</i>	516
0137	Mechanism Analysis of Near Fundamental-Frequency Oscillation in an Actual DFIG-Based Wind Farm Connected with MMC-HVDC <i>Yu Yang; Jing Lyu; Xiao Wang; Ganyao Wang; Lei Gao</i>	522
0138	Parametric Estimator-based Algorithm for Smart Monitoring of Harmonics/Inter-harmonics in ADN <i>Yingzhe Jia; Qianming Xu; Vladimir Stanojevic; Peng Guo; Jiayu Hu; Vladimir Terzija</i>	528
0139	A Bidirectional Partial Power Processing DC-DC Converter with Voltage Step-Up/Down Capability <i>Kehuan Wang; Jianjun Ma; Dingkuan Feng; Ning Gao; Weimin Wu</i>	533
0140	Research on control and optimization of heavy-duty electromagnetic bearing of large-capacity energy storage flywheel <i>Wenhao Zhao; Wei Liu; Guangyu Qu; Hailian Jing; Jiancheng Huang</i>	539
0141	Control Design and Load Testing of a 65kW 36600rpm High Speed Electric Drive System <i>Ronghui Zhou; Bin Lu; Mingming Li; Pengcheng Zhu; Dongliang Liu</i>	544
0142	Decentralized Inertia Emulation in AC/DC Hybrid Microgrids <i>Haihua Meng; Han Deng; Haoxin Yang; Fei Deng; Zhigang Yao; Yi Tang</i>	550

0143	An Improved Modulated Model Predictive Control for T-type Three-Level Converter <i>Jian Fang; Ruihua Li; Hanqing Wang; Bo Hu</i>	556
0148	Vertical LLC Converter for High-Current Datacenter Application <i>Pinhe Wang; Bima Nugraha Sanusi; Tiberiu Gabriel Zsurzsan; Michael A. E. Andersen; Ziwei Ouyang</i>	562
0152	Modeling and Small Signal Stability Analysis of Virtual Synchronous Generator Control with Field Winding Transient <i>Chunlin Chen; Heng Wu; Xiaofu Xiong</i>	568
0153	Comparative Analysis of State of Health Estimation Methods for Lithium-ion Batteries and Compensation Strategies on Different Discharge Rates <i>Li Wang; Changpeng Tan; Muyao Wu</i>	574
0154	Analysis of influence of current harmonic optimization on noise of a built-in permanent magnet synchronous motor <i>Liang Dong; Jianqiao Yang; Mingao Qin; Zhongcai Qiu</i>	580
0155	Talkative Power Conversion Strategy Based on Direct Sequence Spread Spectrum with Gold Sequence <i>Kaihui Tang; Yue Hui; Ke Chen; Jiande Wu; Xiangning He</i>	586
0156	Grid-Forming Capability Transfer and Active Power Flow Control in a VSC-HVDC System <i>Cheng Ai; Yitong Li; Chumpeng Li; Yuexi Yang; Minsung Kim; Jinjun Liu</i>	591
0157	Comparative Research on Thrust and Compensation of Rotors of Double-sided Linear Induction Motors at Different Positions <i>Yuhang Chi; Lu Zhao; Shi Cheng; Xue Liu</i>	597
0159	A Novel LLC Synchronous Rectifier Driving Scheme Based on Time Domain Analysis <i>Yuxin Zhang; Jie Chen; Jingke Cai; Yong Wang</i>	602
0161	High Efficiency Floating Four-Phase Interleaved Charge-Pump Bidirectional DC-DC Converter with Wide Buck/Boost Voltage Ratio <i>Shiqiang Liu; Tomokazu Mishima; Chingming Lai</i>	608
0162	Energy management method of PV-battery system based on doubly grounded topology <i>Ziwei Zhang; Zhilei Yao</i>	616
0163	A Method for Section Positioning of the Small Current Grounding System Based on the Dynamic Time Warping Distance of Transient Current of the Metal-Sheathed Grounding Wire <i>Jiayu Wang; Anmin Tian; Xuejun Zhang; Jiayuan Ma; Ruijun Zhu; Guangmiao Sun</i>	621
0164	An SOC-based Adaptive Control Strategy for Pulsed Power Elimination in Hybrid Energy Storage System <i>Fangrui Kang; Xiao Zhang; Zhenxiong Wang; Yongju Luo; Hao Zhai; Hao Yi</i>	627
0165	A New Fault-tolerant control for battery energy storage grid-connected system based on Cascaded H-Bridge	633

Hu Huihui; Liu Kaixuan; Wang Hanqiang; Zhao Rende; Wu Mingbo; Dong Lei

- 0166 **Power Grid Strength Evaluation Based on Virtual Dynamic Short-Circuit Ratio Considering Instantaneous Penetration of Renewable Energy Resources** 638
Yu Xiao; Xing Zhang; Shuying Yang
- 0167 **A Model Predictive Current Control with Reduced Parameter Dependency for PMSM Drive System.** 644
Yuanhang Cao; Xiaoguang Zhang
- 0169 **Phase-Locked Loop Enabled Grid Support Strategy Based on Power Conversion System of Energy Storage** 650
Yuqi Wen; Chuanchuan Hou; Ao Liu; Miao Zhu
- 0170 **SiC MOSFETs Aging Testing Platform for EV Chargers Using Power Cycling** 655
Conner Deppe; Hongjie Wang
- 0171 **A Novel Medium Voltage Inverter With the Control Strategy Based on a Hybrid of ACC and VSC** 661
Hang Zhang; Zixin Li; Cong Zhao; Fanqiang Gao; Fei Xu; Ye Zhang; Yaohua Li
- 0172 **Voltage cooperative control technology for flexible interconnected distribution network** 666
Tao Li; Jianqiao Zhou; Bing Han; Jianwen Zhang; Gang Shi; Dongmin Xi; Jiajie Zang; Linlin Chu; Xin Yu
- 0173 **Current Utilization Optimization of DAB Single-Stage AC-DC Converter Using Third Harmonic Injection** 672
Nan Mo; Jiayu Hu; Qianming Xu; Peng Guo; Yingzhe Jia; Jiayun Liu
- 0174 **Optimal configuration of energy storage in weak grid based on intelligent optimization algorithm** 678
Yurui Zhou; Pengfeng Lin; Caizhi Zhang; Shuli Wen; Miao Zhu
- 0175 **Inner Power Control of Capacitively-isolated Bidirectional DC-DC Converter with Auxiliary Converters** 684
Nhan Trong Ngo; Yamada Tatsuya; Makoto Hagiwara
- 0177 **Fault Protection Device Design and Protection Strategy for D-UPFC** 690
Ruijun Zhu; Xiaochun Mou; Xuejun Zhang; Songfeng Wang; Yanbo Dong; Shuaiqi Liang
- 0178 **Health prognostics framework of lithium-ion batteries for real-world electric vehicles based on charging data** 696
Yi Yang; Xiaohua Wu; Gang Yang; Ji Yan
- 0179 **A Current Monitoring Method for Wire-bonding Power Modules based on Magnetoresistance-Planar Rogowski Coil** 702
Weili Guo; Guochun Xiao; Laili Wang; Kai Gao
- 0180 **Frequency-doubling displacement disturbance suppression of active magnetic bearing based on repetitive control** 707
Jiarui Li; Mingqu Zhou; Dong Jiang; Zicheng Liu; Haijiao Wang

0181	Communication and Equalization Strategy in Distributed Series-Connected Battery String based on Talkative Power Converter <i>Ke Chen; Keming Liu; Kaihui Tang; Jiande Wu; Xiangning He</i>	712
0182	A Three-phase Single-Stage Dual-Active-Bridge AC-DC Converter With Single-phase Operation Capability <i>Jiayun Liu; Jiayu Hu; Mingxiang Xi; Qianming Xu; Peng Guo; Yingzhe Jia; Nan Mo</i>	717
0184	Novel Rail Transit System: AC 3kV System <i>Qunzhan Li; Kai Guo; Hui Wang; Jian Zhang</i>	722
0185	A Suppression Method For Inrush Current And Oscillation In Hybrid Three-Level ANPC With A Decoupling Capacitor <i>Hao Chen; Weimin Wu; Dong Xu; Henry Chung; Frede Blaabjerg; Mohamed Orabi; Liang Yuan</i>	726
0187	Compact DC Direct Mount Energy Storage Converter Topology and Control Strategy <i>Rui Wang; Yi Wang; Yixuan Yu; Yuhua Gao; Zimeng Su; Xiaoyu Song</i>	732
0189	Path Planning of Mobile Charging Vehicles Based on Improved Discrete Particle Swarm Optimization in Distribution System <i>Jiaming Song; Qingsong Wang; Feiyu Chen; Giuseppe Buja</i>	738
0190	A Scheduling Algorithm for Mobile Charging Devices in Distribution System Considering the Comprehensive Influence of Multiple Factors <i>Feiyu Chen; Qingsong Wang; Jiaming Song; Giuseppe Buja</i>	744
0191	High-Efficiency Wide Load Range ZVS RPS Considering Harmonic Analysis <i>Chenyue Chen; Wei Liu; Zhan Liu; Ming Liu</i>	750
0192	Loss Modeling of the Si/SiC Hybrid Switch Considering Multiple Driving Parameters <i>Biao Xiao; Qi Guo; Chunming Tu; Fan Xiao; Liu Long</i>	756
0195	Reactive Power Minimization Modulation Strategy for NPCSRDAB based on Particle Swarm Optimization <i>Yufan Li; Fei Xiao; Jilong Liu; Rui Zhou</i>	763
0196	A Two-time-scale Modeling Method for WPT Systems Powered by Distributed Energy Sources <i>Kai He; Fei Gao; Zhenghao Wang; Xijun Yang; Xin Liu; Yunhao Yu</i>	769
0199	Comprehensive Fault Current Limiting Control for Isolated Modular Multilevel DC Transformer <i>Xingyu Hou; Jinmu Lai; Lianghai Dong; Zhenlan Dou; Yaoqiang Wang</i>	774
0200	Influence of Multi-Parameter Variation on Wireless Power Transfer System Based on Double-sided LCC Compensation Network <i>Zhenghao Wang; Fei Gao; Xin Liu; Huanjun Niu</i>	780
0201	Application of Harmonic Extraction Method Based on Double-Layer Adaptive Line Neural Network in Distributed System <i>Suling Zheng; Liangzong He; Zhile Lin</i>	785

0202	Lifetime Estimation of HD-GITs based on Drain Leakage Current <i>Xu Huang; Pengju Sun; Zhiyuan He; Kaiwei Li; Qiang Li; Lan Chen; Jian Chen</i>	789
0203	Electric Shock Detection Method Based on Ensemble Decision Trees Boosting for Feature Selection <i>Yuanlong Chen; Wei Gao; Junmin Rao; Moufa Guo; Zeyin Zheng</i>	795
0204	Analysis and Suppression for Gate Oscillation Caused by Body Diodes on Paralleled SiC MOSFETs Application <i>Fujun Zheng; He Xu; Hongyi Gao; Ying Mei; Nan Zhu; Li Xiang; Haoze Luo; Wuhua Li</i>	801
0206	Nonlinear Control Method of Multi-phase Interleaved Buck/Boost Converter Applied to Pulse Switching Power Amplifier <i>Bailong Xu; Qianming Xu; Peng Guo; Jiayu Hu; Yingzhe Jia; Weizun Zhang; Tong Wang; Guowen Liu</i>	807
0207	Impedance Control Strategy for Optimizing AC Bidirectional Power Stability Differences in Railroad Power Conditioners <i>Qian Ma; Zhenxi Li; Ming Luo; Hongyan Peng; Xing Gao; Weibiao Liu</i>	812
0208	An Adaptive Optimal Virtual Inertia Control Scheme for Stability Enhancement of Utility-Scale PV Power Plants <i>Diptak Pal; Mrutyunjaya Sahani; Sanjib Kumar Panda</i>	818
0209	High-Voltage Thyristor Leakage Current Measurement Using Gate Voltage V_{gk} Under Non-trigger Current <i>Hui Meng; Letian Xiang; Luwei Zuo; Haoze Luo; Zhen Xin; Zhong Chen; Lin Zhu</i>	824
0210	Control for Efficiency of Modular Multilevel Converter with Variable-Rotation-Frequency Phase Disposition Modulation <i>Xing Zhou; Jinkui He; Rende Zhao; Qingzeng Yan</i>	830
0211	An investigation of Flexible Power Point Tracking with nonlinear controller in photovoltaic system <i>Pengju Jiang; Xingshuo Li; Shi Li; Yiwang Wang; Shuye Ding</i>	835
0215	Open circuit fault diagnosis of modular multilevel converter based on local outlier factor detection <i>Jiandong Si; Qian Feng; Caiyang Yu; Chi Zhang; Qingsong Wang; Giuseppe Buja</i>	841
0216	Modeling and Stability Analysis of DC Microgrid with Nonlinear Photovoltaic Systems Using the Describing Function Method <i>Hongwei Xue; Qingsong Wang; Fujin Deng; Giuseppe Buja</i>	846
0220	A Streamlined and Intuitive AI-Powered Analysis and Design Tool for Resonant Converters <i>Ziheng Xiao; Yu Jiang; Chang Wang; Yi Tang</i>	852
0221	A Parameter-Free Model Predictive Current Control for PMSM Drives Based on Motor Parameter Estimation <i>Shujun Fang; Xiaoguang Zhang</i>	858

0222	AI-assisted Peak Efficiency Searching of CLLC Resonant Converters in Step-down Conditions <i>Ziheng Xiao; Yu Jiang; Zhigang Yao; Yi Tang</i>	863
0223	Modeling and Parametric Optimization Design of Active Common-Mode EMI Filters for DC/AC Power Converters <i>Zilu Zhang; Xuejun Pei; Qichi Chen; Yi Yu; Chunyu Yang</i>	869
0225	Robust Synchronization Control of Multi-IPMSM System Based on Synergetic Control Theory and Nonlinear Disturbance Observer <i>Qiyuan Zhao; Deqing Huang</i>	875
0226	Energy-Efficient Driving Method for High-Speed Trains Considering Nonlinear Electrical Traction Chain Losses <i>Wenbo Li; Deqing Huang</i>	881
0227	Novel Transformerless Buck-Boost Inverter with Leakage Current Suppression Capability <i>Yunfeng Xu; Weimin Wu; Henry Shu-Hung Chung; Frede Blaabjerg; Mohamed Orabi; Liang Yuan</i>	887
0228	Stability Analysis and Optimization of Double-Sided LCC Compensation Networks for Wireless Power Transfer Systems Participation Factor Analysis Approach <i>Huanjun Niu; Fei Gao; Xin Liu; Boda Zhang</i>	893
0229	Conducted EMI Model and Coupling Resonant Mechanism Analysis of Multi-Cell Converter System <i>Zhuo Qing; Peng Guo; Qianming Xu; Jiayu Hu; Yingzhe Jia; Penghui Chen; Ziyang Zhou; Yuze Li; Qiaopo Xiong</i>	898
0230	Transfer Control Method Between Grid-Connected and Off-grid Modes Based on Kalman Filter for Grid-Forming Inverter <i>Yanqi Cheng; Weimin Wu; Henry Shu-Hung Chung; Frede Blaabjerg; Mohamed Orabi; Liang Yuan</i>	902
0232	Versatile Methodology for Optimized Design of Galvanically Isolated Modular DC-DC Converters <i>Tim Karsten; Katharina Hetzenecker; Amandus Bach; Rik W. De Doncker</i>	907
0233	Positive and negative sequence loop current injection to control internal power imbalance in MMC <i>Luhang He; Yufei Yue; Libang Wang; Yawen Zhang; Xinglong Wu</i>	914
0234	Analysis of Bearing Electro-erosion under Different Speeds <i>Dezhi Chen; Zhixiang Zhang; Guozhen Zhang; Jiaming Hu</i>	920
0236	A Novel Pulse Modulation Strategy Used for Permanent Magnet Synchronous Motor Drives <i>Yuxiang Xue; Hui Li; Yingzhe Wu; Lisheng Wang; Hengbin Zhang</i>	926
0237	Model Based Flux Weakening Control Strategy of Permanent Magnet Synchronous Motor with Voltage Feedback Compensation <i>Hengbin Zhang; Hui Li; Yingzhe Wu; Lisheng Wang; Yuxiang Xue</i>	933

0238	A Common-Mode Voltage Elimination Approach Based on Modulation Signal Decomposition for the Three-Level Back-to-Back Converter <i>Xiaona Xu; Kui Wang; Weiming Peng; Zhanfeng Deng; Yongdong Li</i>	940
0239	Global Optimal MTPA Control of SynRM Considering Magnetic Saturation <i>Bencheng Zhong; Jianyong Su; Guijie Yang; Kaiwen Tan</i>	946
0242	Efficiency Evaluation of Si/SiC Hybrid Switches-Based Three-level ANPC Converter <i>Mengmeng Jiao; Ping Liu; Chunming Tu; Liu Long; Xin Liu</i>	953
0243	Virtual Impedance Control for Enhancing the Inertia Provision of Grid-forming Doubly-fed Induction Generator <i>Yanjun Liu; Yifan Fang; Jiabing Hu; Wei He; Meng Zhan</i>	959
0245	DC Overvoltage Analysis of GFM-controlled Wind Farm Connected via MMC-HVDC System Caused by Receiving-end AC Faults <i>Siyang Chen; Min Cheng; Yingbiao Li; Jiawei Yu; Yihua Zhu; Mingkang Wu; Jiabing Hu; Jianan Yan</i>	966
0246	A Novel Modulation for Flying Capacitor Three-Level Buck with Output Around Half of Input Voltage <i>Ming Chen; Xiaohua Wu; Qingling Luo</i>	973
0247	Breaker-Less MVDC Grid with Single-Phase Dual-Active Bridge <i>Raphael Mencher; Jan Mathé; Rik W. De Doncker</i>	979
0248	A Switching Frequency Optimization Method for High-Efficiency Single-Phase Inverters <i>Junming Cao; Jiayu Hu; Qianming Xu; Peng Guo; Yingzhe Jia; Shuangshuang Kong</i>	984
0249	A Synchronous Rectification Method of CLLC Resonant Converter Based on Inner Phase-Shift Modulation Strategy under Light Load Conditions <i>Junchen Wu; Kangan Wang; Yayu Yang; Weimin Wu</i>	988
0250	Control Strategy of Three-level Resonant Converter with Wide Output Voltage Range <i>Yang Liu; Jianzhong Zhang; Zeming Wang; Fujin Deng; Yaqian Zhang</i>	994
0251	Analysis of Switching Characterization and Power Loss of Bidirectional Asymmetrical Isolated Power Flow DC/DC Converters <i>Chenjie Fan; Kangan Wang; Siyu Wu; Yayu Yang; Jiale Li; Weimin Wu</i>	1000
0252	High-frequency isolated hybrid distribution transformer based on model predictive control <i>Ruifeng Li; Chuang Liu; Dongbo Guo; Shuo Gao; Qinghai Yu; Tingrui Mao</i>	1006
0254	Full-speed domain sensorless control of IPMSM based on the sparrow search algorithm <i>Siqi Peng; Hongyu Peng; Weijun Li; Dan Guo; Jin Jiang</i>	1012
0255	Feedforward Flux Observer Based on SOGI Current Extractor for PMSM Sensorless Control <i>Wenhao Wu; Jingbin Bi; Junlei Wei; Yuhan Zhang; Jixuan Liu; Hang Yu</i>	1018

0256	Torque Ripple Suppression of Brushless DC Motor Based on Shoot-through Boost Inverter	1024
	<i>Mengbo Dong; Qimeng Han; Wanqing Zhou; Zhenguo Li</i>	
0257	Impedance Modeling for Modular Multilevel Matrix Converter Considering Differ- frequency Coupling Harmonics	1030
	<i>Yuwei Sun; Cong Tao; Chao Fu; Jingtian Chang; Xiixin Zha; Guanghui Li</i>	
0258	Analysis and Design of an Active Common-Mode EMI Filter without Auxiliary Power Supply	1037
	<i>Junzhao Zhang; Dong Jiang; Jianrui Liu; Hui Liu</i>	
0259	Research on Continuous Control Set Model Predictive Control of Three-Phase Four-Leg Inverter	1041
	<i>Zijian Zhao; Yifan Sha; Mingqi Gong; Yi Zhu; Yong Yang; Jose Rodriguez</i>	
0260	A Novel Double-Line Frequency Current Suppression Method Based on Sigma Structure for LED driver Applications	1046
	<i>Fangyuan Pang; Chunguang Ren; Ming Xu; Juanjuan Sun; Julu Sun; Xiaoqing Li</i>	
0261	In-depth Research on Magnetic Field Modulation Effect in Fractional Slot Permanent Magnet Synchronous Motor	1052
	<i>Zhiyuan Lu; Yu Wang</i>	
0262	Hybrid Si-SiC three-phase voltage source converter based on fractional power conversion	1058
	<i>Qin Hai Yu; Chuang Liu; Ruifeng Li; Dongbo Guo; Tingrui Mao; Xinming Shao</i>	
0263	A non-isolated high-gain double-grounded single-phase grid-connected inverter	1063
	<i>Yongxin Pan; Zhilei Yao; Ziwei Zhang</i>	
0264	Transformerless Grid-connected PV Converter With Leakage Current Suppression Ability: A novel solution based on active zero-sequence current injections	1068
	<i>Tingrui Mao; Xiuyun Wang; Chuang Liu; Dongbo Guo; Rutian Wang; Ruifeng Li; Qin Hai Yu; Zhongchen Pei</i>	
0265	Wide Frequency Range Control Strategy of Modular Multilevel Matrix Converter based on FCS-MPC	1074
	<i>Zhen Yang; Zheng Gong; Chongwen Liu; Lianchang Zhang</i>	
0266	Grid-Side High-Order Harmonics Mitigation for Three-Phase Four-Wire Inverter Based on Repetitive Control and Virtual Filter	1079
	<i>Lei Zhang; Ziheng Xiao; Fei Deng; Zhigang Yao; Haoxin Yang; Yi Tang</i>	
0267	Position Sensor-less Control of Permanent Magnet Synchronous Motor Based on Integral Sliding Mode Observer Error Compensation	1084
	<i>Pei Luo; Xing Gao; Hongyan Peng; Yi Wu; Ming Luo; Zhenxi Li</i>	
0268	Switch process analysis for supply restoration using a novel hybrid soft open point	1089
	<i>Li-Ying Xiong; Zhen-Hong Lai; Hao-Yan Zhuang; Hao Yi; Zhen-Xiong Wang; Ze-Bin Yang</i>	

0269	Mismatched Synchronization Effect of High-Power Pulsed Laser Systems with Multiple Power Supplies <i>Jiahao Song; Lijian Ding; Jian Xu; Zhiqing Yang; Shuang Zhao; Helong Li; Shaojun Xu</i>	1094
0270	Parameter Sensitivity Analysis of High Frequency Resonant Converter Based on Iterative Optimization <i>Shangbin Zhu; Jiqing Dong; Zuyuan Li; Zhennan Huang; Bingqin Lai</i>	1100
0271	Analyze and Mitigate Low-Frequency Ripple of Arm Current for Modular Multilevel Converter based Solid-State Transformers <i>Lei Zhang; Ziheng Xiao; Haiyu Wang; Yi Tang; Shunfeng Yang; Xin Qi</i>	1108
0272	Online Passive Filter Parameter Identification and Filter Fault Diagnosis for LCL Grid-Tied Inverters <i>Nan Wang; Bin Yang; Yong Peng; Yushan Qu; Sifan Wu; Zhen Li</i>	1114
0273	Stability Prediction of Multi-Port DC Substation With Master-Slave Coordinated Control Strategy <i>Baichuan Teng; Jianjun Ma; Miao Zhu</i>	1121
0275	Two-Phase Hybrid Stepping Motor Composite Control Strategy Based on New Anti-disturbance Sliding Mode and Model Predictive Control <i>Pei Luo; Hongyan Peng; Zhenxi Li; Yi Wu; Xing Gao; Ming Luo</i>	1128
0276	Control Strategy of Grid Forming MMC system for Grid Voltage Sag Ride Through <i>Zeming Wang; Jianzhong Zhang; Xu Huang; Fujin Deng</i>	1133
0277	Research on Stability Control Strategy of DC Microgrid Based on Consistency Algorithm <i>Jinghua Li; Muyin Zheng; Honghe Xie; Jia Chen</i>	1139
0278	Three-Dimensional Space Vector Modulation for a Novel Four-Leg Hybrid 2/3-Level Converter <i>Heng Guo; Mengmeng Jing; Baolu Xu; Jinqiu Song; Bin Duan; Chenghui Zhang</i>	1145
0279	A kind of MTPA control method for interior permanent magnet synchronous motor with parameter identification <i>Xiaodong Hao; Haibo Shi; Dongwen Wang</i>	1151
0280	An ESO-Based Terminal Sliding Mode Control for PMSM Speed Regulation System With Improved Double Power Reaching Law <i>Mengxi Dang; Manfeng Dou; Changliang Dang; Dongdong Zhao; Zhiguang Hua</i>	1157
0282	Sensorless control of harmonic suppression of PMSM based on CCF-ESO <i>Xin Qi Zhai; Song Bin Liu</i>	1163
0284	Analysis and Compensation of the ZVS based Nonlinear Transfer Characteristic of a Dual Active Bridge <i>Fabian Sommer; Tobias Merz; Hongyi Sui; Rüdiger Schwendemann; Marc Hiller</i>	1169
0285	Optimization Strategy of Hybrid Cascade On-Load Tap Changer Positions Based on Ant Colony Algorithm <i>Dezhi Chen; Boqiao Li</i>	1176

0287	Efficient nonlinear modelling of spatial flux harmonics of squirrel cage induction motors using inverse flux maps and static FEA <i>Johannes Stoss; Pierre Mader; Leonard Geier; Andreas Liske; Marc Hiller</i>	1182
0288	Current Feature Analysis-Based Open-Circuit Detection and Location for PMSM Inverters <i>Qingchao Zhang</i>	1190
0290	Research on the Switch Reuse Dual Buck/Boost-DAB Four-Port DC/DC Converter <i>Dezhi Chen; Zhaoning Yang</i>	1198
0291	An Expandable DC-DC Boost Converter With Single-switch and High-gain <i>Wei Biao Liu; Bi Hua Hu; Xiao Xue Luo; Jin Ning Liu; Xiangyun Qin; Zhenxi Li</i>	1204
0292	Inertial-Response Preserved Active Damping of Grid-Forming Voltage-Source Converters Using Fractional-Order Regulators <i>Yun Yu; Jingxuan Wu; Wenfa Kang; Juan C. Vasquez; Josep M. Guerrero; Yajuan Guan</i>	1209
0293	Suppression of Capacitor Voltage Ripple for Hybrid MMCs Under Boosted AC Voltage Conditions <i>Yuxuan Ying; Li Peng</i>	1215
0294	Reduction of Switching Losses and Filter Capacitance in Series- Connected Current Source Inverters <i>Xiaoyi Xia; Qiang Wei</i>	1221
0295	Low Speed Performance Improvement of Sensorless Controlled IM Drive Based on Nonlinear Voltage Error Compensated AFO <i>Zhaoxun Li; Bo Yang; Zhikang Guo; Yu Tian; Guojun Tan</i>	1226
0296	Comparative Analysis of Grid-forming Controls Impact on Stability of Energy Islands <i>Arash Joly; Mehdi Savaghebi; Gen Li; Nicolaos Antonio Cutululis</i>	1232
0298	Online Expansion Strategy for Islanded AC Microgrid Based on Short-term Harmonic Injection Without Communication Lines <i>Ya Wen; Xiao Zhang; Zhenxiong Wang; Qiru Li; Hao Yi; Fang Zhuo</i>	1238
0299	Practical study on gate drive distribution network for multiple discrete IGBT device paralleling for a 90kW inverter <i>Yongjiang Liu; Qingwei Zhu; Bin Liu; Jinzhou Cao; Prashant Jain; Yuekang Du; Guomeng Song; Chengxi Li; Zechun Dou; Yu Qi</i>	1245
0300	Comparison of Two Third-Generation 10 kV SiC MOSFET Die's Switching Performance on a System Level <i>Morten Rahr Nielsen; Martin Kjær; Hongbo Zhao; Michael Møller Bech; Stig Munk-Nielsen</i>	1250
0301	Closed-Loop Current Control of a Three-Phase, Two-Level Medium Voltage Power Converter Enabled by 10 kV SiC MOSFETs <i>Morten Rahr Nielsen; Martin Kjær; Hongbo Zhao; Michael Møller Bech; Stig Munk-Nielsen</i>	1256

0302	A Transient Frequency Support Control for PV-VSC without Energy Storage Batteries Concerning Irradiation Fluctuation <i>Shaoze Zhou; Xinzhe Song; Wei Wang; Wei Zheng; Dongmei Yang</i>	1261
0303	A Novel DC-bias Current Suppression Strategy for DAB converter under TPS Modulation <i>Ning Wang; Yanbo Wang; Zhe Chen</i>	1265
0304	Capacitor Current Compensation for BCM based Single-Phase Grid-Connected Inverter <i>Chen Liu; Pooya Davari; Frede Blaabjerg</i>	1270
0305	Dead-Time Compensated Instantaneous Current Control for the Three-Phase Dual-Active Bridge DC-DC Converter <i>Benedict J. Mortimer; Rik W. De Doncker</i>	1276
0306	BLDC Motor Zero-Speed Startup Position Sensorless FOC Control <i>Nicholas Wei Jian Chiang; Shuyu Cao; King Jet Tseng; Liang Boon Wee; Shan Yin</i>	1282
0307	A Bidirectional Cell Balancing System with WPT for EV Lithium-Ion Battery Packs <i>Kedao Qi</i>	1288
0308	Enhancing Overcurrent Capability in Phase Change Material-Integrated Power Modules for Electric Vehicles: An Experimental Investigation Based on Mission Profiles <i>Xu Zhang; Nikolaos Iosifidis; Haiyong Wan; Jinxiao Wei; Li Ran; Philip Mawby; Kangning Wu; Jianying Li; Laili Wang</i>	1292
0309	A Dead-Time-Effect Elimination DPWM with High Efficiencies and Low Harmonics <i>Qingzeng Yan; Zixu Zhang; Longzhen Guo; Yanyan Qin; Longlong Zhang</i>	1297
0310	An Improved Tagging System for Equipment Portrait of UPFC Based on K-means Algorithm and Multidimensional Data <i>Mengjie Zhang; Chuyang Wang; Xuan Dong; Xinying Wang; Jiapeng Shen</i>	1302
0311	An Improved Negative Power Transfer Ability of Battery Grid-Forming Converter under Weak Grid <i>Jinhao Wang; Chao Wu; Yong Wang</i>	1307
0313	Modulation Strategy for 2-SiC Hybrid Devices ANPC-DAB Converter Through Dual-Path Zero-State <i>Mengyuan Zhao; Yu Zhang; Yangfan Chen; Zhuolan Li</i>	1313
0315	A Mesh-based Reluctance Network Model of Magnetic Lead Screw for Wave Energy Conversion <i>Junfei Wu; Lixun Zhu; Min Huang; Kangan Wang; Ning Gao; Weimin Wu</i>	1319
0316	Improved Particle Swarm Optimization Algorithm based Model Parameter Identification of Tube Current in High Voltage Power Supply for X-ray Machine <i>Chudi Lin; Liqun He; Shengfang Fan; Junjie Jiang; Hong Cheng; Yongtai Jin</i>	1324
0317	A Symmetrical Control Scheme for a Resonant Switched-Capacitor Converter with Inverted Output Voltage	1330

	<i>Kewei Shao; Deqiu Yang; Wenqi Du; Junming Zhang</i>	
0318	A New Voltage Distribution Strategy in Input-Series Connected Dual Active Bridge Converters <i>Dongmin Choi; Jae-Sang Kim; Seung-Hyun Choi; Yeonghun Jeong; Gun-Woo Moon</i>	1336
0321	Research on In-Phase Energy Supply Mechanism in Multiple-Transmitter Wireless Power Transfer Systems <i>Bin Gao; Zhijuan Liao; Chenyang Xia</i>	1340
0324	Optimal Design of Hexagonal Matrix Transformer for 48V-1V Switched-Capacitor and Series-Resonant Converter <i>Zeyuan Liu; Jiawei Liang; Haoyu Wang</i>	1346
0326	Hierarchical control strategy for islanded microgrids based on event-triggered mechanism <i>Chaofeng Yan; Yang Han; Ping Yang; Congling Wang</i>	1352
0327	Modular Multilevel Matrix Converter Control Method Based on Feedforward Decoupling Branch Energy Balance for Fault Arc Suppression in Distribution Networks <i>Yuxuan Tong; Wen Wang; Junjie Li; Chaofeng Zhang; Yixuan Feng; Xiangpeng Feng</i>	1358
0328	Decentralized Current Sharing in Islanded DC Microgrids Based on AC Frequency Droop <i>Fei Deng; Shilong Zhang; Lei Zhang; Zhigang Yao; Ziheng Xiao; Yi Tang</i>	1364
0329	Parameter identification of permanent magnet synchronous motor based on improved particle swarm optimization <i>Zhaoxia Leng; Qingfeng Liu; Miao Li</i>	1370
0331	Finite-Control-Set Predictive Sliding Mode Control for LC-filtered Single Phase Inverters <i>Yongtai Jin; Hanghang Cong; Yong Yang; Aiming Ji; Yang Xiao; Mingdi Fan; Xinghe Li; Jose Rodriguez</i>	1376
0334	A New Control Strategy for Rotor Position Estimation Error Compensation of Permanent Magnet Synchronous Motor <i>Qian Ma; Yi Wu; Zhenxi Li; Hongyan Peng; Xing Gao; Ming Luo</i>	1382
0337	Common Mode Voltage Reduction in Hybrid Cascaded Converter with Multicarrier PWM Scheme <i>Chung-Chuan Hou; Min-Xiang Zhang; Shih-Ping Liu; Rwei-Wen Hung; Tsung-Ken Tsai</i>	1387
0338	Optimized Design of Three-Level APF Voltage Loop Considering DC-Link Voltage Oscillations <i>Qingzeng Yan; Longzhen Guo; Zixu Zhang; Chengjian Xing; Jinkui He</i>	1391
0339	Improved Adaptive Law-Based Sliding Mode Observer for Sensorless Control of PMSM <i>Xuemei Sun; Jiacheng Jiang; Mengji Zhao; Quntao An; Yunge Cui</i>	1396
0342	Control of Electric Actuator with Zynq 7000 and Model Based Design	1401

Ping Liu; Tao Liu; Xin Liu

- 0343 **An Improved Virtual Voltage Vectors-based Space Vector Pulse Width Modulation Direct Torque Control for Dual Three-phase PMSM** 1407
Qingqing Yuan; Rongyan Xiao; Jianjun Shi; Fan Bu
- 0345 **Zero-Vector-Placement-Based Power Ripple Suppression for Single-Stage Multi-Port Rectifier Under Unbalanced Grid Voltages** 1415
Kai Liao; Dehong Zhou; Zewei Shen; Jianxiao Zou
- 0346 **Arc Suppression Method Based on Modular Multilevel Converter in Distribution Network** 1421
Junjie Li; Wen Wang; Chaofeng Zhang; Yuxuan Tong; Muye Chen; Da Wang
- 0348 **Design Method for the Coupled Pad of a Wireless Power Transfer Electric Vehicle Charger** 1427
Cedric Keibeck; Hans Wouters; Hassan Pervaiz; Wilmar Martinez
- 0349 **Load-Insensitive Design of Class E Inverter Based on Inequality Constraints** 1435
Wenyan Sun; Yifan Jiang; Haoyu Wang; Junrui Liang; Minfan Fu
- 0351 **Bidirectional Step-up/down Flyback Converter for Energy Storage System** 1440
Jianyang Zhu; Yumin He; Tingyun Gu; Bowen Li; Yu Wang; Yang Zhang; Dongyuan Qiu; Bo Zhang
- 0353 **A Novel Snapback-free Partial Schottky Collector Super Junction RC-IGBT** 1446
Song Yuan; Mingyang Gao; Zhaoheng Yan; Yanzuo Li; Ying Wang; Xi Jiang; Qifan Liu; Xinbing Zhan; Xiaowu Gong
- 0355 **Inverter open circuit fault diagnosis strategy based on KNN algorithm** 1453
Changli Shi; Yichen He; Qunhai Huo; Zongjie Liu; Han Xue
- 0356 **Low-Frequency Current Ripple Reduction Control Method Based on Fractional-Order Inductor and Fractional-Order Capacitor** 1457
Hongyan Zhou; Liangzong He
- 0358 **Design of an Anti-Offset Coupling Coil for Unmanned Aerial Vehicle Wireless Power Transfer** 1461
Sicheng Shen; Yihui Zhao; Yuan La; Yao Yuan; Fanghui Yin
- 0360 **A Hardware-in-loop test platform for BMS in the energy storage system based on an Extended Single Particle model** 1465
Botao Hu; Xiangtian Deng; Jing V. Wang; Qian Wang; Jianqiang Kang; Guorong Zhu
- 0362 **Multifunctional Isolated DC-DC Converter for Electric Vehicles** 1471
Cheol-Hee Jo; Seungmin Kim; Seungjin Jo; Junchen Xie; Dong-Hee Kim
- 0363 **Parameter-Free Deadbeat Predictive Current Control for PMSMs Using Improved Closed Loop Observer** 1476
Zhihao Zhu; Xile Wei; Yitong Wu; Jose Rodriguez; Zhen Zhang
- 0364 **Single Inductor-Multi Input Single Output Buck-Boost Converter for PV system** 1481
Seungmin Kim; Seungjin Jo; Guangyao Li; Cheol-Hee Jo; Dong-Hee Kim

0365	A Common-Inductor Passive Current Sharing Method for Multiphase CLLC Converter <i>Wenwen Zhao; Jin Li; Yunchang Zhang; Yang Yang; Weiyi Tang; Hangfei Dong; Junfei Miu</i>	1486
0367	Smooth Switching of Bidirectional AC/DC Converter for Lunar Surface Movement Tool <i>Yu Zhang; Debin Zhang; Jijun Ma; Tian Wang</i>	1491
0368	Design of Single-phase Symmetrical LCL Filter Based on Planar Magnetic Integration <i>Xudong Zhang; Yitao Liu; Zerong Chen</i>	1495
0370	Design of High Power Density for High Step-Down Ratio Low Voltage High Current LLC-TLVR DC-DC Converter <i>Hongyu Zhang; Xiangjun Zhang; Xiaohan Zhang; Yueshi Guan; Yijie Wang; Dianguo Xu</i>	1501
0371	A simple 24-pulse rectifier combing isolated Y-type transformer and current injection circuit <i>Jianhua Wang; Wenyi Zhang; Jingfang Wang</i>	1508
0373	A High-Boost Ratio Isolated Current-Fed DC/DC Converter Based on Constant Off Time Control <i>Yihan Wu; Mingde Zhou; Haoyu Wang</i>	1514
0374	A Large Misalignment-Tolerant Dual-Channel IPT System with Integrated Mutually Compensatory Dual-receiver for Stable Power Output <i>Guangyao Li; Junchen Xie; Cheol-Hee Jo; Seungjin Jo; Geun Wan Koo; Dong-Hee Kim</i>	1520
0375	Online Identification of Lithium-Ion Battery Parameters Using Recursive Least Squares for an Enhanced Static Compensator <i>Ezequiel Rodriguez Ramos; Ramon Leyva; Gaowen Liang; Enrique Alejandro Nunes Di Pierri; Josep Pou</i>	1524
0376	Improved IPMSM Rotor Position Estimation Method for Resolver Based on EKF Algorithm with Weighting Function <i>Shuai Zhu; Siqi Li; Pengyu Yang; Sizhao Lu</i>	1528
0377	Investigation of SISC on electromechanical characteristics of external rotor permanent magnet generator <i>Kai Sun; Yu-Ling He; Xue-Wei Wu; Hao-Ran Luo; Ling Tang; Jia-Wen Yang</i>	1534
0378	Cascaded Grid-Connected Converter Coupled with Peterson Coil for Harmonic Compensation and Arc Suppression in Distribution Networks <i>Qing-Xuan Ke; Bin-Long Zhang; Ze-Yin Zheng; Mou-Fa Guo</i>	1541
0379	Improved Position Estimation Accuracy for Sensorless IPMSM Drives using Dual-loop-based Feedforward PLL <i>Jiajiang Sun; Jin Zhao; Lisi Tian; Yang Zhou</i>	1547
0382	A Study on 500W Wireless Power Transfer for Long-Distance Wireless TV Applications <i>Junchen Xie; Guangyao Li; Seungjin Jo; Cheol-Hee Jo; Dong-Hee Kim</i>	1553

0383	Fixed-Time Observer Based Integral Sliding Mode Control Design for Microgrids Feeding Constant Power Loads <i>Nikhil Tyagi; Pragya Nand Singh; Srinivas Bhaskar Karanki</i>	1558
0384	Design of IPT application for MVDC current sensor auxiliary power supply with constant voltage control <i>Seungjin Jo; Seungmin Kim; Guangyao Li; Junchen Xie; Jung-Hoon Ahn; Dong-Hee Kim</i>	1564
0385	Clamped-Coil Based Fractional-Order Capacitor for Constant Current Output in Wireless Power Transfer System <i>Xiaoli Zhang; Kuo Chen Li; Houxuan Liu; Bing Cheng; Liangzong He</i>	1569
0387	Eigenvalue-Distribution-Based Stability Enhancement for Speed-Sensorless IM Drives <i>Yujie Wang; Cheng Luo; Kai Yang; Ruhan Li</i>	1574
0388	Equivalent Modeling of Distributed Photovoltaic Clusters with Various Voltage Support Functions <i>Weiguo Zhang; Xuhua Liu; Xiaojie Shi; Zhiqiang Wang; Lei Lin</i>	1579
0389	Optimal Current Allocation Study for an Energy Router Utilizing Si IGBT/SiC MOSFET Hybrid Modules <i>Yian Wang; Zishun Peng; Yuxing Dai</i>	1584
0391	Analysis and Design of SIMO CPT System with Constant Output Voltage Pickups against Load Variation and Pickups Moving in/out <i>Xiaodong Qing; Yuqi He; Zuojin Li; Xueying Wu; Yanbao Liu; Zhigang Zhang</i>	1590
0393	An Analytical Approach for Obtaining Steady-State Periodic Solutions of Fractional-Order quasi-Z-Source Rectifier <i>Ziwen Chen; Xiaoquan Zhu; Chentao Ma; Lang Liu</i>	1594
0394	Decoupled and Analytical Model of the Quad-Active-Bridge DC/DC Wind Converter under Transmitting Instantaneous Pulsating Power <i>Xin Peng; Yonglei Zhang; Jianliang Pan; Yuhuan Qin; Yan Li; Saeed Jahdi; Xibo Yuan</i>	1600
0395	Modeling and Analysis of Fractional-Order Full-Bridge LLC Resonant Converter <i>Chentao Ma; Xiaoquan Zhu; Chengsong Wei</i>	1608
0396	Automated Triple Pulse Testbed (ATPT) 1.0 – Large-Signal Hardware-in-the-loop Characterization Platform for Power Magnetics <i>Binyu Cui; Jun Wang; Xibo Yuan; Juan Aguarón De Blas; Alfonso Martínez De La Torre; Francisco Cabaleiro</i>	1613
0397	Modeling SiC MOSFET and Switching Speed Limitation <i>Zhi Yang</i>	1619
0398	Three-dimensional Thermal Modeling Method of Power Device Chip Based on Intelligent Algorithm <i>Yi Liu; Shuoxun Yuan; Jin Zhang; Zhewei Zhang; Lei Zhang; Hongzhou Gong; Laili Wang; Kai Gao</i>	1625
0399	Optimized Two-Stage & Two-phase 48V-1V DC-DC Converter with Large Load Current up to 100A	1629

	<i>Hongjie Peng; Jinyan Wang; Ziheng Liu; Ju Gao; Xin Wang; Ji Li; Yandong He; Jin Wei; Yong Xie</i>	
0400	Decoupled Power and Frequency Control of Offshore Wind Farms Connected With DR-HVDC Based on Consensus Algorithm <i>Yuanxiang Sun; Dehao Kong; Yongdu Wang; Zhenbin Zhang; Zhongchen Pei; Di Zhu; Jose Rodriguez; Wei Tian; Marcelo Heldwein</i>	1634
0402	Open-Circuit Fault Diagnosis for Three-Level ANPC Inverter Drives Using Improved 1D Convolutional Neural Network <i>Sijia Wu; Shuai Xu; Chunxing Yao; Guohua Li; Guangtong Ma</i>	1640
0403	Continuous Robust Control of Hybrid Energy Storage System with RED-based Extended State Observers <i>Jiixin Wang; Lu Liu; Nan Gu; Dan Wang</i>	1646
0404	A High-Efficiency LLC Resonant Converter Based on Partial Power Processing for PV Applications <i>Shaopeng Xue; Yan Zhang; Xianting Li; Yang Li; Chunlin Lv; Jinjun Liu</i>	1652
0406	Investigations on Common-Mode Capacitive Couplings in Current Sensor for Medium Voltage Converter Enabled by 10 kV SiC MOSFET <i>Gao Liu; Zhixing Yan; Morten Rahr Nielsen; Benjamin Futtrup Kjærsgaard; Bjørn Rannestad; Hongbo Zhao; Stig Munk-Nielsen; Michael Møller Bech</i>	1658
0407	Graph Convolutional Networks for Lithium-ion Battery Health Estimation <i>Yixin He; Zhongwei Deng; Wenhao Nie; Chunlin Jiang</i>	1663
0408	A Novel Topology of Constant-Current ZVS Class E Inverter Designed Based on Frequency-Domain Method <i>Ju Gao; Jinyan Wang; Ziheng Liu; Hongjie Peng; Chen Wang; Wenbo Xia; Yandong He; Jin Wei; Yong Xie</i>	1669
0409	Health status estimation for lithium-ion batteries with partial charging information using mixed inputs LSTM <i>Wendi Guo; Zhongchao Sun; Yaqi Li; Siyu Jin; Søren Byg Vilsen; Daniel Ioan Stroe</i>	1673
0410	Optimal Motion Control of Built-in Wave Energy Converter for Marine Data Buoys <i>Hengyu Wang; Weimin Wu; Xianrui Hou; Lin Cui; Eftichios Koutroulis; Frede Blaabjerg</i>	1680
0411	Soft-Switching Control Method of Interleaved Three-Level Boost Converter in near-CRM for Fuel Cells <i>Zhigang Yao; Xinyu He; Muyang Liu; Kangjia Zhang; Yi Tang</i>	1685
0412	Brain Amygdala Modelling for Microgrid Control and Protection <i>Jorge De La Cruz; Najmeh Bazmohammadi; Juan C. Vasquez; Josep M. Guerrero</i>	1691
0413	A Novel DC Fault Current Limiting Control of the Improved Hybrid Modular Multilevel Converter <i>Junhong Chen; Jinmu Lai; Yaoqiang Wang; Zhenlan Dou; Jiaxuan Hu; Lang Jiang</i>	1697
0414	Design of A Load-Independent Bi-directional Class-E2 DC-DC Charger without External Control	1703

Ziheng Liu; Jinyan Wang; Ju Gao; Hongjie Peng; Jiayin He; Chengkang Ao; Yi Zhao; Jin Wei;
Yong Xie

- 0415 **Light-Load Performance Comparison of Medium-Voltage Isolated DC-DC Converters Enabled by 10 kV SiC MOSFETs** 1708
Zhixing Yan; Gao Liu; Shaokang Luan; Morten Rahr Nielsen; Jannick Kjær Jørgensen; Benjamin Futtrup Kjærsgaard; Nianzun Qi; Bjørn Rannestad; Hongbo Zhao; Stig Munk-Nielsen
- 0416 **Experience on the Grid Forming Type-IV Wind Turbine with DC Storage** 1713
Xiao Yu; Shuang Jing; Yaohan Wang; Rui Guo; Liangnian Lv; Zhiqian Yang; Linlin Wu
- 0417 **Radial Basis Neural Network Optimization of weight factor for model predictive control of LSLSM** 1718
Musen Li; Shuai Xu; Guohua Li; Chunxing Yao; Zhenyao Sun; Guangtong Ma
- 0418 **An Improved Stress-strain Model Considering the Aging Effect of Solder Layers** 1724
Shuoxun Yuan; Laili Wang; Yi Liu; Qiling Chen; Zhiqiang Zhao; Kai Gao
- 0419 **A Method To Improve Robustness Of Inverter Under Weak Grid** 1729
Chenhong Qian; Zhiyong Chen; Boyi Wang
- 0420 **A Decentralized Control Method of Battery Energy Storage Units With Different State of Charge** 1736
Seung-Hyun Choi; Jae-Sang Kim; Joonsu Kim; Jihun Bang; Gun-Woo Moon
- 0421 **Variable Switching Frequency PWM Strategy Based on Circulating Current Suppression in Interleaved Parallel Five-Level Inverter** 1740
Liang Zhou; Xianglin Zhao; Jinyang Han; Chen Deng; Weichao Li
- 0422 **An IGBT Open-Circuit Fault Diagnosis Method for Traction Converters Using Hybrid Learning Structures** 1745
Yunxiao Fu; Honglei Ji; Xinxu Li; Boxuan Yu
- 0423 **A Hybrid Power Decoupling Strategy for Triple Active Bridge** 1752
Ke Wu; Yiming Ma; Xiangfei Xiao; Hanyu Wang
- 0424 **Frequency Characteristics Analysis of Modular Multilevel Converters with Integrated Battery Energy Storage System** 1758
Zeheng Sun; Yingzong Jiao; Binbin Li
- 0426 **Inertia Estimation Method of Single-stage Photovoltaic Systems** 1765
Tianhao Deng; Xiaojie Shi; Jianan Yan; Lei Lin
- 0427 **Six-Step Voltage Extended On Torque Adaptation For PMSM Field-Weakening Control** 1770
Yanping Zhang; Yuhui Zhen; Zhonggang Yin; Dongjin Wang
- 0429 **Observations on Short-Circuit and Avalanche Robustness of Asymmetric trench-gate SiC MOSFETs after γ -ray Radiation** 1775
Jiaqi Chen; Shiwei Liang; Boyu Ran; Jun Wang
- 0433 **Topology and Modulation of a Novel Fixed-Frequency-Phase-Shift Controlled Soft-Switching Quasi-Single-Stage Microinverter with LCL Resonant Tank** 1780

	<i>Wei Cao; Yunqing Pei; Laili Wang; Lie Zhao; Long Pei; Zhixiang Li</i>	
0434	Research on Decoupling of Units in Distribution Networks <i>Xuhua Liu; Weiguo Zhang; Xiaojie Shi; Lei Lin</i>	1786
0437	Asymmetric and Harmonic Current Suppression of Dual Three-Phase PMSM Based on Double Integral Sliding Mode Control <i>Jae-Ho Hyun; Syed Mohammad Maaz; Dong-Choon Lee</i>	1791
0439	Single-Phase Enhanced Gain Converters with Boost DC and AC Outputs <i>Shri Prakash Sonkar</i>	1797
0440	The Superiority of Finite Control Set Methods in Parameter Identification Without High Frequency Signal Injection for PMSM <i>Kunkun Zuo; Yongling Gui; Dongliang Ke; Fengxiang Wang; Ralph Kennel; Jose Rodriguez; Marcelo Heldwein</i>	1803
0441	Maximum Output Power Design for an 85KHz Class-D ZVS Inverter with 650V/30A SiC-MOSFETs at Any Duty Ratio and DC Input Voltage <i>Yi Xiong; Thilak Senanayake; Jun Imaoka; Masayoshi Yamamoto</i>	1808
0444	Fault detection based on multiple features clustering and unsupervised scoring for lithium-ion battery packs <i>Wenhao Nie; Zhongwei Deng; Yvxin He; Chunlin Jiang</i>	1814
0445	High-Performance Model-Free Predictive Control for PMSM Drives with Current Sensor Faults <i>Yao Wei; Haotian Xie; Hector Young; Fengxiang Wang; S. Alireza Davari; Cristian Garcia; Jose Rodriguez</i>	1819
0446	A Fast Steady-state Thermal Modeling of Power Modules Based on Fourier Analytic Series <i>Jiajun Zhou; Hongchang Cui; Laili Wang; Yongmei Gan; Zijie Tang; Kai Gao</i>	1825
0447	An Optimization Design Method for High-Frequency Transformer in High Frequency Link AC-DC Matrix Converter <i>Yang Mei; Guomian Chen; Ning Lv</i>	1830
0448	Large-Kernel Group Convolutional Perceptron Attention Network for Interturn Short Circuit Fault Diagnosis <i>Shaoqin Fan; Min Huang; Weimin Wu; Lixun Zhu; Zhilei Yao</i>	1836
0451	An Adaptive Virtual Resistance Control Strategy for Grid-Connected Inverter with Virtual Oscillator Control <i>Haoning Cheng; Min Huang; Kangan Wang; Weimin Wu; Lixun Zhu; Zhilei Yao</i>	1843
0452	Switched Impedance Source Based Series-Parallel Hybrid Converters with Multiple AC and single DC Boost Output <i>Shri Prakash Sonkar</i>	1850
0453	UIS Characterization of Si/SiC Hybrid Switch under Single Pulse Avalanche Mode <i>Hangzhi Liu; Dehang He; Qicheng Guo; Yuming Zhou</i>	1856

0454	A Sliding Mode Control-Based Pre-Synchronization Strategy for Virtual Oscillator Controlled Grid-forming Inverters <i>Shaokun Niu; Wei Wang; Guanguan Zhang; Alian Chen</i>	1860
0455	High-Voltage Pulsed Power Supply with Low Input Current ripple and Fast Dynamic Response Using Optimized Loop Control Strategy <i>Yifan Zhang; Tianzhi Fang; Chengyi Liu</i>	1865
0456	A New Bidirectional Three Port DC-DC Converter for Dual Auxiliary Voltage in EV Application <i>Huu-Phuc Kieu; Ngoc-Quy Do; Sewan Choi</i>	1870
0457	A subsynchronous resonance suppression method by transient current filtering based on STATCOM <i>Ran Tao; Yanhui Qiu; Hao Yi; Fang Zhuo</i>	1875
0458	Stop Strategy of Three-Phase PMSM Drives with Short-Switch Fault <i>Haowen Jiang; Yongkun Li; Yuxuan Yang; Ziyang Zhu; Cheng Wang; Xueqing Wang</i>	1880
0459	Parameter Stabilization Adjustment Method for Stability Enhancement of Speed-Sensorless Induction Motors <i>Yujie Wang; Cheng Luo; Ruhan Li; Kai Yang</i>	1886
0461	A semi-circular T-shaped anode AlGaIn/GaN Schottky barrier diode temperature sensor <i>Chaofan Deng; Zhenjiang Pang; Xi Jiang; Song Yuan; Zhaoheng Yan; Zhaowu Zhan; Lei Wen; Xiaowu Gong</i>	1892
0462	Power Generation and Energy Storage Integrated System based on OW-PMSG <i>Xinyu Yan; Zhixian Xu; Ziye Wang; Jiru Zhou; Haowen Jiang; Xueqing Wang</i>	1898
0463	Verification of Envelope Tracking Concepts for High Frequency TCM/ZVS in Two-Level AC/DC Converter Applications <i>Thomas Langbauer; Martin Scheffauer; Franz Vollmaier; David Menzi; Roberto Petrella</i>	1902
0465	Single-phase and Three-phase compatible Single-stage OBC with 6-switches secondary side <i>Ba Phu Do; Million Gerado Geda; Jisoo Yun; Kunwoo Kang; Seungheon Lee; Choi Sewan</i>	1908
0466	A Control Strategy of Energy Storage Converter for Suppressing Oscillations of Renewable Power Systems <i>Lei Gao; Jing Lyu; Chuanwei Lin; Yu Yang; Xu Cai</i>	1913
0468	Optimized Design of the AC-Side Inductance for Grid-Forming Inverter <i>Lei Gao; Jing Lyu; Han Wang</i>	1919
0469	Fault-Tolerant Predictive Current Control for Open-Circuit Dual Three-Phase PMSMs with Harmonic Suppression <i>Long He; Bingyang Yan; Hongbin He; Fengxiang Wang; S. Alireza Davari; Cristian Garcia; Jose Rodriguez</i>	1925
0472	An Improved Integrated Grid Inductor-Transformer Magnetic Structure for Single-Stage EV Charger	1931

Dinh Bao-Hung Nguyen; Huu-Phuc Kieu; Million Gerado Geda; Sewan Choi

- 0473 **Transformerless modular Current Source Converter for High-Power Medium-Voltage PV System** 1937
Mohammadjavad Hassani; Qiang Wei
- 0475 **A Novel Modular Multilevel Converter Topology with Faults Self-clearing Capability and Transmission Capacity Multiplication** 1943
Mingyuan Xin; Junpeng Ma; Shunliang Wang; Ning Jiao; Tianqi Liu
- 0477 **Unified Inertia Modelling and Quantitative Comparative Analysis between Grid-Following and Grid-Forming Converters** 1948
Xiaoyu Li; Zheyu Li; Shiyong Zhou; Jingran Ma; Donghai Zhu; Xudong Zou
- 0478 **Direct Connection of EV Fast Charging Station to Medium Voltage AC Grid** 1954
Erfan Azimi; Qiang Wei
- 0480 **800V/48V/12V 6kW resonant dc-dc converter with dual transformers for Electric Vehicles** 1959
Ngoc-Quy Do; Changseop Lee; Jinhak Kim; Huu-Phuc Kieu; Sewan Choi
- 0482 **Power Loss Analysis of Two-Level and Three-Level Converters under Active Short-Circuit Operating Conditions for Multi-Lane Electric Aviation Applications** 1964
Wei Wang; Jonas Kristiansen Nøland; Pål Keim Olsen
- 0483 **A Novel Axisymmetric SiC MOSFET Multichip Module with Staggered Terminals Design for Low Current Imbalance and Low Parasitic Inductance** 1970
Runze Ouyang; Xi Jiang; Ying Wang; Song Yuan; Nianlong Ma; Yongdao Jia; Xiaowu Gong
- 0484 **A Multiloop Layout SiC Power Module for Power Loop Inductance Reduction with Reverse Current Coupling** 1977
Nianlong Ma; Xi Jiang; Ying Wang; Song Yuan; Runze Ouyang; Daoyong Jia; Xiaowu Gong
- 0485 **An Online Torque Sharing Function Method for Low Torque Ripple and Copper Losses in Switched Reluctance Motors** 1984
Xuliang Yao; Hai He; Jingfang Wang; Qi Guan
- 0487 **Research on Soft Switching of Four-Switch Buck-Boost Converter** 1990
Ye Liu; Jianqiang Wang
- 0488 **Identification of Rotor Position and Current Dependent Flux Linkage Maps for EESMs** 1996
Stephan Goehner; Johannes Stoss; Matthias Brodatzki; Benjamin Bachowsky; Andreas Liske; Johannes Kolb; Marc Hiller
- 0492 **Common-Mode Voltage Reduction Scheme for Back-to-Back Three-Level Converters Based on Passive Filters** 2004
Mengyu Li; Yugang Yang; Zhimei Hao; Jie Xu
- 0495 **A High-Gain Zero-Current Ripple Charge-Pumped Bidirectional DC-DC Converter** 2010
Zhenwen Xiao; Bihua Hu; Zhuo Yang; Yiyuan Zhang; Xiaoxue Luo

0496	Hybrid Mode Control Strategy of a CLLC Resonant Converter with Wide Voltage Gain for EV On-Board Chargers <i>Zhouyu Wu; Peng Chen; Yihui Tang; Zhiqing Yang; Shuang Zhao; Helong Li; Lijian Ding</i>	2016
0498	Modeling and High-Order Differential Feedback Control for Totem-pole PFC <i>Siwen Ye; Guangfeng Mo; Wenrong Zhang; Fei Gao; Xijun Yang</i>	2022
0502	Parallel-Form Switch-Linear Hybrid Envelope Tracking Power Supply with Adaptive Hysteresis Current Control <i>Ning Liu; Xinbo Ruan; Danhui Li; Qi Li</i>	2028
0503	Analysis of Eddy Current Loss and Frequency Optimization in Seawater WPT Systems with High Distance-Diameter Ratio <i>Yilin Qiao; Zhicheng Fan; Siqi Li; Sizhao Lu; Zhe Liu; Shike Yu</i>	2033
0507	A Multi-terminal Silicon Carbide Power Module With Low Parasitic Inductance <i>Daoyong Jia; Xi Jiang; Ying Wang; Song Yuan; Xiaowu Gong</i>	2039
0508	Adaptive Fault-Tolerant Operation of Three-Level ANPC Inverter Using Model Predictive Control <i>Guohua Li; Shuai Xu; Chunxing Yao; Guanzhou Ren; Guangtong Ma</i>	2045
0510	Light Load Efficiency Enhancement Strategy for Single-Stage On-board EV Charger by Using Adaptive Switching Frequency <i>Million Gerado Geda; Huigyeong Song; Ba Phu Do; Sewan Choi</i>	2051
0511	Gradient Based Hysteresis Current Control – A Parameter-Free Current Control Method for Highly Utilized PMSM Drives <i>Benjamin Bachowsky; Johannes Stoß; Matthias Brodbeck; Andreas Liske; Marc Hiller</i>	2056
0512	Analysis and Optimization of LC Filter Components for TCM-based Zero Voltage Switching Two-Level Three-Phase Inverters for Electric Vehicle Drive Systems <i>Khizra Abbas; Hans-Peter Nee</i>	2064
0513	Improved control algorithms for battery management systems to reduce redistribution of charge within energy storage systems <i>Pit Mootz; Andreas Johann Hanschek; Aleksandra Stanojevic; Petar J. Grbovic</i>	2072
0514	The Apparent Inductance Identification for PMSM Sensorless Control <i>Yang Ge</i>	2078
0515	Coordinated Power Control of PV Generation, Electric Mobility and Electric Heating in Different Grids <i>Nikolaos Damianakis; Gautham Ram Chandra Mouli; Yunhe Yu; Pavol Bauer</i>	2082
0519	Advanced phase-leg short circuit protection for 3rd generation semiconductors <i>Kai Wing Andy Yeung; Changqing Yin; Sui Pung Victor Cheung; Tin Ho River Li</i>	2088
0520	A Face-to-Face Layout of Silicon Carbide Power Module Co-Designed Considering Electro-Thermal Properties <i>Jinpeng Cheng; Jinxiao Wei; Yongfeng Gao; Liyu Yao; Hao Feng; Li Ran</i>	2093

0521	Python-based Cross-platform Impedance Benchmarking Tool (CroZBenMa) for IBR's EMT Models in Matlab/Simulink and PSCAD/EMTDC <i>Weihua Zhou; Nabil Mohammed; Behrooz Bahrani</i>	2099
0524	Deep reinforcement learning based power flow control for triple active bridge converter <i>Hang Ren; Yanbo Wang; Haoyuan Yu; Bin Zhang; Zhe Chen</i>	2107
0527	Dual Capacitor Submodule Arm Multiplexing MMC-SST <i>Yinyu Yan; Yichao Sun; Xiong Yang; Carlos Teixeira; Zhiyuan Fan</i>	2113
0529	Analysis on Instability Mechanism of Grid-Connected VSG Under Strong Grid Condition <i>Xinyue Li; Changsheng Li; Xiaoling Xiong; Zihan Zhou</i>	2118
0530	Design and Control Method of T-Type Three-Level LLC Converter for Wide Input Voltage Application <i>Linglong Jiang; Zhigang Yao; Gang Luo; Bixuan Yang; Weirong Chen</i>	2122
0531	Disturbance Attenuation-based Full Closed-Loop FCS Model Predictive Position Control for PMSM-based Actuators used in Robotics <i>Chao Gong; Yunshu Liu; Xing Zhao; Xiaotian Zhang; Jose Rodriguez</i>	2128
0532	Torque Ripple Extraction and Reduction for Finite Control Set Model Predictive Current Control used in Permanent Magnet Motors <i>Yunshu Liu; Chao Gong; Shuangxia Niu; Xing Zhao; Jose Rodriguez</i>	2134
0535	Data-Driven Stability Assessment of Power Electronic Converters with Multi-Resolution Dynamic Mode Decomposition <i>Rui Kong; Subham Sahoo; Yongjie Liu; Frede Blaabjerg</i>	2140
0536	High-speed DTP-PMSM flying start based on nonlinear flux observer <i>Feng Yang Liu; Gui Jie Yang; Jian Yong Su</i>	2146
0537	Sensorless Control of Permanent Magnet Synchronous Motor Based on Tracking Differentiator-Frequency-Locked Loop and Closed Loop Active Flux Observer <i>Sibo Wan; Huimin Wang; Yun Zuo; Yu Chang; Xinglai Ge; Yi Wang</i>	2150
0538	Inconsistency analysis of an electrical-thermal aging coupled model for parallel battery packs in an air cooling system <i>Yutong Zhu; Xin Qi; Shunfeng Yang</i>	2156
0539	Fault diagnosis of pumped storage unit based on multi-physical parameter detection <i>Zhiwei Wen</i>	2161
0540	Current and Voltage Scaling for Maximum Transferable Active Power Improvement of Weak-grid-tied Grid-following Inverters <i>Weihua Zhou; Behrooz Bahrani</i>	2166
0541	Classification and Analysis of Nanosecond Pulsed Laser Driver with Circuit Theory <i>Zhibao Yuan; Zengquan Yuan; Rui Li; Chen Gong; Haiping Xu</i>	2172
0542	Power Analysis of Flying Capacitor Converter Utilizing Singular Auxiliary Chopper	2178

Nour Hamdan; Makoto Hagiwara

- 0544 **Analysis of DC-Link Voltage Fluctuations in CHB Inverter With Supercapacitor and DC-DC Stage Under Hybrid Modulation Strategy** 2184
Ye Zhang; Zixin Li; Fanqiang Gao; Cong Zhao; Hang Zhang; Yaohua Li
- 0545 **Full Order Observer-based LQR Position Servo Controller** 2189
Chunqiang Liu; Ming Sun; Ziteng Li; Xinming Zhou; Xuechao Duan
- 0546 **An AC Solid-State Switch-Altered-Based Wireless Power Charging System for Energy Storage Device** 2194
Yiming Xu; Wenjie Liu; Shichao Sun; Yifan Yan; Bin Su; Weilin Li
- 0548 **Comprehensive and Robust Parameter Design of Grid-Forming Converter with Inner Dual-Loop under Weak Grid Condition** 2200
Haoqing Cai; Min Chen; Yiran Chen; Changsheng Hu
- 0549 **Power-Voltage Curves Calculation via Numerical Continuation for Droop-Based Islanded Microgrids Including Storage Systems** 2206
Gibran David Agundis Tinajero; Juan Carlos Vasquez Quintero
- 0550 **Redundancy Design of Solid-State Transformer for Medium Voltage DC-DC Applications Considering Cost and Availability** 2212
Antonis Stathatos; Samuel S. Queiroz; Chengmin Li; Levy F. Costa; George Papafotiou
- 0551 **A Dual-channel Gate Driver Design with Active Voltage Balancing Circuit for Series Connection of SiC MOSFETs** 2218
Rui Wang; Drazen Dujic
- 0553 **A Complex Coefficient Low Pass Filter Based Sliding Mode Observer for SPMSM Position Sensorless Control** 2225
Jiacheng Jiang; Xuemei Sun; Lizhi Sun; Quntao An
- 0555 **Low Coupling Capacitance Gate Driver Power Supply for Series-Connected Silicon Carbide Intelligent Power Module** 2230
Yongjie Zheng; Lijian Ding; Xiangdong Yu; Shuang Zhao; Yunchao Luo; Pinpin Chai; Helong Li
- 0556 **The High-Voltage Intelligent Power Module with Series-Connected Silicon Carbide MOSFETs** 2236
Zheng Zhang; Shuang Zhao; Siyuan Chen; Zhiqing Yang; Nan Zhu; Shaolin Yu; Lijian Ding
- 0557 **Active Gate Driving With Full 6-Bit Resolution for Different SiC MOSFETs Using Variable Gate Current Range Digital Gate Driver IC** 2242
Haoxi Zhou; Toshiaki Inuma; Dibo Zhang; Katsuhiko Hata; Makoto Takamiya
- 0558 **A Novel Five-level LLC Converter for Medium-Voltage Applications and Its DC Capacitor Voltage Balancing Control** 2247
Xin Wu; Yi Zhou; Haihong Long; Yipeng Ren; Yujie Jiang; Dehong Xu
- 0560 **Design and Integration Methodology of CM Stripline Inductors and EMI Filters in SiC Power Modules for Low Conductive CM EMI** 2253

Yifan Zhang; Yue Xie; Wenzhe Xu; Yiyang Yan; Cai Chen; Yong Kang

- 0561 **Droop Control of Three-phase Microgrid Inverter Under Unbalanced Load with Particle Swarm Optimization Algorithm** 2259
Zerong Chen; Yitao Liu; Xudong Zhang
- 0562 **Junction Temperature and Current Perception of Silicon Thyristor Based on Electroluminescence Spectrum** 2265
Shuoyu Ye; Yutin Jin; Bin Yu; Yu Chen; Haoze Luo; Chushan Li; Wuhua Li; Xiangning He
- 0563 **Parameter Identification Method of DC-DC Converter Based on Neural Network** 2271
Liangzong He; Miaoling Yang; Jinagyu Zhang; Hongyan Zhou
- 0564 **Reinforcement Learning based Method for Online Parameter Identification of the Permanent Magnet Synchronous Machines** 2274
Xuan Minh Bui; Faz Rahman; Rukmi Dutta; Nuwantha Fernando
- 0566 **Fault Diagnosis Method with Improved Space-Channel Attention Mechanism Based on BiGRU** 2280
Jianye Li; Lin Zhang; Pengcheng Song; Ming Yang
- 0569 **Stochastic Optimal Planning of Networked Microgrids for Indonesia Electrification** 2287
Wenfa Kang; Yajuan Guan; Yun Yu; Baoze Wei; Manuel Antonio Barrios Flores; Fransisco Danang Wijaya; Juan C. Vasquez; Josep M. Guerrero
- 0571 **Passivity-Based Design of a Harmonic Voltage-Controlled Active Power Filter** 2293
Chao Gao; Shan He; Xiongfeng Fang; Peiji Song; Ka Nang Leung; Poh Chiang Loh
- 0573 **AI-driven, Model-Free Current Control: A Deep Symbolic Approach for Optimal Induction Machine Performance** 2298
Muhammad Usama; Jaehong Kim; Hwang Yunkyung
- 0574 **Passivity-Based Design of a Resistive Active Power Filter through Virtual Impedance** 2304
Chao Gao; Shan He; Rui Kong; Peiji Song; Ka Nang Leung; Poh Chiang Loh
- 0576 **Control Design for Unbalanced Operation for Modular High Frequency Converters in Electric-Drive Applications** 2309
Sotirios Katsourinis; Konstantinos Manos; Antonios Antonopoulos
- 0577 **A Comparative Study on Control Performance of LADRC and PI Controllers for Servo Applications** 2315
Xinyu Li; Liang Xia; Wei Feng; Yidong Chen; Shijun Huang; Liming Gong; Tianfu Sun
- 0580 **A Two-stage Non-isolated Pulsed Power Supply with Low Fluctuation of the Input Current for Low-Frequency Pulsed Loads** 2321
Tao Sun; Jing Yang; Yunhao Zhang
- 0581 **Position Sensorless Control for PMSM Drives Without DC-Link Voltage Sensor** 2326
Shaowei Ren; Yifan Wang; Jichao Ma; Haibin Xie; Xinyu Yan; Xueqing Wang
- 0582 **Time Delay Implementation in Sensorless Control for Ultra-High-Speed Air Compressor Motor of Fuel-Cell Systems** 2332

Sung-Ho Kang; Hyun-Jun Lee; Tae-Gyeom Woo; Chang-Seok You; Sang-Hak Lim; Young-Doo Yoon

- 0584 **Two-Layer Distributed Control for Optimal Power Allocation in Islanded Networked Microgrids** 2338
Weitao Yao; Yan Xu; Yu Wang; Xu Xu
- 0585 **A Novel Current Prediction Method for SRM Based on Reluctance Compensation** 2344
Nan Du; Jiale Huang; Jixuan Guo; Shoujun Song; Rodriguez Jose; Lefei Ge*
- 0586 **A Novel Five-Level Power Converter Structure with Reduced Device Utilization for SRM** 2350
Lefei Ge; Yuyang Shen; Nan Du; Shoujun Song; Rodriguez Jose
- 0587 **TPS-MPC Method with Backflow Power Optimization for Series Resonant DAB Converter** 2356
Shuzhen Huang; Jianping Xing; Ning Wang; Fawei Song
- 0588 **Consensus Check in the Detection of Faulty and Hijacking Attacks for Multiple Converter-based Microgrids** 2360
Sen Tan; Peilin Xie; Juan Vasquez; Josep Guerrero
- 0589 **A Deep Learning Network based Robust Fault Diagnosis Method for IGBT Open Circuit** 2366
Yongjie Liu; Ariya Sangwongwanich; Yi Zhang; Rong Kui; Yingzhou Peng; Khalifa Al Hosani; Huai Wang
- 0590 **Digital Active Gate Driving Automatically Minimizing Switching Loss While Keeping Surge Current Below User-Specified Target** 2372
Toshiaki Inuma; Dibo Zhang; Katsuhiko Hata; Kazuto Mikami; Kenji Hatori; Koji Tanaka; Wataru Saito; Makoto Takamiya
- 0591 **Fault diagnosis of the lithium-ion power battery current/voltage sensor based on a fusion diagnosis factor** 2378
Muyao Wu; Changpeng Tan; Yuzhao Qian; Li Wang
- 0592 **A Novel State Restriction and Disturbance Suppression Strategy Based on Variable Gain Dynamic Manifold Super-Twisting Sliding Mode Control** 2384
He Wang; Yongting Deng; Meng Shao; Haiyang Cao; Xiufeng Liu; Xiaomeng Zhou
- 0593 **Fault Location and Tolerant Control Strategy for Power Electronic Transformers with a Single IGBT Open-Circuit Fault** 2390
Wei Zeng; Yuanhui Chen; Min Sun; Haoran Lin; Zongjie Liu; Xuan Zhang; Yinlei Liu; Kun Qin; Ruiqi Wang
- 0594 **An Improved Virtual Impedance Method for Single-loop Controlled Grid-forming Inverters to Suppress Low-frequency Oscillations** 2395
Xuetao Chen; Chao Wu; Yong Wang
- 0595 **Transient Stability Analysis and Enhancement of Grid-Following Converters Considering DC Voltage Dynamics Under Power Step** 2401
Zhanqi Huang; Chao Wu; Yong Wang; Shiyang Li

0597	Hierarchical Control of Three-Phase Series-Connected Power Modules Based Islanded Microgrid <i>Min Sun; Yuanhui Chen; Wei Zeng; Zongjie Liu; Wenxiu Dong; Zhaohui He; Yan Wang; Ruiqi Wang</i>	2406
0598	Fault Detection and Ride-Through Operation Method for CHB Converter Based STATCOM Integrating Controller Information and Measurement Data <i>Kaicang Li; Ke Zhou; Weina Kong; Yuanhui Chen; Ruiqi Wang; Zongjie Liu; Wei Zeng; Min Sun</i>	2411
0600	Fault Detection and Isolation Method for DC Voltage Measuring Device in MMC-HVDC Systems <i>Shuguang Song; Jiaxuan Lei; Wenzhong Ma</i>	2416
0602	A simplified design and MPPT method for 1kW single-stage flyback-type micro inverter <i>Zhichong Shao; Jiahao Li; Lingfeng Jiang; Jie Chen; Yong Wang</i>	2422
0604	Volume and Power Loss Optimization Tool for N-level Half-bridge Sub-module Modular Multilevel Converters with Filter Inclusion Assessment Capabilities <i>Kesheng Wang; Ian Laird; Barton David</i>	2428
0606	A Backup Hybrid DC Circuit Breaker Design and Fast Discharge Units for DEMO Superconducting Magnets <i>Hanwen Zhang; Ferro Alberto; Thomas Franke; Mattia Dan; Yanbo Wang; Zhe Chen</i>	2434
0608	Maximum Current Contribution of Grid-Forming MMCs under Asymmetrical Grid Faults <i>Xiaonan Gao; Xiongfei Wang</i>	2440
0609	A Study on Communication Impact in the Excitation Signal Chain of a 3-phase Synchronous Generator <i>In Kwon Park; Dinesh Gurusinghe; Seongil Kim; Yi Zhang</i>	2446
0611	Shore Power System Load Forecasting Model Based on QPSO-LSTM Network <i>Jijian Tong; Yayu Yang; Xiaoyan Xu; Gengwu Zhang; Feng Yuan; Guang Xiang; Kangan Wang</i>	2450
0612	Wiring Harness Cable Input Impedance Verification For Electromagnetic Compatibility Pre-Compliance Testing <i>Shih-Fan Liu; Bo-Shiang Lee; Katherine A. Kim; Tsai-Sheng Lin; Sheng-Han Hsieh</i>	2456
0613	Modeling and EMC Analysis of Capacitive Coupling to Low-Voltage Cables in an Electric Vehicle <i>Bo-Shiang Lee; Shih-Fan Liu; Katherine A. Kim; Tsai-Sheng Lin; Sheng-Han Hsieh</i>	2462
0614	Fault Diagnosis of Motor Bearings with Multiple Time-Frequency Extraction Method Under Variable Speed Conditions <i>Xu Huang; Jianzhong Zhang; Zheng Xu; Shuai Xu</i>	2468
0615	A Fast dynamic droop control strategy based on output impedance for DC microgrids <i>Zhangyong Chen; Yunyan Liu; Tieqi Wang</i>	2474

0616	A DFIG Impedance Reshaping Method Based on Offsetting Rotor Current Dynamic to Solve the Instability Issue Caused by PLL <i>Bochen Luo; Xiaoling Xiong; Ziming Sun; Longcan Li</i>	2480
0619	Suppressing Inter-module Oscillations for Paralleled 10 kV SiC MOSFET Modules <i>Nianzun Qi; Zhixing Yan; Gao Liu; Morten Rahr Nielsen; Jannick Kjær Jørgensen; Asger Bjørn Jørgensen; Szymon Michal Beczkowski; Bjørn Rannestad; Hongbo Zhao; Stig Munk-Nielsen</i>	2485
0620	A Complete Common-Mode Voltage Reduction Method for MMC with Output Current and Voltage Fluctuation Optimization <i>Tianxiang Yin; Lei Lin; Li Zhang; Xiaojie Shi; Jingjie Xu</i>	2492
0621	A Random Pulse Position Modulation Method Based on Markov Chain for Noise Suppression in PMSM Drive System <i>Zixuan Dai; Gaoli Guo; Yun Zuo; Shengdao Zhu; Xinglai Ge; Yi Wang</i>	2498
0622	Comparison Between PLL-Based and PLL-Less Grid-Forming Converters <i>Shan Jiang; Ye Zhu; Georgios Konstantinou</i>	2505
0627	DC Grid-Forming/Following Power Converters with Capacitive/Battery Energy Storage <i>Enhong Su; Jingyang Fang; Chunlei Fu; Feng Gao</i>	2511
0629	A Novel Sensorless Control Scheme based on Disturbance Observer for drive Motor <i>Chunfeng Yu; Hao Huang; Yuanfeng Zhang</i>	2517
0633	Wide-Input-Range High-Frequency-Link Split-Phase Microinverter with Active-Power-Decoupling Ability <i>Xuewen Li; Jia Liu; Fangchao Ji; Xueqian Cao; Yue Wang; Jinjun Liu</i>	2524
0634	Investigation of Conducted EMI Emission and Mitigation Techniques in a USB-C Charger <i>Pinhe Wang; Jinshi Du; Zheng Miao; Tiberiu Gabriel Zsurzsan; Michael A. E. Andersen; Ziwei Ouyang</i>	2530
0635	Reactive Power Sharing and Stability of Islanded Microgrid Using Centralized Secondary Control <i>Jingxi Yang; Chao Charles Liu; Chi K. Tse</i>	2536
0636	Improved Disturbance Observer for Grid Current Harmonic Suppression <i>Yibo Xuan; Keliang Zhou; Chao Tang</i>	2541
0639	Control Strategy of Microgrid Based on Single-Stage PV Microinverter without Energy Storage <i>Fangchao Ji; Jia Liu; Xuewen Li; Xueqian Cao; Yue Wang; Jinjun Liu</i>	2547
0642	Fractional-order Disturbance Observer based Secondary Frequency Control for Power Systems with Battery Energy Storage <i>Sheng Yang; Leijun Xiang; Jiansheng Wu; Yu Chen</i>	2553
0643	Active Disturbance Rejection Control Based Deadbeat Predictive Current Controller for CSI-Fed SPMSM Systems	2559

	<i>Youtong Wu; Yuzhuo Lu; Siwen Li; Quntao An</i>	
0644	An Advanced Voltage Support Strategy for VSCs in AC/DC Hybrid Distribution Networks under Fault <i>Yuze Li; Qianming Xu; Peng Guo</i>	2564
0645	Enhanced Short-Circuit Capacity of Grid-Forming Modular Multilevel Converters with Oval-Shaped Current Limiters <i>Ye Zhu; Shan Jiang; Georgios Konstantinou</i>	2567
0646	A Current Sensorless Model Predictive Current Control Method With Luenberger Observer For PMSM Drives <i>Sicong Wen; Manfeng Dou; Dongdong Zhao; Zhiguang Hua</i>	2572
0647	Temporal Data-driven Predictive Control for Coastal Island Distribution Power System Stability Enhancement <i>Zhijie Zeng; Guojun Bao; Ronghe Zhang; Chaoping Deng; Ting Huang; Qinyun Huang; Yingling Zhang</i>	2578
0648	Analysis and Design of a Bidirectional Step-Up/Down Partial Power Converter for Battery Energy Storage System <i>Xingao Tao; Lizheng Sun; Feng Wang; Yihan Xie; Fang Zhuo</i>	2583
0650	Programmable Multi-input Buck-Boost Converter for Photovoltaics Arrays <i>Zhongting Tang; Yi Zhang; Pooya Davari</i>	2589
0651	An Asymmetrical Duty Cycle Control of Three Phase LCL Dual Active Bridge Converter to Reduce RMS Phase Current <i>Hui Chen; Jinjun Liu; Sixing Du; Ning Guo</i>	2594
0654	A LCL-type DAB converter with hybrid modulation strategy <i>Rui Wang; Xiaodong Li; Shi-Yuan Liu; Song Hu; Hao Chen</i>	2599
0655	A Dual-transformer Series Resonant Converter for Wide Output Voltage Range Applications <i>Yinan Li; Xiaodong Li; Song Hu; Peiwen Li; Wanlin Nie</i>	2604
0656	Indirect-modulated MMC current control with a Voltage disturbance estimation and compensation <i>Dongjoon Kim; Seungki Sul; Shenghui Cui</i>	2609
0657	Early prediction of lithium battery knee point before capacity degradation <i>Yongjiang Yu; Shunfeng Yang; Yi Luo; Xin Qi; Yujia Miao</i>	2614
0658	Effect of Distributed Decoupling Capacitors in Multi-chip SiC Power Modules on Current Sharing Mechanism <i>Hongzhou Gong; Laili Wang; Junhui Yang; Wenbo Fan; Yi Liu; Shijie Wu; Kai Gao</i>	2619
0659	Research and Design on the Control Rod Drive Mechanism Power Supply and Control Strategy for the Nuclear Power Plants Based on Silicon-Controlled Rectifier <i>Mingzhou Xu; Gao Zheng; Zerun Zhao; Ping Yang; Yusheng Peng</i>	2625

0660	Stability Analysis of Adaptive Virtual Impedance-Based Current Limitation of Grid-Forming Inverters <i>Cheng Luo; Dapeng Lu; Hongwei Zhou</i>	2632
0665	A Resistance-Emulating Control for AC/DC Matrix Converter Under Unbalanced Grids with Minimum Sensor Requirement <i>Weihao Yuan; Wenjing Xiong; Ting Liu; Jianheng Lin; Mei Su</i>	2638
0667	A Power Ripple Suppression Method for Grid-Forming Converter under Imbalanced Grids <i>Ke Zhou; Bingtao Zhang; Zongjie Liu; Yang Li; Qiliang Zhang; Lei Xu; Wei Zeng; Min Sun</i>	2643
0668	Condition Monitoring the Inhomogeneous Thermal Fatigue of Multi-chip IGBT Module Based on the Natural Frequency of Thermal Network <i>Jun Zhang; Huixian Shen; Pengju Sun; Xing Ma</i>	2648
0669	Achievement of 6.78-MHz and 3-kW Single Inverter in Continuous Operation <i>Masamichi Yamaguchi; Yasuo Uchida; Hiroki Watanabe; Keisuke Kusaka; Jun-Ichi Itoh</i>	2654
0671	An improved virtual space vector method for three-level NPC inverters <i>Haoyu Zhang; Wentao Zhang; Yongxiang Xu; Jibin Zou</i>	2659
0672	Comparative Study on Switching Oscillations of SiC MOSFETs Using Transfer Function and State-Space Model <i>Qianchen Yin; Helong Li; Zhiqing Yang; Shuang Zhao; Lijian Ding</i>	2665
0674	An unweighted factorized multi-objective model predictive control strategy applied to a three-level DC-DC FC converter <i>Zhangyong Chen; Tieqi Wang; Yunyan Liu</i>	2671
0676	An Improved Discretization Method for IM Full-order Flux Observer under Low Sampling Frequency <i>Jiacheng Xu; Haitao Yang; Yongchang Zhang</i>	2677
0679	Application of DAB Converter with Partial Power Transfer in Battery Energy Storage Systems <i>Dong Lin; Tiesheng Yan; Wenyuan Chen</i>	2683
0680	A New Method for Monitoring Grounding Insulation Degradation of Induction Motors Based on Common-Mode Switching Transients <i>Zhouyu Jiang; Zhen Jia; Chenwei Ma; Wensheng Song; Baojie Zhang</i>	2690
0683	A Real-Time Estimation Method of Switching Delay for Power Devices in the High-Power IGCT Converter <i>Pei Yang; Bo Zhang; Qiongxuan Ge; Xiaoxin Wang</i>	2695
0686	DC Voltage Prediction based on CNN with Physics Information Embedding for MVDC Distribution Systems <i>Pingyang Sun; Rongcheng Wu; Hongyi Wang; Zhiwei Shen; Gen Li; Muhammad Khalid; Georgios Konstantinou</i>	2700
0687	A New Two-level Hybrid Modular Multilevel Converter <i>Hao Liu; Shunfeng Yang; Haobo Sun</i>	2706

0688	A Simple Seamless Switching Strategy for Four-Switch Buck-Boost Converter <i>Xiaoying Liu; Shuaicheng Hou; Mi Fang</i>	2711
0689	Multi-Objective Energy Management for Residential Microgrid with Hybrid Electricity-Hydrogen Storage System using Particle Swarm Optimization <i>Jingxuan Wu; Shuting Li; Sanjay Chaudhary; Juan Vasquez; Josep Guerrero; Yajuan Guan</i>	2716
0690	Analysis and Comparative Evaluation of a Modularized Bridge Rectifier MVAC-LVDC Solid-State Transformer <i>Giacomo Andrioli; Sandro Calligaro; Roberto Petrella; Johann Walter Kolar; Jonas Huber</i>	2722
0691	Comparison of the active circulating current injection modulation in current-fed and voltage-fed resonant converter <i>Jinghao Zheng; Junfeng Liu; Renjun Hu; Ningrui Yang; Yue Li; Jun Zeng; Zhixing Yan</i>	2730
0692	Three-layer Optimization Strategy for Industrial Battery Storage System <i>Yufan Wang; Tao Xu; Feng Gao; Hao Tian; Kaizhe Nie</i>	2735
0693	An Enhanced Deadbeat Predictive Current Control for High-Speed PMSM Drives <i>Yilin Wang; Zhen Li; Shichang Zhou; Yimin Zhang; Jin Zhang; Haitao Li; Jose Rodriguez; Zhenbin Zhang</i>	2741
0694	Design of Flat Two-stage Hybrid Resonant Isolated Micro-inverter <i>Qingzheng Li; Xu Yang; Wei Zhou; Yuhang Xu; Tianqi Weng; Rui Cheng</i>	2747
0695	Hierarchical Operation Management System for Mobile Ad-hoc Microgrids in Emergency Events <i>Yajuan Guan; Wenfa Kang; Juan C. Vasquez; Francisco Danang Wijaya; Niken Arumdati; Adam Priyo Perdana; Zheng Grace Ma; Josep M. Guerrero</i>	2752
0696	Distributed Model Predictive Control for Active Power Regulation in AC Microgrids <i>Junjie Xiao; Lu Wang; Pavol Bauer; Zian Qin</i>	2756
0697	Study on Maximizing Energy Regeneration and Suppressing Pitching of Large EVs <i>Naoki Eguchi; Kan Akatsu</i>	2762
0698	Influence of Power Module Junction Temperature Behavior on Pump-Out Effects of Thermal Interface Material <i>Dingyi Wang; Xiaodong Li; Haoran Wang; Helong Li</i>	2768
0699	Impedance Modeling and Stability Analysis of the Grid-forming Converter in Current Saturation Mode <i>Kaijie Gao; Yonghui Liu; Runtian Li; Yue Wang</i>	2772
0700	Event-Triggered Multi-Step Model Predictive Control for Permanent Magnet Synchronous Motors <i>Xiaojun Wu; Weilin Yang; Guanyang Hu; Wentao Huang; Dezhi Xu</i>	2778
0701	Self-Stability Analysis of Dual-Frequency Band Grid Impedance Emulator <i>Weiyu Tang; Ke Ma; Jiashi Wang</i>	2784

0702	An Optimization Design Method for High Frequency Transformer in High Frequency Link AC-DC Matrix Converter <i>Yang Mei, Guomian Chen, Ning Lv</i>	2790
0703	Emulation-Aimed Design of Model Fitting Methods for Grid-connected Inverters <i>Yuqi Dai; Wanjun Lei; Haixu Wang; Hongyi Zhou</i>	2796
0704	A Robust Model Predictive Direct Speed Control with Improved Cost Function <i>Junchao Bai; Xuliang Yao; Jingfang Wang; Guowang Zhang</i>	2802
0705	Model Predictive Control of SiC&Si Hybrid ANPC Inverter <i>Zhe Li; Ling Feng; Zhaohui Wang; Jianghua Feng</i>	2807
0706	Toward Electric Vehicle Safe Operation: Unsupervised Learning-Enabled Multiple Fault Diagnosis in Lithium-ion Battery Systems <i>Yiwen Zhao; Zhenyu Sun; Qiushi Wang; Dingsong Cui; Peng Liu; Zhenpo Wang</i>	2812
0707	ZVS Boundaries for NPC-Type Series Resonant Dual Active Bridge Converter Using Frequency Domain Analysis <i>Yufan Li; Fei Xiao; Jilong Liu; Peng Chen; Rui Zhou</i>	2818
0709	Mechanism Analysis of Instability in Grid-Connected PV Systems With Volt-Var Control <i>Shuxuan Yan; Xiaojie Shi; Xuhua Liu; Qiong Chen; Lei Lin</i>	2824
0711	A Simple Modulation and Capacitor Voltage Balancing Method for Four-Level Single Flying Capacitor Converters <i>Mingzhe Wu; Zhibeng Bi; Kui Wang; Kehu Yang; Yongdong Li</i>	2829
0713	Series Voltage Compensation Circuit for Pulsed Power Suppression <i>Zuoqian Zhang; Xin Jin; Haitao Yu; Linwei Xie; Fengfu Yang; Yan Xing; Hongfei Wu</i>	2835
0714	Parameter adaptive secondary ripple voltage compensation for single-phase PWM rectifier control system <i>Zixin Kang; Chenglin Xiong; Shiduo Zheng; Jianbo Ye; Manqiao Zhao</i>	2840
0719	Task Scheduling and Container Deployment Strategy for Cloud Edge Collaborative Control System of Virtual Power Plant <i>Yubin He; Guang Ma; Yongquan Nie; Chaoyi Peng; Guifeng Zhai</i>	2844
0720	The Bidirectional Four-Switch Buck-Boost Converter With PWM Plus Phase-Shift Control <i>Lingxuan Xiao; Xinbo Ruan</i>	2849
0725	Analysis and Control of Partial Power Processing Based on LLC Resonant Converter for Fuel Cells <i>Bixuan Yang; Zhigang Yao; Gang Luo; Linglong Jiang; Weirong Chen</i>	2854
0727	Comparative Evaluation of Several Types of Passive Damping Branches for Grid-Connected Inverters under Passivity <i>Guangda Ma; Chuan Xie; Cheng Li; Yang Han; Weijun Wang; Jianxiao Zou</i>	2860

0729	Omnidirectional Wireless Energy Harvest Through Magnetic Resonant Coupling <i>Yuxin Liu; Hao Wen; Yong Chen; Kuo Feng; Chunhua Liu</i>	2865
0730	An On-Line Inductance Identification Method for Permanent Magnet Synchronous Motors Under Sensorless Control in The Full Speed Domain <i>Yue Liu; Liguang Wang; Qiang Gao; Yong Li; Fei E</i>	2870
0731	Fixed-time Sliding Mode Control for Large Inertia Motion System <i>Hongru Wang; Yong Chen; Hui Tang; Shenggang Wang; Zheng Yu</i>	2876
0732	Passivity-Based Stabilization of LCL-filtered Grid-Connected Inverters with Wide Variant Inductance <i>Zhiwei Zhao; Xiaonan Wang; Chuan Xie; Chengyang Huang; Hongyu Pan; Jianxiao Zou</i>	2881
0733	Research of the electrical and thermal characteristics of a LiFePO4 battery with internal short circuit fault based on experimental and simulation methods <i>Boen Zhang; Jianqiang Kang; Qian Wang; Jing V. Wang; Guorong Zhu</i>	2887
0738	A Fuzzy Control Strategy for Improve the Performance of CHB-STATCOM Under Grid Faults <i>Runtian Li; Yue Wang; Tianyi Zhang; Yonghui Liu; Yi Liu; Fengmo Li</i>	2894
0739	Optimization of unpaired timetable with express/local mode for the phenomenon of tidal passenger flow <i>Pengfei Sun; Bailing Yao; Qingyuan Wang; Shikun Chen; Xinyu Lin; Zilu Huang</i>	2899
0740	Frequency-Adaptive Repetitive Control Based Zero-Sequence Current Elimination in Leg Sharing Post-Fault Operation of OW Machine Drives <i>Abd Alrahman Dawara; Roland Seebacher; Annette Muetze</i>	2906
0741	Advanced Simulation and Empirical Validation of High-Efficiency Induction Heating System Via COMSOL Multiphysics <i>Deiaaldeen Khaleel; Tang Xiaojun; Mustafa Abu-Zaher</i>	2912
0742	Improved Modulated MPC Technique using the Virtual Vectors by Duty Cycle Reconstruction <i>Zhen Huang; Qiang Wei; Tingfeng Wu; Yonghong Xia</i>	2918
0743	Rapid parameter identification of BUCK converter using Hilbert phase compensation <i>Hongzhi Liu; Hui Li; Changhao Zhu</i>	2923
0744	Dual-Input Single-Phase Split Source Inverter for Optimized Power Extraction of Grid-Connected PV Systems Under Varied Atmospheric Conditions <i>Mustafa Abuzaher; Fang Zhuo; Alaaeldien Hassan; Mahmoud Gaafar; Mohamed Orabi; Mokhtar Aly</i>	2929
0745	Anti-Parameter Perturbation Junction Temperature Balance Model Predictive Control for Digital Power Amplifiers with High Reliability <i>Cheng Tang; Yingzhe Jia; Qianming Xu; Peng Guo; Jiayu Hu; Rui Liu; An Luo</i>	2935
0746	Capacitor Voltage Balancing Strategy Based on Zero-Sequence Voltage Injection for Half-Wave Commutated Modular Multilevel Converter <i>Nan Fu; Bao Liu; Yunfei Xu; Sitong Zhu; Kui Wang; Yongdong Li</i>	2940

0747	Symmetrical Control Method for Grid-Connected Inverters in Weak Grid <i>Yichen Sun; Xinbo Ruan; Mingliang Li; Jiang Zhan</i>	2946
0750	Hybrid Phase-Shift Modulation Strategy for Dual Active Bridge Converters to Improve Full Power Range Efficiency <i>Shusong Liu; Mixin Wang; Yalong Li; Bo Qu; Fan Liu; Sijie Li; Ping Yang</i>	2953
0751	A Six-Degree-of-Freedom Trajectory-Switching Modulation Framework for Triple-Phase-Shift-Modulated Dual-Active-Bridge Converters <i>Chuan Sun; Gaoxiang Chen; Xingxing Chen; Ka-Hong Loo; Song Hu; Xiaodong Li</i>	2958
0753	Natural Switching Surface Boundary Control of Triple Active Bridge Converters Achieving Unprecedented Dynamic Performance <i>Peichao Xu; Huiqing Wen; Xu Han; Zhichen Feng; Guangyu Wang; Xue Wang; Lanbo Dai; Yi Zhu; Yuqi Gong; Jose Rodriguez</i>	2964
0754	Fault Diagnosis for the Cascaded H-Bridge Multilevel Converter Considering Fault Coupling Between Switches and Sensors <i>Dong Xie; Qingli Deng; Hongjian Lin; Chunxu Lin; Thomas Basler; Xinglai Ge</i>	2970
0755	Observations in Strain Sensing of Metallized Film Capacitors for AC filtering during Degradation <i>Bo Yao; Xing Wei; Zhihao Lin; Jiahong Liu; Qian Wang; Huai Wang</i>	2976
0756	Reliability of Modular Multilevel Converters Considering Physics of Failure in MVDC Applications <i>Yumeng Tian; Georgios Konstantinou</i>	2982
0757	A Single-Phase Common-Ground Y-source Grid-Connected Inverter <i>Jianwei Ma; Hongpeng Liu; Lai Wei; Wei Zhang</i>	2988
0758	Optimization and scheduling of electric vehicle microgrids based on improved bee colony algorithm <i>Peijun Chen; Shaojie Luo; Weiyang Zheng; Di Huang; Xingping Yan</i>	2993
0759	Research on Optimal Dispatching of DC Microgrid Considering Energy Storage Regulation Characteristics <i>Peijun Chen; Shaojie Luo; Weiyang Zheng; Di Huang; Xingping Yan</i>	2997
0760	A Four-Segment-Mode Parameter-Free Model Predictive Current Control for PMSM Drives <i>Shujun Fang; Xiaoguang Zhang</i>	3001
0761	Partial Discharge Test of High-frequency Transformers with Plastic Mold for SST <i>Ritsuki Yonetomi; Keisuke Kusaka; Naoki Koike; Shinichiro Nagai</i>	3007
0762	Novel Structure of an Integrated Inductive-capacitive Core for the Wireless Power Transfer System <i>Zhichao Luo; Teng Long; Yunlei Jiang; Zongzhen Li</i>	3013
0763	An Improved Sigmoid Function Based Large Signal Modeling for LLC Converter <i>Yuxin Zhang; Jie Chen; Jingke Cai; Yong Wang</i>	3019

0764	Lithium-ion Battery Health Estimation Using DCNN Paralleled LSTM-Self Attention Networks <i>Longhan Zhang; Xinrong Huang; Yuanyuan Li; Jinhao Meng; Wenjie Liu; Yipu Zhang</i>	3025
0765	Octagonal Prism-Based Wireless Charging Container with Multiple Folding Coils for Even Magnetic Flux Distribution Inside <i>Kaiyuan Wang; Shuye Shang; Yao Wang; Xinze Li; Yun Yang</i>	3031
0766	Linear active disturbance rejection control for PWM converters in flexible DC traction power supply system <i>Xiaoqiong He; Chenghao Qiu</i>	3036
0767	A Dual-Phase-Shift Control Method for MMC-H Solid State Transformer with Current Stress Suppression Effect <i>Yihao Du; Weixing Tong; Kai Xiao; Yansheng Zou; Wenqi Lin; Jianyu Pan</i>	3040
0768	A Harmonic Suppression Strategy for Doubly Salient Electromagnetic Generators Based On PWM <i>Liang Chen; Luyan Fang; Yanwu Xu; Yu Mi</i>	3045
0769	Radial Rotation Angle Recognition of Wireless Power Transfer System for AUVs <i>Ben Zhang; Chaoqiang Jiang; Chen Chen; Yuanshuang Fan; Jiayu Zhou; Yong Lu</i>	3049
0770	Stability-oriented Parameter Design for the Three-phase Inverter with Bayesian Optimization <i>Lining Wang; Sicong Jin; Xin Zhang; Jie Tian; Rui Li; Jing Chen</i>	3054
0771	Harmonic-domain impedance modeling and stability analysis of three-phase inverter <i>Longxiang You; Sicong Jin; Xin Zhang; Pan Geng; Wentie Yang; Lin Xu</i>	3060
0772	A study of multiple inverter integrated motor with laminating coil end <i>Koki Takeuchi; Kan Akatsu</i>	3066
0773	Three-Level Inverter with Enhanced High Modulation Range Using Switched-Capacitor Technology <i>Zixing Yi; Jie Tang; Hongyu Zhang</i>	3072
0774	Grid-forming Control for Three-Phase Multi-Port DC-AC Converter in Battery Integrated PV Systems <i>Jingtian Shi; Zicheng Xu; Danrui Liu; Jiangfeng Wang; Wu Chen</i>	3078
0775	A Simplified Bearing Testbed for Evaluating Bearing Current and Degradation in Wide Bandgap Inverter Fed Electric Machines <i>Cheng Guo; Xibo Yuan; Yipu Xu; Wenzhi Zhou; Quanrui Liu; Yonglei Zhang; Xin Peng; Kai Wang</i>	3083
0776	Modified Strategy of Phase-shift Modulation to Eradicate Transient DC-Bias for ANPC-DAB Converter <i>Haotian Deng; Jiachen Tian; Pengyu Gao; Feng Wang; Fang Zhuo</i>	3089
0778	Dual Series-End Unit-Based Eight-Leg VSI for Dual Three-Phase Motor Drives <i>Zhiping Dong; Senyi Liu; Rundong Huang; Bowen Zhang; Tianci Wang; Chunhua Liu</i>	3095

0779	Boundary Control Based Capacitor Voltage Balancing for Two/Three-Level Neutral-Point-Clamped Dual-Active-Bridge Converters <i>Lanbo Dai; Huiqing Wen; Peichao Xu; Zhichen Feng; Guangyu Wang; Xue Wang; Jose Rodriguez</i>	3101
0780	A High Efficiency Two Stage 48V-12V DC-DC Isolated Converter <i>Wei Zhou; Xu Yang; Qingzheng Li; Tianqi Weng; Rui Cheng; Wenjie Chen</i>	3107
0782	Digital Twin Approach for Parameters Monitoring of a Three-Phase Three-Level ANPC Inverter <i>Zhiwei Zhang; Sihui Zhang; Yuchao Zou; Cunxin Ye; Chenwei Ma; Wensheng Song</i>	3111
0784	Modulation and Power Allocation Strategy of a Single-Phase Dual-DC-Port ANPC Inverter for PV-Battery Hybrid Systems <i>Mingyu Hu; Haoran Liu; Jingtian Shi; Jiangfeng Wang; Wu Chen</i>	3117
0785	A Five-level Dual Inverter using the Virtual Space Vector PWM technique <i>Zhen Huang; Shuhao Zhang; Kunjie Huang; Yonghong Xia</i>	3123
0786	Fault diagnosis method for metro fully controlled rectifier unit based on current path <i>Xiaoqiong He; Xiang Jin</i>	3128
0789	Dual-band High Efficiency Class-E Power Amplifier Based on Explicit Impedance Matching <i>Zhan Liu; Chenyue Chen; Ming Liu</i>	3134
0793	Train Trajectory Cooperative Optimization on Coupling Process at Junctions <i>Shikun Chen; Qingyuan Wang; Pengfei Sun; Bailing Yao</i>	3138
0794	Stability Analysis of Grid-Connected Wind Power Systems Based on SiC Devices <i>Ganyao Wang; Jing Lyu; Chuanwei Lin; Han Wang; Yu Yang</i>	3143
0795	Model-Free Predictive Current Control of Permanent Magnet Synchronous Motors Based on Fixed Time Expanded State Observer Using Ultra-Local Model <i>Kecai Jiang; Ying Wu</i>	3149
0796	Cause Analysis and Practice of Three-phase voltage imbalance in Distribution Network <i>Yan Zhang; Meimei Hao; Yan Lin; Jinchen Lan</i>	3153
0798	A Harmonic-Compensated Synchronization Method Based on Current Orthogonal Decomposition for LCC-LCC WPTSs <i>Songyan Li; Min Wu; Qinxue Long; Haiyue Jiang; Yudong Zhang; Xu Yang</i>	3159
0799	Practical Design Method of Inductors Based on High-Precision Iron Loss Measurement <i>Yuto Saito; Keiji Wada</i>	3164
0800	Roundabout Tandem Coil Design for High Performance Magnetic Sensing <i>Qihui Feng; Xiaohong Ma; Mingyong Xin; Jie Zhu; Bingjun Yu</i>	3170
0801	Design of Composite Meandering Coils for High-Performance Magnetic Sensing <i>Changbao Xu; Mingyong Xin; Xiujing Wang; Yinkai Gan; Bingjun Yu</i>	3176

0802	Review and Prospects of Fault Ride-Through Technologies for Grid-Forming Voltage Source Converters <i>Haoyuan Li; Guanjun Li; Yibin Tao; Bingyu Sang; Qiang Li</i>	3182
0803	A Dual PWM Phase Shift Control Modulation for Three Level Half Bridge DC-DC Converter <i>Shiqi Fang; Shuyu Liu; Sizhe Wei; Peng Yang; Peng Dai</i>	3188
0804	High Voltage, Wireless Power Transfer based DC Power Supply <i>Suraj Jagannath Manur; Reza Mirzadarani; Mohamad Ghaffarian Niasar</i>	3193
0806	Topology and Control Design of DC/DC Converters for Urban Rail Transit PV Power Generation System <i>Yunkang Ma; Yu Ling; Yingdong Wei; Yun Chen; Weihang Bao; Hongyun Liao; Xiaozhou Xu; Dongyang Chen; Xiaoqian Li</i>	3197
0807	Parameter identification of PMSM based on improved Beetle Swarm Optimization Algorithm <i>Zhongqiang Ren; Xiaoli Meng; Qiwei Wu</i>	3205
0808	Current Harmonics Suppression Strategy for Permanent Magnet Synchronous Motor Based on Bandwidth Adaptive Second-Order Generalized Integrator Extended State Observer <i>Qiwei Wu; Xiaoli Meng; Zhongqiang Ren</i>	3211
0809	Transient Stability Analysis of Line Commutated Converter Under Grid Faults <i>Hongji Xiang; Hui Fang; Zhiwei Lei; Junpeng Ma; Yanan Yu; Shunliang Wang</i>	3217
0810	Model Predictive Current Control of Open Winding Permanent Magnet Linear Synchronous Motor Based on Extended State Observer <i>Jiling Guo; Yuge Zhang; Wenhao Song</i>	3221
0811	Resonance Type Electrical Variable Capacitor with Reduced Active Devices Loss for 13.56 MHz RF Plasam System <i>Heewon Choi; Yongsug Suh; Cheonyong Lim; Hongmin Kim; Cheonghyeon Hwang</i>	3227
0812	Frequency Division Decoupling of Triple Active Bridge Converters with Asymmetric Duty Modulation <i>Shuyu Liu; Zheng Gong; Peng Dai</i>	3234
0813	Comparative Research on the Characteristics of Long Primary Double-sided Linear Induction Motor with Different Secondary Structures <i>Zhuo Zhang; Yumei Du; Yongxian Liu; Liming Shi; Zixin Li</i>	3240
0814	Symmetrical Transformer for Medium-Voltage Medium-Frequency ISOP Three-Phase LLC SST <i>Reza Mirzadarani; Zhengzhao Li; Zian Qin; Peter Vaessen; Pavol Bauer; Lou Van Lieshout; Mahesh Itraj; Mohamad Ghaffarian Niasar</i>	3246
0819	Optimization of Long-Stator Synchronous Linear Motors for High-Speed Maglev Trains <i>Yingke Chen; Rong Wei; Zhigang Xue</i>	3252

0820	Model Predictive Control for Induction Motor Drives Based on Satisfactory Optimization	3257
	<i>Bo Yang; Zhaoxun Li; Yu Tian; Guojun Tan</i>	
0822	Frequency Tracking Notch Filter for LCL Filter in Grid-Connected Inverter	3263
	<i>Daheon Hong; Honnyong Cha; Jaeseong Lim; Seunghoon Lee</i>	
0823	Comparison of the Performance of Grid-Forming Converters with Different Combinations of Control Methods and Current Limiters	3268
	<i>Tianyi Xu; Shan Jiang; Georgios Konstantinou</i>	
0824	An Improved Two-Step Commutation Method for Bidirectional Switch-Based Current Source Converter	3274
	<i>Zihang Gu; Lei Ming; Yufeng Cao; Yubin Xue; Wei Yin; Zhen Xin</i>	
0825	Reliability under High Gate-Voltage Condition on SiC MOSFET Through Repeated Overcurrent and Gate Oxide Degradation	3280
	<i>Keiji Wada; Takahide Sagae; Shin-Ichiro Hayashi</i>	
0826	Wireless Power Transfer in PT-symmetric system with intrinsic quasi-BIC	3284
	<i>Xiaopeng Dai; Yunhui Li</i>	
0827	Analysis and Suppression of Commutation Overlap-Time for Bidirectional Switch-Based Current Source Converter	3289
	<i>Yubin Xue; Lei Ming; Zihang Gu; Peng Wang; Jiansai Li; Zhen Xin</i>	
0828	Parameters Design and Analysis of Alternating-Voltage Controller for Grid-Connected VSC in Weak Grid	3296
	<i>Wei Wu; Qidi Zhong; Jinping Sun; Kai Zhang; Zhiqing Yang; Helong Li; Lijian Ding; Guiliang Gao</i>	
0830	Scheme Design of Photovoltaic Access to the Flexible Traction Power Substation	3302
	<i>Xiaoqiong He; Jiancong Yang</i>	
0831	A novel magnetic integrated planar transformer for asymmetric bidirectional CLLC resonant converter	3308
	<i>Li Wei; Yanbo Liu; Bingqi Ouyang; Zhouzhen Hu</i>	
0832	An Overview of Early Warning and Prediction Methods for Lithium-ion Battery Thermal Runaway	3312
	<i>Yijing Li; Kun Zheng; Zhengxiang Song; Kun Yang; Jinhao Meng</i>	
0833	A Current Control Method with Two-step Prediction for Torque Ripple Minimization in Switched Reluctance Motor Drive System	3319
	<i>Qingqing Yang; Peiyi Zhu; Leilei Guo; Song Hu</i>	
0834	Parameter Identification with Particle Filtering Algorithm for Deadbeat Control in DAB Converter	3325
	<i>Zhiyong Li; Fujin Deng; Zheng Yin; Sayed Abulanwar</i>	
0835	Self-Calibration of Voltage Sensors in Modular Multilevel Converter for Voltage Imbalance Suppression	3331

Xudong Zhang; Yaqian Zhang; Jianzhong Zhang; Fujin Deng

- | | | |
|------|--|------|
| 0836 | Design Aspects of a Transformerless Solid-State Transformer Concept Considering Lightning Impulse Behavior
<i>Daniel Neumer; Michael Hartmann</i> | 3336 |
| 0837 | Zero Common-Mode Voltage Solution for Dual Three Phase PMSM Drive System with Reconstructed Modulation Patterns
<i>Senyi Liu; Xingbang Liu; Jinsong Kang</i> | 3344 |
| 0838 | Digital Control Implementation for Coupling Independent IPT Systems without Communication
<i>Linhua Lai; Jiasheng Huang; Junfei Tang; Ziwei Ouyang; Yujing Liu; Michael A. E. Andersen</i> | 3350 |
| 0839 | Research on Current Sharing Characteristics of 2-phase-90° Interleaved Parallel LLC Resonant Converter Based on Flexible Resonant Capacitor
<i>Haichao Li; Yugang Yang; Zhimei Hao; Jie Xu</i> | 3357 |
| 0842 | EIS Based ECM Parameter and SOH Estimation for LiFePO₄ Battery Considering SOC Effect
<i>Yougui Guo; Ruijun Hou; Peng Li; Lie Xu</i> | 3362 |
| 0845 | An Improved Droop Control Scheme for Enhancing Dynamic Current Sharing Performance in Autonomous DC Microgrids
<i>Qingchao Song; Ka-Hong Loo; Gaoxiang Chen; Xingxing Chen; Di Mou; Junwei Liu</i> | 3369 |
| 0847 | Feature Extraction from Electrochemical Impedance Spectroscopy for State of Health Estimation of Lithium-Ion Batteries Under Different Temperatures
<i>Ruijun Liu; Dayu Zhang; Zhengzhao Li; Pavol Bauer; Zian Qin</i> | 3374 |
| 0848 | An Adaptive-Switching-Frequency-Based Active Thermal Control Method for The IGBTs in Virtual Synchronous Generators
<i>Yiming Cao; Zhikang Shuai; Yingzhou Peng</i> | 3379 |
| 0849 | Arm Multiplexing Modular Multilevel Converter under Equivalent Level Modulation Strategy
<i>Zhuoyang Li; Yi Wang; Zimeng Su</i> | 3385 |
| 0850 | An Interleaved High Switching Frequency Boost Converter with Low Input Current Ripple Based on Model Predictive Control
<i>Yinlu Chen; Jinsong Kang</i> | 3391 |
| 0852 | Integrated SoC and SoH Balance Strategy of Battery Packs with Reconfigurable Series Topology
<i>Qiru Li; Zhenxiong Wang; Hao Yi; Hongwei Zhou; Liangliang Zhao; Fang Zhuo</i> | 3397 |
| 0853 | Comparative Analysis on Soft-charging Solutions of Switched-Capacitor DC-DC Converters
<i>Jianing Quan; Qingyuan Gao; Xu Yang</i> | 3402 |
| 0854 | Improved Sensorless Control Strategy for Long Stator Linear Synchronous Motor with Full Speed Range | 3407 |

	<i>Peirui Zou; Jinsong Kang</i>	
0856	Large-Signal Modeling of Grid-Following Inverter: from Sixth-Order Model to Second-Order Model <i>Liang Huang; Chao Wu; Dao Zhou; Frede Blaabjerg; Shan He</i>	3413
0857	Reduced Switching-Count SVM for Power Flow Control of Single-Stage Multiport Inverter-Fed Hybrid Electric Vehicles <i>Zhao Zhang; Dehong Zhou; Zewei Shen; Jiaoxiao Zou</i>	3421
0858	Dead-beat Predictive Current Control for Permanent-Magnet Synchronous Motor Drives Considering Parameter Mismatch <i>Yuanhang Cao; Xiaoguang Zhang; Tianyu Yuan</i>	3427
0859	Analysis and Comparison of Two Virtual Synchronous Control Strategies with and without Current Inner Loop of Doubly-Fed Induction Generator to Power Grid Strength Adaptability <i>Yangfan Zhang; Yu Gong; Pai Wang; Shiyu Cai; Yingbiao Li; Kai Liang; Xuejiao Fu</i>	3432
0860	A Shared Loop and Mode Normalized Control Method for Standalone Photovoltaic Energy Storage Systems <i>Jinrong Chen; Gaoming Li; Zhenpeng Tan; Haisen Wang</i>	3438
0861	High Robustness Control Strategy for Single Phase PWM Rectifiers <i>Huizhen Gao; Chengrui Li; Dianxun Xiao; Gaolin Wang; Dianguo Xu</i>	3445
0862	A Novel High-fidelity System-level Model of Power Converters <i>Yuwen Huang; Chuangchuang Lu; Weiyang Zhou; Ke Jin</i>	3451
0864	Fault Diagnosis Method of Metro Flexible Traction Substation based on Wavelet Analysis and Neural Network <i>Junxuan Liao; He Huang; Xinyao Li; Zhenyang Zhou; Keyu Lai; Jiaqi Xu; Xiaoqiong He</i>	3456
0865	Development of Linearized Direct Power Control for Three-Phase Rectifiers under Unbalanced Power Grid <i>Yi-Hung Liao; Wei-Lun Kuo; Cheng-Wei Yeh; Jia-Sheng Liu</i>	3462
0866	Reliability Improvement of MMC in Energy Storage System Using ANN-based Capacitor Voltage Estimation <i>Yantao Liao; Long Jin; Jun You; Zhike Xu; Kaiyuan Liu; Shunshun Ma; Miaoyu Huang; Hongbin Zhang; Zhan Shen; Fujin Deng</i>	3466
0867	Research on Efficiency Improvement Strategies for Energy Storage <i>Xiaoqiong He; Jie Meng</i>	3472
0868	A Nine-Switch Converter Implementation for a Dual-Port Direct-Drive Wave Power System <i>Shixiang Wang; Lei Huang; Haitao Liu; Baoyi Pan; Peiwen Tan; Shiquan Wu</i>	3477
0869	Research on Maximum Wave Energy Capture Strategy Based on Resembling Model Prediction <i>Shiquan Wu; Lei Huang; Jianlong Yang; Shixiang Wang; Zihao Mou</i>	3482

0870	An Accurate and Effective Spice Model of 6.5kV SiC MOSFET with Parasitic Parameters Analysis in Medium-Voltage Power Module <i>Jiarun Xie; Laili Wang; Peiyuan Sun; Dingkun Ma; Tianshu Yuan; Lei Li; Liangjun Ma; Shiyuan Li</i>	3487
0872	Performance and Analysis of Random Carrier Pattern SVPWM With Fixed Carrier Frequency <i>Peiran Zhang; Shanming Wang</i>	3493
0873	An IGBT behavior model suitable for series applications <i>Xianzhe Bao; Chushan Li; Yunfei Xu; Juanjuan Lu; Wuhua Li; Xiangning He</i>	3499
0874	PINN Based Data Driven Magnetics Loss Modeling <i>Yinan Yao; Tianxiang Hu; Lumeng Xu; Yiyi Wang; Sichen Wang; Chushan Li; Zuozhu Liu</i>	3505
0877	An Online Thermal Parameter Identification Method for MOSFETs in DC-DC converters <i>Yongkyeong Lee; Heesu Shin; Suyong Chae</i>	3511
0878	Small-Signal Impedance Modeling and Stability Analysis of the MMC-FTF Converter <i>Yi Liu; Yue Wang; Hong Wu; Yonghui Liu; Runtian Li; Fengmo Li</i>	3517
0879	High-accuracy classification of power quality disturbances using hybrid binary neural network <i>Changhao Zhu; Hui Li; Hongzhi Liu</i>	3523
0881	Random-Phase Signal Injection Combined With Random PWM for Low-Noise IPMSM Sensorless Drives <i>Peiran Zhang; Shanming Wang</i>	3529
0882	Adaptive Fixed-time Backstepping SMC for Gear Transmission System with Backlash <i>Zheng Yu; Yong Chen; Hui Tang; Shenggang Wang; Hongru Wang</i>	3534
0883	Regional optimal scheduling of distribution network based on soft open point <i>Jiamei Zhang; Kai Sun</i>	3540
0884	Condition Monitoring for Resonant Capacitors in LLC Resonant Converter <i>Quanjie Wang; Wei Wang; Chongyu Zhao; Yingzhou Peng; Zhikang Shuai</i>	3545
0886	A Review of Research Progress on Low-Voltage DC Solid-State Circuit Breakers <i>Yulong Liu; Xingwen Li; Wanjun Lei; Zhaozi Zhang; Caizhi Gao</i>	3551
0888	Evaluation of Capacitor Voltage Balancing Control Approaches for NPC-based DAB Converters <i>Chaochao Song; Ariya Sangwongwanich; Frede Blaabjerg</i>	3557
0889	State-of-Charge Balance Using Decentralized Control for a Multi-active Bridge Converter <i>Hongwei Zhao; Yang Qi; Zixiao Xu; Yufeng Wang; Yuyang Liu; Weilin Li</i>	3563
0891	Optimal Model of Hydrogen Production Coupled Sewage Treatment from Renewable Energy for Hydrogen and Oxygen Utilization	3568

	<i>Sihang Qi; Kewei Hu; Zhan Wang; Ruodong Ma; Yu Zhang; Binyu Xiong</i>	
0892	Research on Switched Reluctance Type of Electromagnetic Speed Regulating Motor and Its PWM Control Method <i>Haohao Liu; Yugang Yang; Huibin Pan</i>	3574
0895	Frequency Control Method for the Wide Load Range Operation of Fly-Buck Converter <i>Younghoon Cho; Paul Jang</i>	3580
0896	A comprehensive evaluation of 650V SiC JFET and Cascode JFET <i>Qicheng Guo; Hangzhi Liu; Yuming Zhou; Qian Wang; Aoying Hu; Dichao Jin; Hao Yang</i>	3586
0897	A Real-Time Implementation of Impedance-Based Stability Analysis for Inverter-Based Resources <i>Qiyang Lei; Felipe Arraño-Vargas; Shan Jiang; Georgios Konstantinou</i>	3592
0900	Analysis of IGBT Junction Temperature Fluctuation in Modular Multilevel Matrix Converter <i>Qi Chen; Yunfei Xu; Guoliang Zhao; Lei Qi; Chao Ding</i>	3598
0901	Design of Flexible Traction Substation Based on Vv Traction Transformer <i>Xiaoqiong He; Yisong Pan</i>	3603
0902	An Active Power Control Method for Enhancing Primary Frequency Control Dynamics in Grid-Forming Inverter Systems <i>Ki-Hyun Kim; Obi Stephen Arinze; Shenghui Cui; Jae-Jung Jung</i>	3609
0903	Design & Control of DC-DC Converter for Fuel-Cell Hybrid Power System of the UAV <i>Mingwan Gwon; Jongmin Cheon; Kichang Lee</i>	3614
0904	Loss Equalization Strategy of 3L Active Neutral Point Clamped Inverter based on Optimization Algorithm <i>Jianxiang Chen; Yunqing Pei; Laili Wang; Yuanyuan Zhao; Siying Chen</i>	3620
0907	Voltage Open-Loop Control of Modular Multilevel Matrix Converter for Flexible Low-Frequency AC System Under Open-Phase <i>Bao Liu; Yunfei Xu; Zhengang Lu; Guoliang Zhao; Yingpei Wang</i>	3626
0909	Research on the None-Inner-Loop Synchronverter Control Based on the Cascaded H-Bridge (CHB) Converter <i>Mengze Wu; Xing Zhang; Shucheng Wang; Xinxin Fu</i>	3631
0910	Improved MTPA Acquisition for SynRM Based on Golden Section Searching Considering Magnetic Saturation Effect <i>Shuo Wang; Yuli Bao; Dmytro Prystupa; Vasyl Varvolik; Giampaolo Buticchi; He Zhang</i>	3637
0912	Research on Improved Direct Power Control Method of Urban Rail Flexible Traction Power Supply System <i>Xiaoqiong He; Yuyang Liu; Pengcheng Zhao; Yahui Pang; Feixiang Shan</i>	3643
0914	High-performance current harmonic suppression for permanent magnet synchronous motor based on first-order vector resonant controller <i>Yanlin Li; Miao Liu; Hao Xu</i>	3649

0915	Sensorless Accuracy Improvement Strategy for Electrolytic Capacitorless Drivers Based on Frequency Adaptive Notch Filter <i>Yuehan Li; Zhonggang Yin; Yanqing Zhang; Dongsheng Yuan; Fengtao Gao</i>	3654
0916	A Novel Inductance Identification Method of Synchronous Reluctance Motor <i>Yanqing Zhang; Ying Gao; Zhonggang Yin; Yanping Zhang; Cong Bai</i>	3660
0918	A Purely Decentralized Control System Based on Cascaded Power Electronic Traction Transformer <i>Jiaxuan Niu; Xu Yang; Haonan Li; Keliang Chen; Kexin Zhao; Wenjie Chen</i>	3665
0919	Research on Three-phase LLC Resonant Converter Suitable for Electro-propulsion Power Supply <i>Hongyuan Zhao; Xinbo Ruan; Chaochao Shen</i>	3671
0920	Stability Comparison between Hybrid-Synchronous Controlled and Droop Controlled Grid-Forming Inverters Under Varying Grid Short-Circuit Capacity Ratio <i>Shuhong Li; Xing Zhang; Xiangdui Zhan; Yongkang Chang</i>	3677
0921	Resonant ZVZCS Buck Converter for Wireless Electric Vehicle Charging System <i>Jae Joon Kim; Sin Su Kyoung; Eun Soo Lee</i>	3683
0922	Dynamic Reverse Bias Test Circuit for SiC MOSFET with Adjustable dVds/dt <i>Luwei Zuo; Hui Meng; Ze Zhou; Bin Yu; Haoze Luo; Zhen Xin</i>	3688
0923	A switched capacitor multilevel inverter with high power density for photovoltaic applications <i>Yubo Yang; Zihao Luo; Mingjie Cui; Baojian Ji; Jia Yao</i>	3694
0924	Study of loop current suppression between multi-battery clusters in energy storage systems <i>Yongui Guo; Peng Li; Ruijun Hou; Lie Xu</i>	3700
0925	Assessment of POL Technology for SiC-based Integrated Modular Motor Drive Development <i>Haggay Vardi; Yonghwa Lee; Alberto Castellazzi</i>	3706
0926	Iron Loss Measurement in Winding Structure of Inductors for Low Permeability Magnetic Materials <i>Yedong Wang; Keiji Wada</i>	3713
0927	High Speed Train Adhesion Control based on Extend Kalman Filter State Estimation <i>Bolaji Balogun Alanamu; Song Wang; Xiao Mao He; Shuai Cao; Jie Ping Tang</i>	3718
0928	Highly Efficient and Power-dense GaN-Based Drive-train Inverter for Light Electric Vehicles <i>Jaydeep Saha; Rahul Sadanand Bhujade; Prasanth Sundararajan; Sai Srinivas Manohar; Sanjib Kumar Panda</i>	3724
0929	Adhesion Control of Traction Parallel Connected Motors in High Speed Train <i>Yixuan Wang; Song Wang; Buzou Zhang</i>	3730

0930	Impedance Modeling and Stability Analysis of Electric Springs in Weak Grid <i>Xi Zhang; Xing Zhang; Tiegang Meng; Yongkang Chang</i>	3736
0931	Grid Impedance Detection Based on Resonance Characteristics of LCL Filter for Energy Storage System <i>Hanxin Zhang; Wenli Yao; Da Kang; Yuheng Bu; Xikui Yu</i>	3742
0932	A magnetically controlled multi-winding sub-compensated active harmonic isolator <i>Zhu Liu; Yufeng Dai; Dayi Li; Jiabin Xu; Tiantian Cao; Dehuang Gong</i>	3748
0933	Submodule Capacitor Voltage Stability Improvement with Virtual DC Machine Control for Delta Connected Cascaded H-Bridge Converter Based ESS <i>Dong-Hwan Lee; Ki-Hyun Kim; Jae-Jung Jung</i>	3753
0934	Thermal Network Modeling of Heat Dissipation Structure of Power Devices with PCM to Enhancing Short-Term Overload Capacity <i>Xingjian Shi; Bin Yu; Qiang Wu; Dong Hai; Haoze Luo; Wuhua Li; Xiangning He</i>	3759
0936	A Stepwise Coordinated Primary Frequency Regulation Strategy Considering Renewable Energy Sources and Energy Storage Systems <i>Jianbiao Li; Qipeng Zheng; Yong Chen; Ruixiong Yang; Xingyu Pei; Fei Gao</i>	3765
0937	Common Mode Voltage Suppression of Three-phase to Six-phase Indirect Matrix Converter Based on 6-Virtual Vector Method <i>Kai Ma; Ke Lu; Jiling Guo; Tianlong Xiao</i>	3769
0939	Multiphase Unidirectional Active Bridge High-Step-Up DC-DC Converter With Multiphase Serial-Output <i>Zanrong Zhou; Junpeng Ma; Shunliang Wang; Rui Zhang; Tianqi Liu</i>	3775
0940	Design of “+”low turn ratio planar transformer in high transformation ratio LLC Resonant Converter <i>Zhimei Hao; Yugang Yang; Haichao Li</i>	3781
0941	Modulation Strategy of Cascaded Three-PMSM System Fed by a Seven-Leg Inverter <i>Yong Chen; Chunhua Liu; Hao Wen; Yuxin Liu; Zhengge Chen</i>	3787
0942	Computationally Efficient and Weighting Factorless Predictive Current Control of Three-Level PMSM Drives by Cost Function Division <i>Rao Atif; Chenwei Ma; Wensheng Song; Mannan Hassan; Cristian Garcia; Jose Rodriguez</i>	3793
0943	Microgrid an Energy Solution for Remote Islanded Communities in Indonesia <i>Majid Ali; Juan C. Vasquez; Josep M. Guerrero; Yajuan Guan; Najmeh Bazmohammadi</i>	3799
0944	A New Common-mode EMI Reduction Method for PFC-LLC Power Module <i>Rui Cheng; Wenjie Chen; Wenxia Chen; Pengyuan Ren; Wei Zhou; Qingzheng Li</i>	3805
0947	A novel multi-time scale moving average voltage quotient algorithm for the state of voltage function estimation of pure-electric-bus lithium-ion batteries <i>Donglei Liu; Shunli Wang; Yongcun Fan</i>	3809
0948	Capacitor Voltage Feedforward With Delay Compensation for LCL-Type Grid-Connected Inverter	3814

	<i>Geletu Qing; Peigang Ban; Yuan Deng; Lijuan Ma</i>	
0950	Passivity-Based Design of Frequency Adaptive Selective Harmonic Repetitive Control for Grid-Connected Inverters <i>Hongyu Pan; Chuan Xie; Jianxiao Zou</i>	3818
0951	Model Predictive Control with Series Inductor Identification for Dual Active Bridge Converter to Improve Dynamic Response <i>Tianhao Mao; Zhiqiang Guo</i>	3824
0952	A Stator Temperature Estimation Method Based on DC Voltage Injection for Sensorless Control of Permanent Magnet Synchronous Motor Drives <i>Gaoli Guo; Huimin Wang; Zixuan Dai; Yun Zuo; Yu Chang; Xinglai Ge; Yi Wang</i>	3829
0953	A Three Phase Interleaved LLC Resonant Converter with Improved Integrated Planar Magnetics <i>Chaochao Shen; Xinbo Ruan; Hongyuan Zhao</i>	3835
0954	Bond Wire Lift-off Sensor Circuit for Power Devices Integrated in Gate Driver IC <i>Yaogan Liang; Hiroki Yano; Haoxi Zhou; Katsuhiro Hata; Makoto Takamiya</i>	3840
0955	Study on lithium plating boundaries of lithium-iron battery at low temperature in alternating current heating based on an electrochemical model <i>Wenxuan Yin; Furong Liu; Changjun Xie</i>	3845
0956	Optimal Selection of High-Frequency Solid-State Transformer Topology for Dual Active Bridge Applications <i>Galina Demidova; Aleksandr Usolchev; Nikolai Poliakov; Dmitry Lukichev; Aleksandr Lukin; Alecksey Anuchin</i>	3851
0957	The operation stability of induction motor is improved under low speed power generation condition <i>Yanping Zhang; Ke Feng; Zhonggang Yin; Yanqing Zhang; Cong Bai</i>	3857
0958	DC-Link Current Analysis and Optimization for Current Source Inverter <i>Yanchao Xiong; Dong Jiang; Zicheng Liu; Yixuan Shuai</i>	3862
0960	A Modified PBC Method with Stability Improvement Through Full-Frequency Range Impedance Reshaping for Grid-Tied Inverter <i>Qicai Ren; Alian Chen; Wei Wang; Tong Liu</i>	3867
0961	Parameter identification of permanent magnet synchronous motor based on LSTM neural network <i>Yanchen Zhai; Wentao Zhang; Yongxiang Xu; Jibin Zou</i>	3873
0962	Wireless Power and High-Speed Full-Duplex Data Synchronous Transfer System Based on OFDM Method <i>Jiapeng Li; Suai Wu; Chunnuan Liang; Xichen Liu; Chunwei Cai</i>	3879
0963	Pulse Switching Shock Suppression Method of PWM Inverter for Pole-Changing Induction Motor <i>Hirota Kato; Hiroki Watanabe; Jun-Ichi Itoh; Masashi Kobayashi</i>	3883

0964	Dynamic Behavior of Isolated DC-DC Converter Based on Bidirectional Switches <i>Yamato Kamiyama; Makoto Hagiwara</i>	3888
0967	A Novel Distribution Network Topology Identification Method Based on Graph Convolutional Network <i>Li Di; Weijian Zhang; Jian Zhao; Ling Miao; Xiang He</i>	3893
0968	Research on a lithium deposition prevention control strategy for an on-board self-heater <i>Gongqian Chen; Furong Liu; Changjun Xie; Zhenhao Liu</i>	3897
0969	Thermal Impedance Matrix Characterization of IGBT Modules with Different Configurations <i>Yichi Zhang; Yi Zhang; Zhiliang Xu; Huai Wang</i>	3903
0971	Transient Synchronization Stability Analysis of Grid-Forming Converters Considering Virtual Negative Impedance Decoupling <i>Xiaoxiao Meng; Yuchen Wang; Xun Mao</i>	3909
0972	Research on High Frequency Link Matrix Inverter Based on Model Predictive Control <i>Yougui Guo; Yunfei Dong</i>	3915
0974	Design, Packaging and Evaluation of an All-SiC-Based Four-Level ANPC Power Module <i>Jupeng Pang; Wei Zhou; Kui Wang; Chao Wang; Zedong Zheng; Yongdong Li</i>	3920
0975	Control Method of PV Direct-Drive Modular Power Supply System for CO₂ Electrolysers <i>Lixia Wang; Tao Xu; Feng Gao; Xiaoxu Xuan; Xun Sun; Kaizhe Nie; Mengjie Wang</i>	3928
0976	An Integrated 1-stage OBC with Power Decoupling for DC charging <i>Sunju Kim; Million Gerado Geda; Kihoon Kim; Sewan Choi</i>	3933
0977	Investigations of Off-line Calibration and Consistency of SiC MOSFETs with Different Gate Structures <i>Yinda Liao; Zhiliang Xu; Huimin Wang; Xinglai Ge; Yi Wang</i>	3939
0978	Adaptive Fractional-Order Impedance for Current Balancing Control <i>Zihang Cheng; Liangzong He</i>	3945
0981	A Conservative Power Theory-based PLL-less Control Strategy and Performance Evaluation for Single-phase PV Grid-tied Inverter <i>Yong Ding; Meiqin Mao; Liuchen Chang</i>	3951
0982	A Physics-Informed Neural Network Method for LC Parameter Estimation in Three-Phase Inverter <i>Jie Kong; Dao Zhou; Xing Wei; Huai Wang</i>	3957
0983	A Closed-Loop Frequency domain analysis method for modular multilevel converters <i>Yafang Jin; Jinyu Wang; Xiaoyan Tian; Min Ai; Bobo Zhang; Qijian Liu</i>	3963
0984	Multiple Loops of Current-Limiting Control for Grid-forming Inverters in the Overload Conditions	3969

Jingting Wu; Zhicheng Li; Zhenxiong Wang; Fang Zhuo; Hao Yi; Wei Zhang; Yingjie Peng

- | | | |
|------|---|------|
| 0985 | Research on Discharge Characteristic of Metallized Film Capacitors Based on Electrical and Acoustic Signals
<i>Xinyi Yan; Linzi Zheng; Qiming Sun; Qing Xiong; Lingyu Zhu; Shengchang Ji; Jiangang Xu; Yang Xu</i> | 3974 |
| 0986 | Operation Risk Assessment of Power System with High Proportion of New Energy Integration
<i>Shaocong Xu; Shahid Mastoi Muhammad; Delin Wang</i> | 3980 |
| 0987 | Online Degradation Detection and Estimation of SIC Power MOSFET based on TSEP
<i>Valentyna Afanasenko; Oleksandr Solomakha; Ingmar Kallfass</i> | 3986 |
| 0988 | A Core Loss Estimation Method Based on Data-driven Technology with Multi-head Attention Mechanism
<i>Bowen Su; Kai Sun; Min Yang; Yunhao Xiao; Kai Zhang; Bo Liu</i> | 3992 |
| 0989 | Intelligent Cell Balancing Control For Lithium-Ion Battery Packs
<i>Hoda Sorouri; Arman Oshnoei; Remus Teodorescu</i> | 3997 |
| 0990 | A Sensorless Grid Voltage Estimation Scheme for Initial Synchronisation of Single-phase Renewable-based Distributed Generators
<i>Asma Ahmad Mirza; Dr Inam Nutkani; Dr Carlos Teixeira; Prof Brendan Peter Mcgrath</i> | 4002 |
| 0992 | Research on the Virtual Oscillation Control Strategy Based on the Cascaded H-Bridge Converter
<i>Shucheng Wang; Xing Zhang; Mengze Wu; Xiangdui Zhan</i> | 4008 |
| 0993 | A dq-Domain Impedance Measurement Methodology for Three-Stage Generator Cascade System in More-Electric Aircraft
<i>Zixiao Xu; Yang Qi; Hongwei Zhao; Yufeng Wang; Weilin Li</i> | 4014 |
| 0994 | Multi-objective Optimization of Switched Reluctance Motor Based on Gaussian Process Regression Model
<i>Jiixin Zhang; Junhao Liu; Lefei* Ge</i> | 4020 |
| 0995 | Design Adjustment Strategy of Switched Reluctance Machines for Resonance Avoidance
<i>Jiixin Zhang; Junhao Liu; Lefei* Ge</i> | 4026 |
| 0996 | Electro-Thermal Digital Twin for GaN eHEMT Power Modules Temperature Characterization during Power Cycling Tests
<i>Zhongchao Sun; Masaki Takahashi; Wendi Guo; Stig Munk-Nielsen; Asger Bjørn Jørgensen</i> | 4032 |
| 0997 | Third-order Energy Function Modelling Approach for Grid-Forming Converters
<i>Shilong Tang; Xikun Fu; Zhen Tian; Meng Huang; Wei Wang; Shaoze Zhou</i> | 4038 |
| 0998 | DC-link Voltage Optimization of the Resonant-Type Repetitive Pulsed Power Supply for the Charging Loss Reduction
<i>Zhou He; Yingzhe Liu; Hongfa Ding; Ziqi Zhang; Dandi Zhang; Jiannan Shao; Yi Tang</i> | 4042 |

0999	Cooperative Interharmonics Control Scheme for Parallel Photovoltaic Inverters With Particle Swarm Optimization and Phase-Shifting <i>Wenbo Wu; Guangqian Ding; Ximeng Zhang; Bin Qiao; Jing Wang; Zhiyuan Pan</i>	4047
1001	Predictive Control of Three-Level NPC Inverter-Fed IPMSM Drive Using g-h Coordinates for Common Mode Voltage Reduction <i>Mohsin Ihsan; Rao Atif; Shunfeng Yang; Muhammad Zahid Rafique; Muhammad Shahid Mastoi</i>	4053
1002	Enhancing Fault Tolerant Ability of Motor Drive System Using Novel Open-end Topology <i>Junnan You; Zicheng Liu; Dong Jiang; Jiahua Zhang; Bin Li; Yougen Huang</i>	4059
1004	A LCL-Network Based Single Stage Multi-port Hybrid AC/DC Converter <i>Wangpengcheng Xiang; Lingling Cao</i>	4064
1006	Capacitance and ESR Estimation of DC-link Capacitors in AC Machine Drives Based on Hybrid CNN-Attention Model <i>Dyan Puspita Apsari; Dong-Choon Lee</i>	4070
1007	Machine Learning Based Sensor Fusion for Junction Temperature Estimation <i>Kevin Muñoz Barón; Diego Kuderna Melgar; Valentyna Afanasenko; Ruben Schnitzler; Ingmar Kallfass</i>	4076
1008	A Simple Open-loop Soft-startup Method Based on Operation Mode Analysis for LCC Converters Used in High-voltage DC Power Supply <i>Kai Zhang; Kai Sun; Hanyu Liu</i>	4082
1009	A Cell-to-cell Voltage Balancing Strategy with Bidirectional Flyback Converter <i>Jun Hyeong Kwon; Seong Cheol Choi; Guangxu Zhou; Seong Mi Park; Sung Jun Park; Yipei Wang</i>	4088
1010	Analysis and Suppression of Voltage Overshoot in Symmetrical Hybrid Five-level Converter <i>Nianzhou Liu; Mingqi Zhang; Jupeng Pang; Pengfei Xie; Changqing Qiu; Kui Wang; Yongdong Li</i>	4094
1012	Transient Analysis of Proportional-Resonant-Controlled Inverters for Dynamic Load <i>Zhihe Zhang; Xin Yang; Yuanhong Zhang</i>	4099
1013	Noval Grid-forming Control for PV Connected to Weak AC Grid <i>Qiuyu Lu; Yuqi Shen; Yue Chen; Xiaotian Yuan; Pingping Xie; Yujun Li; Zhengchun Du</i>	4104
1016	A Study of Optimal Gate Pattern Derivation Method Based on Switching Waveforms of IGBTs by Automatic Pattern Sweep in Active Gate Control <i>Kento Honda; Kanta Suzuki; Daisuke Hioe; Masaki Furukawa; Hidemine Obara; Tomoki Yokoyama</i>	4110
1017	Grid-supporting Characterization of MMC-HVDC System for Offshore Wind Farm Under Different Control Modes: A Comparative Study <i>Lin Xu; Chang Liu; Jingyi Zhang; Zhen Tian; Pan Feng; Sijie Liu; Fei Liu</i>	4118

1019	Connected Hybrid Electric Vehicles with Policy-Sharing: A Combination of Deep Reinforcement Learning and Federated Learning <i>Arash Khalatbarisoltani; Jie Han</i>	4123
1021	Small-signal Model of Inductive Power Transfer System Considering the Dynamic Coupling Variation <i>Tianqi Li; Guangce Zheng; Minfan Fu</i>	4127
1022	High-Frequency Link Multi-port Converters: An Overview of Topologies, Challenges and Prospects <i>Di Mou; Ka Hong Loo; Li Qiang Yuan; Quanming Luo; Chengwei Liu; Haoyu Wang; Xingxing Chen; Qingchao Song</i>	4132
1023	Online MTPA Control of PMaSynRM Considering Magnetic Saturation Effects <i>Kaiwen Tan; Jianyong Su; Guijie Yang; Bencheng Zhong; Shiyan Li</i>	4136
1024	Development of Dual Rotor Propulsion System for Contra-Rotating Propeller Drive <i>Jun-Shin Park; Min-Gwan Gwon; Byoung-Gun Park; Ki-Chang Lee; Yeon-Ho Jeong; Ji-Won Kim</i>	4142
1025	Enhancing EV Charging Efficiency: conversion of bidirectional two-stage on-board chargers to single-stage topologies <i>Wout Vanderwegen; Wilmar Martinez</i>	4146
1026	Impact of Circuit Mismatches and Parasitic Parameters on Paralleling 650-V E-Mode GaN HEMTs <i>Chen Song; Shan Yin; Jinshu Lin; Hui Li</i>	4150
1027	Cross cut heatsink optimization design by applying Conditional Generative Adversarial Network <i>Jiaze Kong; Xiaobing Shen; Ruth Vazquez Sabariego; Wilmar Martinez</i>	4155
1028	A Consideration of Power Distribution Controls for DC-Input Direct Electric-Power Converter D-EPC <i>Seiryu Yoshii; Kantaro Yoshimoto</i>	4161
1029	A Consideration of a Mini Model Suitable for a Small Motor Evaluated on a Driving Cycle <i>Mikya Itagaki; Kantaro Yoshimoto</i>	4167
1031	Fixed-frequency Dual PWM Interleaved Boost LLC Resonant Converter for A Wide Input Voltage for Photovoltaic Applications <i>Yu Zuo; Xiaobing Shen; Bangli Du; Diego Bernal Cobaleda; Hans Wouters; Wilmar Martinez</i>	4172
1032	A Study of Output Voltage Control without Current Sensor for DC-DC Converters with Rapid Load Variation <i>Taishi Nakajima; Kantaro Yoshimoto</i>	4178
1033	New Flux Principle Topology of Single-Phase Generator with Ring Winding <i>Xue Yu; Zhiwei Ma; Xuyang Liu; Weiwei Geng</i>	4182

1034	Comparison of Battery Degradation and Power Losses Under Different SoC Balancing Methods in Cascaded H-Bridge Converter-based BESS <i>Enrique Nunes Di Pierri; Gaowen Liang; Ezequiel Rodriguez Ramos; Glen Farivar; Josep Pou</i>	4188
1035	Regenerative Halbach-motor traction drive powered by an active-damping controlled interleaved Y-inverter <i>Yonghwa Lee; Alberto Castellazzi; Domae Shinichi; Taketsune Nakamura</i>	4194
1036	Fault-Tolerant Control of Dual-Three-Phase PMSM under Open-Phase Fault Based on Two-Individual Current Control <i>Lei Chen; Bodong Li; Xinnan Sun; Feng Jiang; Min Chen</i>	4200
1037	An Interharmonics Mitigation Control Scheme for Discontinuous Conduction Mode Flyback Microinverters <i>Celiang Deng; Jianyu Bao; Cheng Yan; Fan Zhang; Feng Jiang; Min Chen</i>	4205
1038	Power-Hardware-in-the-Loop Emulation of Synchronous Motor with inter-turn short-circuit Fault <i>Jiahua Zhang; Yuanhao Xie; Dong Jiang</i>	4210
1039	SOC Equalization Control Strategy of Energy Storage in DC Microgrid Based on Improved Consensus Algorithm <i>Na Zhi; Yuhang Yang; Shuai Chigan</i>	4215
1040	Research on Active DC Islanding Detection Method Based on Lock-In Amplifier <i>Na Zhi; Jilin Qiu; Yiding Ding</i>	4221
1041	Harmonics Influence Analysis on Current-Oversampling-based Position Estimation under Multi-mode PWM for IPMSM Sensorless Drives in Rail Transit Applications <i>Hang Zhang; Yukun Lei; Yanqing Zhang</i>	4227
1042	Implementation of Real-Time Parameter Estimation for PMSM Using 10 MHz Multisampling Deadbeat Control with Composite Vector of PWM Pulses <i>Kakeru Innami; Daisuke Hiroe; Xiaohan Zhang; Kantaro Yoshimoto; Tomoki Yokoyama</i>	4233
1043	Time-Domain-Based Phase-Shift Control Strategy for LLC Converters in EV Charger with Small DC-Link Capacitance <i>Kaihong Cao; Xiyuan Shi; Jingke Cai; Junzhong Xu; Yong Wang</i>	4239
1046	3-phase 1kW sinusoidally-modulated 1MHz-switching GaN power converter for non-resonant WPT applications <i>Yutaro Sakuraba; Yonghwa Lee; Onishi Soichi; Alberto Castellazzi</i>	4244
1048	Impedance Modeling and Small Signal Stability Analysis of the Cascaded AC/DC Converter <i>Sicong Jin; Xin Zhang; Dehong Xu</i>	4250
1049	Online Inductance Identification Based on Cross Back Electromotive Force Compensation of PMSM <i>Shaobo Liu; Qiwei Wang; Gaolin Wang; Dawei Ding; Binxing Li; Guoqiang Zhang; Dianguo Xu</i>	4256

1051	Phase Delay Analysis of SP-SECE for Piezoelectric Vibration Energy Harvesting and Optimization <i>Xinyue Lv; Han Peng; Junhao Lei; Yidong Zhao; Yuyao Yan</i>	4261
1052	Dynamic Inertia Modeling and Evaluation of MMC-HVDC with Virtual Inertia Control <i>Zheyu Li; Xiaoyu Li; Yingying Zhao; Kun Li; Donghai Zhu; Xudong Zou</i>	4267
1055	SiC MOSFET Degradation Monitoring based on Source Inductance Voltage <i>Jiahong Liu; Bo Yao; Xing Wei; Yichi Zhang; Zhihao Lin; Huai Wang</i>	4273
1057	Establishment of degradation model and transfer model for P-channel power MOSFET under negative bias temperature stress <i>Cen Chen; Haodong Wang; Haonan Yin; Wei Zheng; Guofu Zhai</i>	4280
1058	Distributed Energy Coordination Control for Battery Storage Systems in a DC Microgrid <i>Zhiwu Huang; Jijian Hu; Ren Zhu; Yang Gao; Heng Li; Bin Chen</i>	4285
1059	The Packaging Design of the 3.6kV Integrated SiC MOSFET Power Module <i>Jianing Wang; Donglei Zhang; Shaolin Yu; Shuang Zhao; Nan Zhu; Pinpin Chai; Abel Luo</i>	4291
1060	Impedance Modeling and Optimization Method for Inductor Based on Information Criterion <i>Runquan Jiang; Yi Yu; Xuejun Pei</i>	4298
1061	An Asymmetric Modulation Strategy for a Single-Phase Single-Stage AC-DC Converter <i>Xingxing Chen; Di Mou; Junwei Liu; Qingchao Song; Chi Shing Wong; Ka-Hong Loo</i>	4304
1062	Design and Experimental Verification of an Oil-Cooled Medium-Frequency Transformer for a 250kW Half-Bridge Series Resonant Converter <i>Siqi Lin; Daniel Haake; Anton Gorodnichev; Jens Friebe</i>	4309
1063	Induction Motor Transient Torque Output Predicting Method Based on LSTM and Self-Attention Mechanism Abstract— Calculation of transient and steady state electromagnetic torque for high-speed induction machines faces the challenge of reducing the heavy c <i>Haiwei Cai; Rui Qian</i>	4315
1064	A Symmetrical Hybrid Five-Level Inverter for High-Speed PMSM Drive <i>Pengfei Xie; Zunmin Ma; Nianzhou Liu; Jupeng Pang; Kui Wang; Yongdong Li</i>	4321
1065	Proactive Learning Renewable Energy Management Strategy for Isolated DC Microgrid <i>Fei Li; Jiangpeng Wu; Ren Zhu; Jieqi Rong; Zini Wang; Heng Li; Rui Zhang</i>	4327
1066	Soft Start-Up Scheme of Dual Active Half-Bridge Converter for Mitigating Dead Time Effects <i>Gun-Su Kim; Hyeon-Sik Kim</i>	4333
1068	2D Loop Coils based Magnetic-field FoCusing (MFC) by Machine Learning <i>Jinhyuk Jang; Eunsoo Lee</i>	4339

1069	Control strategy of grid-tied converter considering negative-sequence voltage of PCC under unbalanced voltages <i>Jaehoon Choi; Yongsug Suh</i>	4344
1070	Curriculum Learning Receding Horizon Energy Management for Quadruped Robot <i>Zhiwu Huang; Zixuan Wang; Ren Zhu; Yunsheng Fan; Zi Yu; Fu Jiang; Weirong Liu</i>	4349
1072	Fixed Frequency Model Predictive Control of a Five-level Flying Capacitor Converters with Reduced Voltage Ripple <i>Yongxing Yang; Min Zhang; Ke Shen; Dan Zhao</i>	4354
1073	An On-State Resistance Monitoring Method of T-type Three-Level Inverters <i>Qi Zhao; Min Zhang; Ke Shen; Dan Zhao</i>	4359
1074	A Common-mode Voltage Fluctuation Reduction Method and Topology for Triple Active Bridge DC-DC Converter <i>Kaixuan Gao; Ke Shen; Guangzhao Luo; Dan Zhao</i>	4364
1075	Instantaneous Optimal Zero-Sequence Voltage Injection of Modular Multilevel Converter for Maximum Output Voltage Synthesis <i>Sanggi Ko; Seung-Ki Sul; Shenghui Cui</i>	4369
1077	Eigenvector of Gram-Matrix based Fault Diagnosis Method for Three Phase Inverter <i>Yang Zhou; Jin Zhao; Yang Liu; Lijun Sun</i>	4374
1078	AI-Enabled Cooperative Control for DC Microgrids of Battery Storage System <i>Fei Li; Weifei Tu; Ren Zhu; Hongjiang He; Yingze Yang; Feng Zhou; Heng Li</i>	4380
1079	Research on Phase-Shifted Full-Bridge ZVS DC-DC Converter with Multi-pulsed Load. <i>Samson Legesse Mekonnen; Gongrui Yang; Bo Qu; Yusheng Peng; Mohammad Hamed Patmal; Ping Yang</i>	4385
1080	A Multi-relay Simultaneous Wireless Power and Data Transfer System With 100-kbps Communication Link <i>Shimin Zhou; Yueshi Guan; Jiachao Zong; Yijie Wang; Dianguo Xu</i>	4391
1081	Analysis and design of a novel isolated SEPIC converter <i>Jingbo Cui; Yueshi Guan; Yi Cheng; Yijie Wang; Dianguo Xu</i>	4397
1082	Lithium-ion battery application time series data augmentation based on generative adversarial network for training deep learning algorithm <i>Miyoung Lee; Jonghoon Kim</i>	4403
1083	Dynamic Evolution Control Method for Isolated Half-Bridge Three-Level DC/DC Converter <i>Wei Zhou; Bin Fu; Jiang You</i>	4409
1084	Research on the Control Method of Space Motor Considering Compensation of Parameter Perturbation <i>Xiaofeng Ding; Yufei Dong</i>	4414
1085	Application and Benefit Analysis of Guard Ring Methods in Reducing the Maximum Electric Field of Half Bridge Power Module	4420

	<i>Yuan Gao; Stig Munk-Nielsen; Hongbo Zhao; Stefan Meyer; Thore Stig Aunsborg</i>	
1088	Preconditioning for Accurate Threshold Voltage Extraction of SiC MOSFETs after AC Bias Temperature Instability in Reliability Tests <i>Cen Chen; Zicheng Wang; Ruyue Zhang; Yifan Hu; Xiaosheng Zhang; Yanchen Pan; Yaokang Lai; Jiangyuan Du</i>	4426
1089	Tertiary Coil Design of Wireless Electric Vehicle for Large Misalignment Tolerance <i>Ki Hyun Pyo; Jae Joon Kim; Eun Soo Lee</i>	4431
1092	Multi-Output Physical-Informed Neural Networks Based Impedance Identification of Buck Converter in More Electric Aircraft Power Systems <i>Yujia Cao; Min Zhang; Ke Shen; Dan Zhao</i>	4437
1093	Design and Analysis of a High-Speed PMSG with Litz Wire Winding Technology <i>Chengwei Gan; Minchen Zhu; Rongdeng Li²; Bin Lu</i>	4442
1094	A Current Limiting Method with Sequence-Separated Control Strategy for Modular Inverter System under Asymmetrical Short Circuit Faults <i>Chang Xu; Jiuqing Cai; Fang Wu; Dewang Hu; Zihao Lu; Jingyi Liao; Jinwu Gong; Shangzhi Pan</i>	4448
1096	A Push-Pull DAB DCX Converter with Dual Coupled Inductors achieving full load range ZVS <i>Mingjin Zhang; Guo Xu; Liting Li; Yaohui Qu; Zhengmei Lu</i>	4454
1097	Variable DC-link Voltage Control Strategy for Starter Motor <i>Mingkuang Huang; Hongwei Ma; Congzhe Gao; Junliang Chen</i>	4458
1098	High Performance Dynamic Voltage Restorer with Harmonic Compensation Capability <i>Ancheng Liu; Jun-Jae An; Hyeon-Uk Go; Min-Seong Kim; Sung-Jun Park</i>	4464
1099	Power-Hardware-in-the-Loop Motor Emulator under Four-Quadrant Operation Condition <i>Gengchen Zhang; Hong Guo; Jinqian Xu; Wenbo Jin; Jianqiao Dong</i>	4469
1100	Research on Harmonic Weakening Modulation of Railway Power Conditioner under High Double-Frequency Ripple of DC Side Voltage <i>Pei Luo; Ming Luo; Zhenxi Li; Hongyan Peng; Yi Wu; Xing Gao</i>	4475
1101	A Robust Data-driven Fault Diagnosis Framework for Traction Dual Rectifiers <i>Qingli Deng; Bin Gou; Shuai Zhao; Dong Xie; Xiaoyun Feng; Huai Wang</i>	4481
1102	Quasi-Square-Wave Modulation Considering Dead Zone Compensation for Modular Multilevel DC-DC Converters <i>Long Xu; Jing Sheng; Xin Xiang; Heya Yang</i>	4487
1103	Fault Diagnosis of a Rotating Rectifier in a Three-Stage Starter–Generator based on the Main Exciter Stator Currents <i>Shoucheng Li; Chenghao Sun; Wenjing Xu; Xinyu Li; Kele Qian; Shuye Ding; Yangwu Xu</i>	4492
1104	A Study of Pulse Density Modulation to GaN Y-Inverter <i>Prakash Gautam; Yonghwa Lee; Ryo Takahashi; Alberto Castellazzi</i>	4498

1105	An Accurate and Universal Time Domain Model for Different Resonant Converters by Considering Non-ideal Effects <i>Ziang Li; Yuqi Wei; Shuo Zhang; Jinjun Liu; Alan Mantooth; Marco Liserre</i>	4504
1107	A 3D-SVM Algorithm for Three-Phase Four-Leg Four-Wire Three-Level Inverter <i>Heng Chu; Yan Zhang; Chaomin Xiao; Jinjun Liu; Fan Zhang; Shenghui Gu</i>	4510
1108	Characterization and failure mechanism study of Ohmic gate GaN HEMT under overcurrent stress <i>Xi Jiang; Jing Chen; Song Yuan; Zhaoheng Yan; Xiaowu Gong; Zhenjiang Pang; Lei Wen; Xiaosong Bu; Haimin Hong</i>	4516
1109	A Simplified Quadrangle Control Strategy for Four-Switch Buck-Boost Converter <i>Zhuyong Fu; Fang Li; Fengxiang Zhang; Yajing Zhang; Jun Xu; Mingkong Qiu</i>	4522
1110	A Data-Driven Condition Monitoring Method for Capacitor in Modular Multilevel Converter (MMC) <i>Shuyu Ou; Mahyar Hassanifar; Martin Votava; Marius Langwasser; Marco Liserre; Subham Sahoo; Ariya Sangwongwanich; Frede Blaabjerg</i>	4528
1111	A Multi-Objective Orderly Charging Strategy for Electric Vehicles Considering Continuous State <i>Qiqi Ren; Tong Liu; Alian Chen</i>	4536
1112	LS-SVM based capacitor anomaly identification method <i>Chunlin Lv; Yuxi Deng; Jinjun Liu; Xiaotong Zhang; Yan Zhang; Fei Chang</i>	4542
1113	Electric submersible pump equivalent circuit system analysis <i>Xuanxi Liu; Byungju Bae; Younghoon Cho; Hanyoung Bu; Choiseung Cheol; Hongchan Ook</i>	4547
1114	Study on speed loop improvement strategy based on the fusion of repetitive controller and negative feedback <i>Xiao Wang; Xusheng Wu; Xi Xiao</i>	4553
1115	Modified Dynamic Time Domain Model for LLC Resonant Converter by Considering Parasitics and Various Modulation Strategies <i>Shuo Zhang; Yuqi Wei; Ziang Li; Jinjun Liu; Alan Mantooth; Marco Liserre</i>	4559
1116	A Lightweight Self-Powered Module Based on Magnetic Energy Harvesting for Transmission Line Remotely Sensing <i>Yidong Zhao; Han Peng; Hongfei Xiao; Liwen Hou; Yuyao Yan; Weiming Chen; Chao Li</i>	4565
1117	Power Decoupling Method for Droop Control Inverters Based on Voltage Compensation <i>Pengcheng Wang; Jianyu Bao; Cheng Yan; Jiahui Wang; Feng Jiang; Min Chen</i>	4572
1121	FEM-based aging modeling of Al-Caps with the consideration of electrolyte changes <i>Siyi Zhu; Zhaoyang Zhao</i>	4578
1123	Online Monitoring System of Power Semiconductor Devices Based on Frequency Domain Thermal Impedance and On-State Voltage Drop	4584

	<i>Shuangzhe Chen; Siyu Cao; Ke Ma</i>	
1124	Online multi-fault detection and isolation for battery systems using improved model-based and signal processing methods <i>Kai Zhang; Xiaosong Hu; Arash Khalatbarisoltani</i>	4589
1125	Modeling of Small-Signal Impedance for DC Microgrids with Distributed Hierarchical Control <i>Tao Hong; Sucheng Liu; Taohu Zhou; Long Li; Qianjin Zhang; Xiaodong Liu</i>	4593
1126	A Novel Grid-Forming Control Strategy for Two-Stage PV Systems with Improved Power Output Capability <i>Ziwen Zhao; Ronghui An; Jinjun Liu; Zhiheng Huang; Hongwei Zhou; Dapeng Lu</i>	4599
1127	Comparisons of Dynamic Characteristics between Grid-Forming and Grid-Following Converters <i>Yunzhuo Wei; Jia Liu; Liangli Xiong; Zhi Chen; Jinjun Liu; Li You; Gang Han</i>	4604
1130	Investigating the Impact of Sensor Placement on the Stability of Power Hardware-in-the-Loop with a Grid-Following Inverter as Hardware-under-Test <i>Fargah Ashrafidehkordi; Giovanni De Carne</i>	4611
1131	A novel LC-N resonant topology for strongly-coupled wireless power transfer system <i>Shuai Ren; Beibei Song; Shumei Cui; Shuai Dong; Shiwei Shi</i>	4617
1132	A Frequency Feedforward Strategy for the Grid-Forming Inverter <i>Hongwei Zhou; Xu Yang; Jiansong Zhang; Dapeng Lu</i>	4622
1133	Parameter Identification of Underwater Wireless Power Transfer System Based on Adam Optimization Algorithm <i>Huan Wu; Jianwei Zhao; Fangrui Wang; Longlei Bai; Jiang You; Bo Luo</i>	4626
1135	Microgrid Virtual Battery Optimization and Management System Based on Shared Energy Storage <i>Weijian Zhang; Li Di; Jian Zhao; Ling Miao; Xiang He</i>	4631
1136	Novel Single-Stage Isolated Natural Ohmic Mains Behaviour Fixed Voltage Transfer Ratio Three-Phase Rectifier using Monolithic Bidirectional 600 V GaN Transistors <i>Sven Weihe; David Menzi; Jonas Huber; Johann Walter Kolar</i>	4635
1137	The model of Bidirectional CLLC Resonant Converter with Variable Frequency and Single Phase Shifted Control <i>Yiheng Zhang; Kai Qiu; Jiarong Xie; Pengyu Jia</i>	4643
1138	Design Consideration of an Isolated Gate Driver With Discrete Miller Clamp for Parallel Medium-Voltage SiC MOSFET Modules <i>Zhixing Yan; Gao Liu; Nianzun Qi; Morten Rahr Nielsen; Asger Bjørn Jørgensen; Stefan Meyer; Bjørn Rannestad; Michael Møller Bech; Hongbo Zhao; Stig Munk-Nielsen</i>	4649
1139	Thermal characterization of a ceramic baseplate-less 10 kV SiC MOSFET power module <i>Asger Bjørn Jørgensen; Thore Stig Aunsborg; Szymon Beczkowski; Hongbo Zhao</i>	4654

1140	Voltage Injection-Based Fault Diagnosis for Power Devices with Multi-Module Neural Networks <i>Minha Kim; Jeonghwan Kim; Jonghyun Shin; Jaehoon Shim; Jung-Ik Ha</i>	4660
1143	Transient Stability Analysis of Inverters Considering Synchronization and DC Voltage Control Interaction <i>Qi Hu; Qianjin Zhang; Siwei Sun; Dikai Mei; Sucheng Liu; Xiaodong Liu; Wei Fang; Shijing Wang</i>	4666
1145	Maximum Torque Per Ampere Control for IPMSM Drives Based on Virtual Signal Injection with Parameter Change Compensation <i>Maowen Tang; Junyu Zhao; Yong Yu; Dianguo Xu</i>	4672
1146	Integrated Inductor Modeling and Current Balance Control for Multi-phase Interleaved Converter <i>Yu Han; Shanshan Wang; Younghoon Cho</i>	4678
1147	Investigation on reproduction of IGBT die-attach solder degradation with finite element thermal-mechanical simulation <i>Yilei Wei; Xin Yang; Xinlong Wu; Shihan Zhao; Guoyou Liu</i>	4684
1148	Offline Parameter Identification of SPMSM Based on Open Loop Voltage Injection <i>Yuting Wu; Junyu Zhao; Shanshan Gao; Dianguo Xu</i>	4690
1149	Simulation and Experimental Research on the Temperature Rise of Charging Pantograph of Battery-electric Locomotive <i>Yurun Wang; Dafa Jiang; Zhiyuan Liao; Yuan Long; Wei Wang</i>	4696
1150	A Generic Power Loss Calculation Method for Fast Converter Performance Scanning <i>Qinsong Wang; Chushan Li; Abhishek Kumar; Ramesh Bansal; Wuhua Li; Hao Ma</i>	4701
1151	An Improved Calculation for Ohmic Resistance of Round-wire Self-Resonant Coils in High-Frequency Wireless Power Transfer System <i>Lei Zhu; Laili Wang; Chenxu Zhao; Jiaming Shen; Min Wu; Long Pei</i>	4707
1152	Small-Signal State-Space Model for Analyzing Interaction of Voltage Source Converters in AC Networks <i>Arash Joly; Mehdi Savaghebi; Gen Li; Nicolaos Antonio Cutululis</i>	4713
1153	Paralleled Multi-Chip Current Sensing PCB Coils for SiC Power Module <i>Zelong Qu; Peng Sun; Jianshen Qiao; Yumeng Cai; Haoran Zhang; Zhibin Zhao</i>	4719
1154	PM Flux Linkage and Offset Voltage Adaptive Flux Estimation in AC Motor Drives <i>Zhengzhang Yan; Junlei Zhu; Jiahao Chen</i>	4724
1155	An Improved SOC Balancing Control Strategy for Cascaded H-bridge-based Battery Energy Storage System Under Unbalanced Grid Conditions <i>Jiaxuan Lu; Shunquan Hu; Yuqi Shen; Alian Chen</i>	4730
1156	A Comprehensive Analysis of Inductor Current Ripple and Filter Design for Three-phase Three-Level Grid-tie Inverter <i>Jie Jin; Zhe Zhang</i>	4736

1157	Identification of Capacitor Degradation in LCL Filter for Energy Storage Systems Converter	4743
	<i>Yuheng Bu; Da Kang; Xikui Yu; Hanxin Zhang; Wenli Yao</i>	
1159	Distributed Control for Energy Management of Generators and BESS with Reduced Communication in DC Microgrids	4749
	<i>Jiaming Shen; Laili Wang; Lei Zhu</i>	
1160	Research on Carrier-Based Virtual Space Vector Modulation and DC Voltage Offset Compensation Method for Three-Level NPC Inverter	4755
	<i>Zhan Gao; Lixin Wang; Wen Shen; Jingteng Wang; Maolin Song; Xuanqin Wu</i>	
1161	Practical Fine Tuning of Cascaded Loop Control of AC Motors	4761
	<i>Bo Wu; Junlei Zhu; Jiahao Chen</i>	
1162	Investigation into Temperature Dependency on Thermal Characterization of IGBT Modules Based on Structure Function	4767
	<i>Peixin Wu; Xin Yang; Guoyou Liu; Xinlong Wu; Yuesong Wang</i>	
1164	Quick Diagnosis of Open phase Fault for PMSM drive with Model Predictive Control	4772
	<i>Zheng Xu; Xu Huang</i>	
1165	Generic Method for Instantaneous Flux and Current Control of the Single-Phase and Multi-Phase Dual-Active Bridge	4777
	<i>Daniel Von Den Hoff; Rik W. De Doncker</i>	
1166	Adaptive Droop Control Method for Bidirectional Modular Grid-Side Converter	4783
	<i>Jungho Jeon; Paul Jang</i>	
1167	Impact of Submodule Energy Balancing on Grid Emulation Performance of Modular Multilevel Converters	4789
	<i>Ming Jia; Amandus Bach; Jan Mathé; Zhan Ma; Daniel Von Den Hoff; Rik W. De Doncker</i>	
1169	Asymmetric Modulated Predictive Current Control for Dual Three-Phase PMSM With Improved Performance	4795
	<i>Ze Li; Xingyu Zheng; Jinhui Xia; Hangan Liu; Xiaonan Gao; Jose Rodriguez; Liling Wang; Zhaoyan Zhang; Zhiheng Liu</i>	
1170	Cooperative Energy Management Method for Plug-In Hybrid Electric Vehicles Considering Interaction with Speed Planning Optimization	4801
	<i>Zhiwu Huang; Xiaokang Dai; Ren Zhu; Boyu Shu; Xiaoyong Zhang; Hui Peng</i>	
1171	Comparison and analysis of the DTVV-MPC strategy and FOC strategy for the PMSM considering the inverter dead time	4806
	<i>Depeng Zeng; Zunheng Wang; Yueru Ren; Pengyu Gao; Kai Guo</i>	
1172	Smooth AC Fault Ride-Through Control Technique for Offshore Wind VSC-HVDC System Based on AIED-SM	4811
	<i>Zhaopei Liang; Min Chen; Song Tang; Guannan Zhu; Chenghao Zhang; Yaoyu Zhang</i>	
1174	A New Solution for Frequency Response Measurement in Power Electronics Systems: A Compressed Sensing Approach	4817
	<i>Zipeng Liu; Zeng Liu; Jinjun Liu</i>	

1175	SiC MOSFET Full Junction Temperature Estimation Modeling Method Based on Data Driving <i>Wenjun Wu; Xi Chen</i>	4823
1176	Design Considerations for Magnetic Coupling in Multi-phase Interleaved Boost Converter for Fuel Cell Application <i>Xiao Yu; Mahmoud Saeidi; Jens Friebe; Peter Zacharias</i>	4829
1177	A General Current Limiting Strategy of Grid-Forming Converters Based on Adaptive Virtual Impedance Regulated by Fuzzy PI Control <i>Qi Jia; Jia Liu; Jinjun Liu; Jin Xu</i>	4836
1178	A Review of envelope optimization methods of the Soft-switching Resonant Inverter <i>Ya Jing Zhang; Xin Yu Ao; Xue Cong Wei; Huan Chen Zhang; Jian Guo Li; Long Yang Zhang; Hong Li</i>	4842
1179	Electromagnetic Scattering Effect in Gate Driver Circuit of MMC sub-module <i>Yuyao Yan; Han Peng; Qiaozhi Yue; Shijie Song; Manbo Wang; Xinyue Lv; Yidong Zhao</i>	4847
1180	An Improved Genetic Algorithm for Hybrid Magnetic Core Design in Electric Vehicle Wireless Charging Applications <i>Sicheng Wang; Yaohua Li; Yue Wu; Yongbin Jiang; Delin Zhao; Yi Tang</i>	4853
1181	A Startup Strategy for the Parallel-type All-DC Offshore Wind Power System <i>Bobo Zhang; Jinyu Wang; Xiaoyan Tian; Min Ai; Qijian Liu; Changyue Zou</i>	4859
1183	Transient Stability Enhancement of Grid-Forming Converter in an Islanded AC Microgrid <i>Yawen Ding; Fei Gao; Kai Hou; Yingwei Jiang; Qiang Gao</i>	4865
1186	Topological Comparison of Three-Level Inverters for Medium-Voltage Contactless Power Transfer <i>Isaac Wong; Subhashish Bhattacharya</i>	4870
1188	A proactive operating strategy for Microgrid resilience enhanced for weather-induced outage events <i>Yichao Zhang; Amjad Anvari-Moghaddam; Saeed Peyghami; Yuan Li; Tomislav Dragičević; Frede Blaabjerg</i>	4877
1189	Simulation Analysis of Electrical Vehicle's Remaining Discharge Energy Based on Driving Profile Prediction <i>Lishuai Miao; Weiji Han</i>	4883
1191	A Multi-Objective Optimized Control Method for Dual Three-Phase Synchronous Motor with Open-Circuit Fault <i>Jie Zhang; Fei Yao; Enze Chen; Jie Xing</i>	4889
1194	A Novel Trapezoidal Current Mode for Realizing Zero-Voltage Switching in Three-Level DC-DC Converters <i>Zhigang Yao; Xinyu He; Ziheng Xiao; Fei Deng; Weirong Chen; Yi Tang</i>	4894

1195	Considering the global optimization design of a permanent magnet synchronous motor with stator iron core saturation <i>Heming Yang; Manfeng Dou; Zhiguang Hua; Dongdong Zhao; Mengxi Dang</i>	4900
1197	A 3-D Thermal Network Model for IGBT Modules Considering Temperature Dependence of Heat Dissipation and Thermal Coupling <i>Xiaotong Zhang; Xiangqian Tong; Chunlin Lv; Shengwei Du; Kai Chen; Kangning Wu; Jianying Li</i>	4906
1198	A Combined Deadbeat Predictive and Repetitive Control method for the Single- / Three-Phase AC-DC converter in Charging System for EVs <i>Yuxuan Bi; Chao Wu; Junzhong Xu; Junyu Luo; Guohua Shu; Yong Wang</i>	4911
1199	A Phase Change Material Based Silicon Carbide Power Module Packaging <i>Mohammad Dehan Rahman; Xiaoqing Song</i>	4916
1200	New Phase Current Balancing Control for a Cryogenic Ultra-Low-Loss Bidirectional Multi-Phase Full-Bridge DC-DC Step-Down Converter <i>Mücahid Akbas; Daifei Zhang; Johann Kolar; Jonas Huber</i>	4921
1201	Direct AC/AC voltage regulator using a 2-level modulated cascaded H-bridges converter <i>Rui Wang; Henk Huisman; Maurice Roes</i>	4929
1202	Grid Impedance Shaping for Grid-Forming Inverters: A Soft Actor-Critic Deep Reinforcement Learning Algorithm <i>Arman Oshnoei; Hoda Sorouri; Soroush Oshnoei; Remus Teodorescu; Frede Blaabjerg</i>	4935
1203	Designing Series-capacitor Quadratic Buck Converter <i>Guanlin Li; Xiaoyang Guo; Fangyuan Xiong; Xiyu Chen; Mahshid Amirabadi; Brad Lehman</i>	4940
1205	Combing physics-based thermal model and machine learning for battery temperature estimation: The impact of model accuracy <i>Yusheng Zheng; Yunhong Che; Xin Sui; Remus Teodorescu</i>	4946
1206	A Review of Power Electronics Converter in Hydrogen Fuel Cell Applications <i>Mohammad Dehan Rahman; Xiaoqing Song</i>	4952
1207	3-Bridge LLC DC-DC Converter with Notch Filter for Wide Output Voltage Control <i>Kyung Su Park; Taeran Kim; Eunsoo Kim; Yong-Seog Jeon</i>	4959
1210	Dynamic and Coordinated Control of a DC Microgrid Integrated with High-Temperature PEM Fuel Cell and High-Percentage of Renewable Energy <i>Peilin Xie; Sen Tan; Vincenzo Liso; Simon Lennart Sahlén</i>	4965
1212	EMI Noise Source Modeling Method Considering the Accurate Model of the Voltage Probe Based on CISPR25 Conducted EMI Testing <i>Wenzhe Su; Hong Li; Xueyang Liu; Changlin Ji</i>	4971
1214	Grid Impedance Estimation and Decoupling through a Series-Parallel Direct-Injection Soft Open Point <i>Mowei Lu; Wei Mu; Mengjie Qin; Jingyang Fang; Stefan Goetz</i>	4975

1215	Fixed-Switching Frequency Model Predictive Current Control: Closed-Form Solution in the Stationary Reference Frame <i>Erik Colavitto; Riccardo Breda; Sandro Calligaro; Daniele Casagrande; Roberto Petrella</i>	4980
1216	Full-Range Non-Linear Adaptive Flux-Weakening Control for IPM and SynRM Drives Including MTPV <i>Matteo Beligoj; Sandro Calligaro; Roberto Petrella</i>	4986
1217	Stability Analysis of Grid-forming and Grid-following VSCs in Parallel Connected to Weak Grid <i>Zheng Fang; Yunhui Huang; Wenbo Yan; Zhenyu He; Dong Wang; Bingyu Xiong; Qingqing He; Kelian Zhou</i>	4992
1218	Suppression of Zero-Sequence Circulating Current for Paralleled T-Type Inverters based on Modified Double-Reference PWM <i>Zihao Lu; Jinwu Gong; Chang Xu; Kemin Dai; Zisen Lin; Heng Lin; Bing Yang; Xiaoming Zha</i>	4997
1219	Stability Analysis of Grid-Forming VSC Connected to Low Impedance Grid <i>Wenbo Yan; Yunhui Huang; Zheng Fang; Dong Wang; Zhenyu He; Jinrui Tang; Xin Yin; Kelian Zhou</i>	5003
1222	Wireless Power Transmission Excitation Systems for Electrically Excited Motors: Comparison of Magnetic Coupler Topologies <i>Beibei Song; Shiwei Shi; Shumei Cui; Shuai Dong; Qianfan Zhang; Shuai Ren</i>	5009
1223	Gate Driver Layout Design for DAB Converter with Two Parallel SiC MOSFETs <i>Ning Xie1; Wei Zhao; Wenzhi Lin; Zhenglei Wang; Yu Wang; Jianfei Chen</i>	5014
1224	Thermal resistance measurement and failure analysis of Multi-discrete SiC MOSFET System Module <i>Yichao Ji; Jianing Wang; Shaolin Yu; Donglei Zhang; Zhaoyang Wei</i>	5018
1226	An Improved Superimposed Frequency Method for Power Sharing and Voltage Regulation in DC Microgrids <i>Pu Zhao; Jinjun Liu; Yu Shao</i>	5025
1227	Adaptive Power Control Strategy of Grid-Forming Converters For Transient Stability Enhancement <i>Chenhang Xu; Zhixiang Zou; Shuai Yuan; Jiajun Xie; Zheng Wang</i>	5031
1228	Electro-Thermal Coupling Characteristics and Modeling of SiC MOSFET Modules under High Pulse Current Conditions <i>Zaojun Ma; Yunqing Pei; Laili Wang; Qingshou Yang; Tongyu Zhang; Haihua Wang</i>	5037
1229	Short Time-scale Analysis of Dead-time Effect in Dual Active Half-Bridge Converter <i>Su-Bin Kang; Hyeon-Sik Kim</i>	5043
1230	Velocity Disturbance Rejection Control of High-Speed Linear Induction Motor Based on Rolling Prediction Matrix <i>Xinyu Jiang; Fei Xu; Zixin Li; Yaohua Li; Liming Shi; Fanqiang Gao; Cong Zhao</i>	5049

1232	Direct Leakage Current Control Method of Single-Phase Non-Isolated EV Charger <i>Juwon Lee; Dongsu Lee; Seongil Lee; Jung-Ik Ha</i>	5053
1234	Input impedance modeling of dual active bridge converter based on peak current control <i>Tian Wang; Shi Zhanghai; Yang Qirui</i>	5059
1236	An Optimal Sequence Small-AC-Signal Injection Based Reactive Power Sharing Method for Parallel Grid-Forming Inverters in Islanded Microgrids with Harmonic Loads <i>Jiayu Shang; Zeng Liu; Xiaochen Wu; Yidong Shi; Wenchen Wang; Jinjun Liu; Qingbin Wang</i>	5064
1237	A Novel Multilevel Current Source Actively Commuted Converter For High Voltage DC Transmission <i>Hang Zhang; Zixin Li; Cong Zhao; Fanqiang Gao; Fei Xu; Zhen Li; Yaohua Li</i>	5070
1238	Online Parameter Tuning Method of Multi-Resonant Controllers for Grid-Forming Inverters <i>Zhengyang Zhou; Zeng Liu; Pengcheng Han; Xinghai Geng; Jinjun Liu; Qingbin Wang</i>	5075
1239	Towards Automated Design and Manufacturing of Power Electronics and Electric Machines through Virtual Prototyping and Advanced Manufacturing <i>Xibo Yuan; Chang Jiang</i>	5081
1240	Research on Model Predictive Control Method for Dual Active Bridge Based on Data-driven Predictive Model <i>Yuzong Wang; Guohui Zeng; Xiyu Luan; Jiangbin Tian; Jinbin Zhao; Xiangchen Zhu; Zhenhua Zhang</i>	5089
1241	An Energy Predictive Control Strategy for Permanent Magnet Synchronous Motors <i>Qiang Zhang; Hang Su</i>	5093
1242	A Self-Tuning Method of PI Controllers for DC/AC Inverters Based on Energy Balance Algorithm <i>Qiang Zhang; Yiming Huo</i>	5099
1243	Calibration and Thermal Characterization of Multi-Chip SiC Power Modules: Challenges and Approaches <i>Mahmoud Saeidi; Jens Friebe; Peter Zacharias</i>	5105
1245	Realization of an Online Junction Temperature Monitoring Scheme of SiC MOSFET Based on On-state Voltage Drop <i>Gengle Liang; Huimin Wang; Xinglai Ge; Yi Wang</i>	5109
1246	An Improved Power Supply Switching Method of Segmented Long Primary Linear Motors for High-Speed Applications <i>Cong Zhao; Zixin Li; Fanqiang Gao; Fei Xu; Hang Zhang; Yanfei Li; Yaohua Li</i>	5115
1247	Research on Current Stress Optimization for Dual Active Bridge Converters <i>Minxin Lin; Daniel Legrand Mon-Nzongo; Paul Gistain Ipoum-Ngome</i>	5120
1248	AI for Smart Battery State Estimation: A perspective	5126

Xin Sui; Yunhong Che; Nicolai André Weinreich; Yusheng Zheng; Shan He; Remus Teodorescu

1249

Li-Ion Battery Fast Charging Methods: Review and Comparison

5131

Reyyan Ahmad Khan; Grbović Petar; Giuseppe Defalco; Roberto Petrella