

# 《电工电能新技术》2019年题目索引 (2019 Index)

(第38卷 Vol. 38, 总第187-198期 Issue 187-198)

总期号 首页

## 基于电力电子变压器的交直流混合可再生能源集成技术专题

基于电力电子变压器的交直流混合可再生能源关键技术 .....	吴争,孔力,袁晓冬,张释中,等	188	1
单相电力电子变压器中串联谐振型双有源桥电流特性分析 .....	张航,李耀华,高范强,李子欣,等	188	11
基于神经网络的三端口 DC-DC 变换器解耦控制策略 .....	宋家康,彭勇刚,王晓明,年珩	188	20
多电力电子变压器协调控制及不间断供电研究 .....	李鲁阳,范士雄,邓卫,刘幸蔚,等	188	27
基于电力电子变压器的交直流混合配电网功率-电压协调控制 .....	刘向龙,刘友波,张宸宇,陈亮,等	188	35
含电力电子变压器的交直流混合分布式能源系统日前优化调度 .....	郭世琦,穆云飞,陈乃仕,蒲天骄,等	188	44
基于网络重构与 SNOP 协调控制的交直流混合高压配电网阻塞管控模型 .....	黄强,袁晓冬,张曦,刘向龙,等	188	52
含分布式电源的多电压等级交直流混合配用电测试系统 .....	程林,田立亭,葛贤军,刘满君,等	188	60
计及电力电子变压器的交直流混合配电网能效评估 .....	洪澜,彭勇刚,李悦,年珩,等	188	72
基于 SiC 器件的集散式光伏发电系统损耗模型与分析 .....	张学,庞云亭,邱格,张国驹,等	188	80
电力电子变压器在风力发电系统中的应用研究综述 .....	关金萍,徐永海	188	88

## 追忆韩朔先生

深切怀念韩朔先生 .....	林良真	191	1
韩朔同志生平 .....		191	2
纪念我的导师韩朔先生 .....	郑效慈	191	4

## 中国电源学会电气女科学家论坛专题

大功率忆阻器的实现方法及应用 .....	陈艳峰,丘东元,张波,袁昌海,等	191	5
具有快速动态响应的大功率脉冲负载电源设计与实现 .....	朱泽宇,杨平,曹琎,刘晁瑞,等	191	13
DC-DC 变换器分数阶 PI <sup>A</sup> 控制与稳定性分析研究 .....	张晓超,李虹,苏文哲,张波,等	191	21
一种具有兼容耦合和抗偏移能力的螺旋双 C 型双面线圈的设计与研究 .....	孙祺明,黎文静,罗冰洋,熊松,等	191	32
Buck 型 DC-APF 抑制大功率极低频发射系统间谐波技术研究 .....	孟浩,罗冰洋,刘庆,查明,等	191	43
孤岛模式下多源直流微电网经济运行的协调优化控制策略 .....	董密,张心露,杨建,欧静,等	191	51
基于有源阻尼的单相 LCL 光伏并网逆变器优化控制器设计 .....	董密,欧静,杨建,李亚宁,等	193	1
一种无锁相环动态阻尼的虚拟同步发电机 .....	杜燕,赵韩广,张显创,苏建徽,等	193	10
基于加速老化试验 IGBT 性能退化特征参量的可靠性评估 .....	曾东,孙林,周维维,李小刚,等	193	20
基于卷积神经网络的光伏系统直流串联电弧故障检测 .....	焦治杰,李腾,王莉娜,牟龙华,等	193	29

## 高性能隔离型双向 DC-DC 变换器技术专题

面向储能系统的隔离型双向 DC-DC 变换器分析方法与控制技术综述 .....	孙凯,陈欢,吴红飞	194	1
一种应用于储能系统的两级式直流变换器拓扑与设计 .....	孔玮,屈克庆,孙凯,林翔,等	194	10
一种带有辅助 LC 网络的输出串联双有源桥变换电路的分析 .....	钟洪亮,郭志强	194	19
基于动态矩阵控制的双有源桥变换器的动态特性研究 .....	张佳劲,王学梅,张波,桑亚雷	194	27
双向串联谐振变换器的定频 PWM 控制策略研究 .....	余致远,许晓晖,吴红飞,花文敏,等	194	36
面向中压交直流配电网的高频链直流固态变换器损耗模型和分析 .....	张学,裴玮,孔力,庞云亭,等	194	43

## 储能应用专刊

储能的度电成本和里程成本分析 .....	何颖源,陈永翀,刘勇,刘昊,等	195	1
----------------------	-----------------	-----	---

考虑相关性的离网型风储微网中储能容量配置方法	朱永强,张 泉,刘 康,张 璐	195	11
考虑动态载流特性的风电场储能优化配置	张成炜,张锶恒,刘泽槐	195	17
配电网移动储能优化配置研究	蔡博戎,凌开元,姜 华,周 洁,等	195	26
蓄电池-超级电容混合储能系统性能优化	柴秀慧,张纯江,柴建国,李 艳,等	195	33
电转甲烷储能技术的研究进展	闫存极,李 鑫,窦立广,张 东,等	195	42
光伏储能电站的经济性分析	冯晓丽	195	52
锂浆液电池正极集流体表面改性研究(英文)	田雪沁,冯彩梅,江 涵,马实一,等	195	59
压缩空气储能系统性能分析研究	刘明义,朱 勇,曹传钊,曹 曦,等	195	67
钒液流电池的综合建模研究	常志松,王志强,袁铁江,王 茜,等	195	73

### 专家论坛

电磁波在真空中的衰变与宇宙学红移	肖立业,伍 岳	190	1
电磁波在真空中的散射及对星际消光的影响	肖立业,伍 岳,林良真	192	1

### 论文报告

基于优化原子分解的含频谱干涉谐波/间谐波检测算法	董海艳,贾清泉,刘 楚,崔志强	187	1
基于 GPU 的电磁暂态并行仿真研究	姚蜀军,韩民晓,张 硕,林芝茂,等	187	10
基于灰色关联分析法的电力系统隐蔽性数据攻击检测新方法	苑开波,罗萍萍,王高猛,金冬鸣,等	187	17
基于节点-线路关联度权重的配电网电能质量评估方法	吴 杰,席晓林,闫晓安,孙黎明,等	187	24
主动配电网短期负荷预测研究	管 鑫,刘会家,张 振,陈 波,等	187	31
基于电阻型高温超导故障限流器的双馈风电场故障穿越策略研究	宋文峰,王 倩,李亚楠,刘 柳,等	187	39
磁通耦合型饼式线圈短时直流冲击特性研究	刘师卓,夏 东,邱清泉,张志丰,等	187	47
对流条件下架空导线载流-温度分布热路模型构建	董选昌,曲烽瑞,李艳飞,方百里,等	187	54
变压器耐高温型匝间绝缘材料的放电特性研究	赵义焜,张国强,郭润睿,韩 钰,等	189	1
数据驱动的配电开关设备交互式诊断平台	陈国炎,李俊均,陈 颖,梅生伟	189	10
含光伏的低压配电网分布式储能多目标优化配置与运行	何 森,林舜江,李广凯	189	18
基于 MOHSA 的智慧社区能量管理系统优化调度研究	仲海涛,撖奥洋,张智晟	189	28
水轮发电机组抑制超低频振荡的阻尼控制参数优化研究	邓 伟,刘少博,王德林,周 鑫,等	189	38
大规模风电并网无功电压协调控制策略研究	王玉婷,李 鹏	189	47
基于气象参数预测的输电线路输送容量概率模型研究	林世治,温步瀛,张 斌	189	56
基于新型励磁控制的电励磁同步电机飞轮储能系统直接转矩控制	刘 洋	190	5
基于 CKMTOA-KELM 优化 ADRC 的永磁同步电机直接转矩控制	易灵芝,张成董,冯 江	190	13
基于滑模观测器的高速磁浮无传感器控制	孙鹏琨,葛琼璇,张 波,吕晓美	190	22
LCL 并网逆变器双闭环控制策略及其参数设计	梁 毅,谢运祥,关远鹏	190	30
基于 Prony 辨识的 VSC-HVDC 附加次同步阻尼控制器研究	郭抒颖,韩民晓,黄永宁,张汉花,等	190	39
基于驱动电压调节的 IGBT 结温跟踪管控策略及实现	桑亚雷,王学梅,张 波	190	47
计及电池使用寿命的电动汽车充电站储能容量配置方法	李文超,童亦斌,张维戈	190	55
提高风电接纳的储热系统容量优化配置	葛维春,李军徽,马 腾,李家珏,等	190	64
用于次同步振荡抑制的 MMC 的能量补偿控制	韩民晓,翟冬玲,郭抒颖	191	59
基于 SOGI 单相锁相环的列车辅助逆变器并联技术	康成伟,顾诚博,李伟杰,王 伟,等	191	68
无线电能传输系统用屏蔽层结构的研究	李厚基,王春芳,魏芝浩,李 聰	191	74
基于材料变密度法的 MRI 匀场线圈设计	曲洪一,王秋良,王耀辉,秦 朗	191	84
基于损耗统计理论的动态 J-A 磁滞模型	赵 越,李 琳,刘 任,韩 钰,等	191	90
基于容量限幅的三相四线制 DSTATCOM 不平衡补偿策略	赵 荔,魏应冬,姜齐荣,马慧远,等	192	8

MMC-HVDC 简化有限集快速模型预测控制研究	王 杉,谢利理,王海宇	192	16
一种改进的无零矢量共模电压抑制 PWM 策略	周 斌,揭贵生,刘振田,阳习党	192	27
基于 PD-SFO-PWM 的级联 SAPF 直流侧平衡策略	汪玉凤,狄天拓,高之成,叶 青	192	33
规模风电并网条件下储能系统参与辅助调峰服务容量配置优化研究	王海华,陆 冉,曹 炜,冯俞楷,等	192	42
基于储能协调蓄热式电锅炉消纳风电供暖系统的经济性评估	王 锋,李大勇,方劲宇,韩晓娟	192	50
具有极低输入电流纹波的电流源型双有源桥 DC-DC 变换器	倪永亮,沙德尚,王孙博,李晓聪	193	35
不同油流速度下油纸绝缘的局部放电特性研究	粟 茂,李春茂,夏国强,吴晋媛,等	193	47
全桥型模块化多电平换流器损耗简化计算模型研究	杨立敏,王 晖,韩志勇,李文锋,等	194	53
基于 GaN 器件的高功率密度 LLC 谐振变换器的研究	魏小富,陈神炀,朱宏铿,杨 旭,等	194	63
一种适应于两级直流配电系统的光伏直流变换器及控制策略研究	郝利东,潘尚智,蒋建波,宫金武,等	194	71
西南电网利用低谷时段增量电负荷实现弃水电量消纳的交易机制研究	姜 拓,徐 飞,徐瑞林,郝 玲,等	196	1
基于场景聚类分析的综合能源系统鲁棒运行策略	刘志欣,程 林,周 章,万宇翔,等	196	9
控制系统对两端 MMC-HVDC 系统小信号稳定性的影响	王燕宁,郭春义,王 烨	196	20
一种提高变流器效率的无刷直流电机速度控制策略	郑碧凝,李新旻,张国政,史婷娜,等	196	32
内置式永磁同步电机电流相角自适应弱磁控制	李 涛,谷 鑫,李新旻,王志强,等	196	38
单相 PWM 整流器纹波电压前馈控制策略研究	袁义生,毛凯翔,梅相龙,文 午	196	46
波动载荷作用下弓网滑动电接触接触失效研究	张继华,张海洲,陈忠华,回立川,等	196	53
基于小波能量矩的航空交流串联电弧故障识别算法研究	崔芮华,李英男,王传宇,李锋锋	197	1
一种全光纤电流互感器早期故障诊断方法研究	刘占元,牛晓晨,苏 红,陈勉舟,等	197	10
电压暂降源自适应 S 变换辨识模型	付 华,于 田	197	17
双馈-直驱混合风电场次同步振荡影响因素分析	辛建波,舒 展,赵诗萌,程思萌,等	197	24
高速滑动电接触导轨温度场与热应力的仿真分析	郑杜成,徐 蓉,成文凭,赵伟康,等	197	33
电流互感器过量产氢的理化机制与实验研究	姚一鸣,刘 亮,蒋 鑫,曹乃庆,等	197	39
孤岛微电网自适应虚拟阻抗控制策略	叶佳卓,杨 力,伍诗雨,周朝霞,等	198	1
基于有限时间收敛的直流微电网协调控制	孙 勇,刘志君,李振元,李宝聚,等	198	10
基于 NSGA-II 的 ICS 算法微网多目标优化调度	张 军,王红敏,刘廷章	198	19
基于改进型自抗扰控制器的 NPC 三电平逆变器中点平衡策略	姜康宁,易灵芝,胡炎申	198	28
基于 TMS320F28335 的逆变器重复控制系统设计	生 龙,何顺华	198	34
一种软开关电流馈推挽变换器	袁义生,饶景锐,文 午,张伟先	198	40
CuW 和 CuMo 触头在 DC 200~500V 时不同气氛中表面劣化研究	廖 园,焦 琳,刘文轩,冯如信,等	198	47
不同拓扑结构有载分接开关燃弧过程实验分析与研究	宋冬冬,丁来伟,董 彪,范京明,等	198	55

### 综述和述评

谐波责任划分研究现状及在分布式电源并网条件下的展望	王攸然,张 逸,邵振国,黄道姗,等	187	61
新能源汽车用直流母线电容器关键功能材料研究进展	刘光辉,佟 辉,徐 菊,范 涛	189	63
基于阻抗源逆变器的永磁直驱风力发电变流系统综述	程 谦,张 阳,邓木生	192	57
直流配电网故障识别和定位技术研究综述	余修勇,肖立业	193	56
锂离子电池热失控早期预警研究进展	廖正海,张国强	196	61
能源互联网背景下电能替代负荷的应用展望与思考	李洪涛,万宇翔,程 林,郭艳飞	197	46

### 新技术应用

基于经验小波变换的特高压并联电抗器振动信号分析	赵若好,马宏忠,魏 旭,姜 宁,等	187	70
500kW 高温超导发电机负载三相断路故障运行分析	梁 爽,张 东,陈 彪,李秋君,等	187	76
基于相关系数和偏态指标的航空串联电弧故障检测	崔芮华,王 洋,李英男	187	82

动车组与电力机车高频化辅助变流系统主电路研究	孙大南	189	74
连续脉冲电源用超导脉冲变压器设计与试验研究	高晓晶,胡元潮,段志强,周英博,等	189	82
十二相整流发电机系统二极管故障时场路耦合仿真分析	张艳辉,吴新振,郑晓钦,林楠	190	71
MIDC 输电系统后续换相失败的抑制措施研究	文俊,李佳琪,王玲,韩民晓,等	190	79
微米级金刚石颗粒开断 400V 直流电弧的可行性探讨	程显,王华清,葛国伟,杨培远,等	190	89
综合能源并网 CPS 模型及信息化安全防护方案研究	李珂,柴守亮,张超,边海峰,等	192	68
柔性 Metglas/PVDF 磁电层合材料的制备及磁电特性研究	郭欣然,于歆杰,楼国锋	192	74
基于 LLC 单级无桥 PFC 的无频闪 LED 驱动电源	赵金刚,马辉,张超兰,陈曦	192	79
谐振式 WPT 耦合线圈形状设计与参数优化	诸嘉慧,高强,刘齐,范维,等	193	67
考虑光伏和储能的三阶段联合负荷恢复算法	张彤,邹楠,杨广忠,郭金江	193	73
锂离子电容器的建模及参数辨识方法	姜俊杰,陈昕彤,张熊,宋爽,等	196	67
一种新的异步电机离线参数辨识方法	杨景明,杨波,王亚超,李明煜	196	74
内齿形空间电极电流变阻尼器的电场仿真分析	李尧生,窦世磊,徐鲁宁,韩立	197	60
温度对非晶合金卷形铁心磁特性及振动的影响分析	韩天衡,祝丽花,沙瑞,石永恒,等	197	66
纯电动汽车典型无线充电线圈电磁暴露安全评估研究	李海燕,逯迈,董绪伟	197	74
基于并联谐振的双磁路在线取电方法研究	王旭红,胡勘睿,刘星,樊魁铖	198	63

### 行业动态

《电工电能新技术》2018 年度刊登稿件统计结果	188	79
《电工电能新技术》2019 年题目索引	198	I

**2019 Index Vol.38, Issue 187-198**

issue page

**AC/DC Hybrid Renewable Energy Integration Based on Power Electronic Transformer**

Key technology of AC/DC hybrid renewable energy based on power electronic transformer .....	WU Zheng, KONG Li, YUAN Xiao-dong, et al.	188	1
Analysis of current characteristics of series resonant dual active bridge in single-phase power electronic transformer .....	ZHANG Hang, LI Yao-hua, GAO Fan-qiang, et al.	188	11
Decoupling control strategy of three-port DC-DC converter based on neural network .....	SONG Jia-kang, PENG Yong-gang, WANG Xiao-ming, et al.	188	20
Research of coordinate control strategy of power electronic transformer based AC/DC hybrid distribution system .....	LI Lu-yang, FAN Shi-xiong, DENG Wei, et al.	188	27
Coordinating voltage regulation for AC-DC hybrid distribution network with multiple power electronic transformer .....	LIU Xiang-long, LIU You-bo, ZHANG Chen-yu, et al.	188	35
Day-ahead optimal scheduling of AC/DC hybrid distributed energy system with power electronic transformer .....	GUO Shi-qi, MU Yun-fei, CHEN Nai-shi, et al.	188	44
Coordinating SNOP control and AC-line switching for congestion management of hybrid urban grid .....	HANG Qiang, YUAN Xiao-dong, ZHANG Xi, et al.	188	52
Benchmark test system for multi-voltage hybrid AC/DC distribution network integrated with distribution resources .....	CHENG Lin, TIAN Li-ting, GE Xian-Jun, et al.	188	60
Energy efficiency evaluation of AC/DC hybrid distribution network considering power electronic transformers .....	HONG Lan, PENG Yong-gang, LI Yue, et al.	188	72
Loss model and analysis of collecting and distributing photovoltaic power system based on SiC device .....	ZHANG Xue, PANG Yun-ting, QIU Ge, et al.	188	80
Research review of power electronic transformer applications in wind energy conversion systems .....	GUAN Jin-ping, XU Yong-hai	188	88

**Special Issue on Electrical Female Scientists Forum of China Power Supply Society**

Realization approach of high-power memristor and its application .....	CHEN Yan-feng, QIU Dong-yuan, ZHANG Bo, et al.	191	5
Design and implementation of pulsed load power supply with fast dynamic response .....	ZHU Ze-yu, YANG Ping, CAO Jin, et al.	191	13
Study on fractional-order PI <sup>λ</sup> control and stability analysis of DC-DC converter .....	ZHANG Xiao-chao, LI Hong, SU Wen-zhe, et al.	191	21
Design and research of a solenoid double C coil with compatibly coupling diversity coils and large offset tolerance .....	SUN Qi-ming, LI Wen-jing, LUO Bing-yang, et al.	191	32
Research on Buck DC-APF technology for suppression of interharmonics in high power extremely low frequency transmission system .....	MENG Hao, LUO Bing-yang, LIU Qing, et al.	191	43
Coordinated optimization control strategy for economic operation of multi-source DC microgrid in island mode .....	DONG Mi, ZHANG Xin-lu, YANG Jian, et al.	191	51
Optimized controller design for single-phase LCL photovoltaic grid-connected inverter based on active damping .....	DONG Mi, OU Jing, YANG Jian, et al.	193	1
Virtual synchronous generator adopting dynamic damping without frequency detection .....	DU Yan, ZHAO Han-guang, ZHANG Xian-chuang, et al.	193	10
Reliability evaluation of IGBT performance degradation characteristic parameters based on accelerated aging test .....	ZENG Dong, SUN Lin, ZHOU Luo-wei, et al.	193	20

DC series arc-fault detection of photovoltaic system based on convolutional neural network .....	JIAO Zhi-jie, LI Teng, WANG Li-na, et al.	193	29
--	---	-----	----

### **Special Issues for High Performance Isolated Bi-directional DC-DC Converter Technology**

A review of analysis method and control technology for isolated bidirectional DC-DC converter used in energy storage systems .....	SUN Kai, CHEN Huan, WU Hong-fei	194	1
Topology and design of a two-stage DC/DC converter for energy storage system .....	KONG Wei, QU Ke-qing, SUN Kai, et al.	194	10
Analysis of output-series dual active bridge converter with auxiliary LC networks .....	ZHONG Hong-liang, GUO Zhi-qiang	194	19
Dynamic characteristics of dual active bridge converter based on dynamic matrix control .....	ZHANG Jia-jing, WANG Xue-mei, ZHANG Bo, et al.	194	27
Research on PWM strategy with fixed frequency for bidirectional series resonant converter .....	YU Zhi-yuan, XU Xiao-hui, WU Hong-fei, et al.	194	36
Loss model and analysis of high-frequency-link DC solid state converter for medium voltage AC/DC distribution grid .....	ZHANG Xue, PEI Wei, KONG Li, et al.	194	43

### **Special Issue on Energy Storage Applications**

Analysis of cost per kilowatt-hour and cost per mileage for energy storage technologies .....	HE Ying-yuan, CHEN Yong-chong, LIU Yong, et al.	195	1
Energy storage capacity configuration scheme of islanded wind-storage microgrid considering random variables correlation .....	ZHU Yong-qiang, ZHANG Quan, LIU Kang, et al.	195	11
Optimal configuration of energy storage system for wind farms considering dynamic transmission ampacity characteristic .....	ZHANG Cheng-wei, ZHANG Si-heng, LIU Ze-huai	195	17
Research on optimal allocation of movable energy storage in distribution network .....	CAI Bo-rong, LING Kai-yuan, JIANG Hua, et al.	195	26
Performance optimization of battery-ultracapacitor hybrid energy storage system .....	CHAI Xiu-hui, ZHANG Chun-jiang, CHAI Jian-guo, et al.	195	33
Research progress of power-to-methane energy storage technology .....	YAN Cun-ji, LI Xin, DOU Li-guang, et al.	195	42
Economical analysis of photovoltaic power station with battery energy storage system .....	FENG Xiao-li	195	52
Surface modification of positive current collector for lithium slurry battery .....	TIAN Xue-qin, FENG Cai-meい, JIANG Han, et al.	195	59
Performance analysis of compressed air energy storage system .....	LIU Ming-yi, ZHU Yong, CAO Chuan-zhao, et al.	195	67
Synthetical modeling and analysis of vanadium redox flow battery .....	CHANG Zhi-song, WANG Zhi-qiang, YUAN Tie-jiang, et al.	195	73

### **Specialist's Forum**

Decay of electromagnetic waves in vacuum and cosmological redshift .....	XIAO Li-ye, WU Yue	190	1
Scattering of electromagnetic waves in vacuum and its effect on interstellar extinction .....	XIAO Li-ye, WU Yue, LIN Liang-zhen	192	1

### **Treatise and Report**

Harmonics/inter-harmonics with spectrum interference rapid detection based on optimization of atomic decomposition .....	DONG Hai-yan, JIA Qing-quan, LIU Chu, et al.	187	1
Research on electromagnetic transient parallel simulation based on GPU .....	YAO Shu-jun, HAN Min-xiao, ZHANG Shuo, et al.	187	10

A new method of power system false data attack detection based on grey relational analysis .....	YUAN Kai-bo, LUO Ping-ping, WANG Gao-meng, et al.	187	17
Power quality evaluation method of distribution network based on weight of node-route association .....	WU Jie, XI Xiao-lin, YAN Xiao-an, et al.	187	24
Research on short-term load forecasting of active distribution network .....	GUAN Xin, LIU Hui-jia, ZHANG Zhen, et al.	187	31
Research on fault ride-through of DFIG wind farm based on resistive type high temperature superconducting fault current limiter .....	SONG Wen-feng, WANG Qian, LI Ya-nan, et al.	187	39
Researches on DC instantaneous over current impulse characteristics of flux coupling type pancake coil .....	LIU Shi-zhuo, XIA Dong, QIU Qing-quan, et al.	187	47
Construction of thermal conduction model for overhead conductor ampacity-temperature distribution under convection conditions .....	DONG Xuan-chang, QU Feng-rui, LI Yan-fei, et al.	187	54
Study on discharge characteristics of heat resistant inter-turn insulation materials in power transformers .....	ZHAO Yi-kun, ZHANG Guo-qiang, GUO Run-rui, et al.	189	1
Data-driven and interactive fault diagnosis of distribution switches .....	CHEN Guo-yan, LI Jun-jun, CHEN Ying, et al.	189	10
Multi-objective optimal allocation and operation of distributed energy storage in low-voltage distribution network with photovoltaic integration .....	HE Sen, LIN Shun-jiang, LI Guang-kai	189	18
Research on optimal scheduling of energy management system based on MOHSA in smart community .....	ZHONG Hai-tao, HAN Ao-yang, ZHANG Zhi-sheng	189	28
Research on optimization of damping control parameters for suppressing ultra-low frequency oscillation of hydro-generator units .....	DENG Wei, LIU Shao-bo, WANG De-lin, et al.	189	38
Study on reactive power and voltage coordinated control strategy for power system with large-scale wind power integration .....	WANG Yu-ting, LI Peng	189	47
Research on transmission line probability model based on meteorological parameter prediction .....	LIN Shi-zhi, WEN Bu-ying, ZHANG Bin	189	56
Direct torque control of electrically excited synchronous motor based on novel excitation control in flywheel energy storage system .....	LIU Yang	190	5
Direct torque control for permanent magnet synchronous motor based on ADRC optimized by CKMTOA-KELM .....	YI Ling-zhi, ZHANG Cheng-dong, FENG Jiang	190	13
Sensorless control of high-speed maglev based on sliding mode observer .....	SUN Peng-kun, GE Qiong-xuan, ZHANG Bo, et al.	190	22
Novel dual loop control strategy and its parameters design method for LCL grid-connected inverter .....	LIANG Yi, XIE Yun-xiang, GUAN Yuan-peng	190	30
VSC-HVDC additional sub-synchronous damping controller design based on Prony identification .....	GUO Shu-ying, HAN Min-xiao, HUANG Yong-ning, et al.	190	39
Tracking control strategy and implementation of IGBTs junction temperature based on gate drive voltage adjustment .....	SANG Ya-lei, WANG Xue-mei, ZHANG Bo	190	47
Energy storage capacity allocation method of electric vehicle charging station considering battery life .....	LI Wen-chao, TONG Yi-bin, ZHANG Wei-ge	190	55
Optimal allocation of heat storage system capacity for increasing wind power integration .....	GE Wei-chun, LI Jun-hui, MA Teng, et al.	190	64
Energy compensation control of MMC for sub-synchronous oscillation suppression .....	HAN Min-xiao, ZHAI Dong-ling, GUO Shu-ying	191	59
Train auxiliary inverter parallel technology based on SOGI single phase PLL .....	KANG Cheng-wei, GU Cheng-bo, Li Wei-jie, et al.	191	68
Research of shield structure for wireless power transfer system .....	LI Hou-ji, WANG Chun-fang, WEI Zhi-hao, et al.	191	74

Design of MRI shim coils based on material variable density method .....	QU Hong-yi, WANG Qiu-liang, WANG Yao-hui, et al.	191	84
New dynamic hysteresis J-A model based on statistical theory of losses .....	ZHAO Yue, LI Lin, LIU Ren, et al.	191	90
Unbalance compensation strategy of three-phase four-wire DSTATCOM based on capacity limitation .....	ZHAO Li, WEI Ying-dong, JIANG Qi-rong, et al.	192	8
Study of control strategy for MMC-HVDC system based on simplified finite set fast model predictive control .....	WANG Shan, XIE Li-li, WANG Hai-yu	192	16
An improved no zero-vector PWM strategy for common-mode voltages reduction .....	ZHOU Bin, JIE Gui-sheng, LIU Zhen-tian, et al.	192	27
DC balance strategy for cascaded SAPF based on PD-SFO-PWM .....	WANG Yu-feng, DI Tian-tuo, GAO Zhi-cheng, et al.	192	33
Optimal capacity allocation of energy storage system participating auxiliary peak regulation in large-scale wind power integration .....	WANG Hai-hua, LU Ran, CAO Wei, et al.	192	42
Economic evaluation of wind power consumption based on energy storage systems coordinated regenerative electric boilers .....	WANG Feng, LI Da-yong, FANG Jin-yu, et al.	192	50
A current-fed dual active bridge converter with rather low input current ripples .....	NI Yong-liang, SHA De-shang, WANG Sun-bo, et al.	193	35
Study on partial discharge characteristics of oil-paper insulation under different oil flow rates .....	SU Mao, LI Chun-mao, XIA Guo-qiang, et al.	193	47
Research on simplified loss model of full-bridge modular multilevel converters .....	YANG Li-min, WANG Hui, HAN Zhi-yong, et al.	194	53
Research on high power density LLC resonant converter based on GaN device .....	WEI Xiao-fu, CHEN Shen-yang, ZHU Hong-keng, et al.	194	63
Research on PV DC-DC converter and control strategy for two-stage DC power distribution system .....	HAO Li-dong, PAN Shang-zhi, JIANG Jian-bo, et al.	194	71
Research on trading mechanism for surplus hydropower and incremental load at valley periods in Southwestern Power Grids .....	JIANG Tuo, XU Fei, XU Rui-lin, et al.	196	1
Robust operation strategy of multi-energy system based on scenario clustering analysis .....	LIU Zhi-xin, CHENG Lin, ZHOU Zhang, et al.	196	9
Impact of control system on small-signal stability of two-terminal MMC-HVDC system .....	WANG Yan-ning, GUO Chun-yi, WANG Ye	196	20
Speed control strategy to improve converter efficiency for BLDCM .....	ZHENG Bi-ning, LI Xin-min, ZHANG Guo-zheng, et al.	196	32
Adaptive flux-weakening control based on current phase angle for interior permanent magnet synchronous motor .....	LI Tao, GU Xin, LI Xin-min, et al.	196	38
Research on ripple voltage feedforward control strategy for single-phase PWM rectifier .....	YUAN Yi-sheng, MAO Kai-xiang, MEI Xiang-long, et al.	196	46
Study on contact failure of pantograph's sliding electrical contact under fluctuant loading .....	ZHANG Ji-hua, ZHANG Hai-zhou, CHEN Zhong-hua, et al.	196	53
Research on aeronautical AC series arc fault identification algorithm based on wavelet energy moment .....	CUI Rui-hua, LI Ying-nan, WANG Chuan-yu, et al.	197	1
Research on early fault diagnosis method for all optical fiber current transformers .....	LIU Zhan-yuan, NIU Xiao-chen, SU Hong, et al.	197	10
Identification model of voltage sag based on adaptive S-transform .....	FU Hua, YU Tian	197	17
Research on influencing factors of DFIG-PMSG hybrid wind farm sub-synchronous oscillations .....	XIN Jian-bo, SHU Zhan, ZHAO Shi-meng, et al.	197	24

Simulation analysis of temperature field and thermal stress of rail in high speed sliding electrical contact system .....	ZHENG Du-cheng, XU Rong, CHENG Wen-ping, et al.	197	33
Physical and chemical mechanism and experimental study on hydrogen overproduction in current transformers .....	YAO Yi-ming, LIU Liang, JIANG Xin, et al.	197	39
Adaptive virtual impedance control strategy for island microgrid .....	YE Jia-zhuo, YANG Li, WU Shi-yu, et al.	198	1
Finite-time multi-agent coordinated control for DC microgrids .....	SUN Yong, LIU Zhi-jun, LI Zhen-yuan, et al.	198	10
Multi-objective optimization scheduling of microgrid based on improved cuckoo algorithm .....	ZHANG Jun, WANG Hong-min, LIU Ting-zhang	198	19
Neutral point potential balance strategy for NPC three-level inverter based on improved active disturbance rejection control ...	JIANG Kang-ning, YI Ling-zhi, HU Yan-shen	198	28
Design of inverter repetitive control system based on TMS320F28335 .....	SHENG Long, HE Shun-hua	198	34
Soft-switching current-feed push-pull converter .....	YUAN Yi-sheng, RAO Sheng-rui, WEN Wu, et al.	198	40
Study on surface degradation of CuW and CuMo contacts in different atmospheres at DC 200-500V .....	LIAO Yuan, JIAO Lin, LIU Wen-xuan, et al.	198	47
Experiment analysis and research on the arc process of different topology on load tap-changer .....	SONG Dong-dong, DING Lai-wei, DONG Biao, et al.	198	55

### **Summary and Review**

Current status of harmonic responsibility division and prospects under grid-connected distributed generations condition .....	WANG You-ran, ZHANG Yi, SHAO Zhen-guo, et al.	187	61
Progress in key functional materials of DC-link bus capacitors for renewable energy vehicles .....	LIU Guang-hui, TONG Hui, XU Ju, et al.	189	63
Review of permanent magnet direct drive wind power conversion system with impedance-source inverter .....	CHENG Zhun, ZHANG Yang, DENG Mu-sheng	192	57
An overview of fault identification and location technology for DC distribution networks .....	YU Xiu-yong, XIAO Li-ye	193	56
Progress on early warning technology for thermal runaway of lithium-ion battery ...	LIAO Zheng-hai, ZHANG Guo-qiang	196	61
Outlook and thought of application of electric energy substituting loads under background of Energy Internet .....	LI Hong-tao, WAN Yu-xiang, CHENG Lin, et al.	197	46

### **New Technology Application**

Analysis of vibration signals of UHV shunt reactor based on empirical wavelet transform .....	ZHAO Ruo-yu, MA Hong-zhong, WEI Xu, et al.	187	70
Three-phase load breaking fault analysis of 500kW high-temperature superconducting generator .....	LIANG Shuang, ZHANG Dong, CHEN Biao, et al.	187	76
Aviation series arc fault detection method based on correlation coefficient and bias-normal distribution index .....	CUI Rui-hua, WANG Yang, LI Ying-nan	187	82
Main circuit research of high-frequency auxiliary converter system for EMU and electric locomotives .....	SUN Da-nan	189	74
Design and test research of HTS pulsed power transformer for repetitive pulse power supply .....	GAO Xiao-jing, HU Yuan-chao, DUAN Zhi-qiang, et al.	189	82
Field-circuit coupling simulation analysis of diode fault of 12-phase rectifier generators system .....	ZHANG Yan-hui, WU Xin-zhen, ZHENG Xiao-qin, et al.	190	71
Study on suppression measures of subsequent commutation failure in MIDC transmission systems .....	WEN Jun, LI Jia-qi, WANG Ling, et al.	190	79
Discussion on performance impact of micron sized diamond particles to interrupt DC 400V arc .....	CHENG Xian, WANG Hua-qing, GE Guo-wei, et al.	190	89

---

Research on integrated energy system CPS model and information security protection scheme .....	LI Ke, CHAI Shou-liang, ZHANG Chao, et al.	192	68
Preparation process and magnetoelectric properties of flexible Metglas/PVDF magnetoelectric material .....	GUO Xin-ran, YU Xin-jie, LOU Guo-feng	192	74
Single-stage LED drive based on LLC bridgeless power factor correction .....	ZHAO Jin-gang, MA Hui, ZHANG Chao-lan, et al.	192	79
Design and parameter optimization on coupling coil in wireless power transfer system via magnetic resonance .....	ZHU Jia-hui, GAO Qiang, LIU Qi, et al.	193	67
Three-stage combined load recovery algorithm considering photovoltaic and energy storage .....	ZHANG Tong, ZOU Nan, YANG Guang-zhong, et al.	193	73
Modeling and parameter identification of lithium-ion capacitor ... JIANG Jun-jie, CHEN Xin-tong, ZHANG Xiong, et al.	196	67	
A new off-line parameter identification technique for asynchronous motors .....	YANG Jing-ming, YANG Bo, WANG Ya-chao, et al.	196	74
Electric field simulation of internal gear spacial electrodes electrorheological damper .....	LI Yao-sheng, DOU Shi-lei, XU Lu-ning, et al.	197	60
Effects of temperatures on magnetic properties and vibration of amorphous alloy roll-core .....	HAN Tian-heng, ZHU Li-hua, SHA Rui, et al.	197	66
Research on electromagnetic exposure safety assessment of typical wireless charging coil for battery electric vehicle .....	LI Hai-yan, LU Mai, DONG Xu-wei	197	74
Research on online power acquiring method of dual magnetic circuit based on parallel resonance .....	WANG Xu-hong, HU Jie-rui, LIU Xing, et al.	198	63
2019 Index .....		198	I