



# 青海电力

## QINGHAI ELECTRIC POWER

- 本期视点**
- 电力系统控制变量对其网损和电压偏移的影响研究
  - 计及场站涉网性能的新能源并网柔性控制方法研究
  - 粒子群算法种群规模和迭代次数对系统优化效果的影响研究
  - 高海拔环境对电气试验设备电场及绝缘影响研究



ISSN 1006-8198



9 771006 819200

青海省电机工程学会 主办  
国网青海省电力公司电力科学研究院

# 2020 2

第 39 卷  
总第 150 期  
2020 年 6 月



# 目 次

## 分析探讨

电力系统控制变量对其网损和电压偏移的影响研究

..... 张 凡,王 雷,赵 娟,严 欢,王 喆,贾宏刚(1)

计及场站涉网性能的新能源并网柔性控制方法研究 ..... 高 源,杨 鸿(7)

粒子群算法种群规模和迭代次数对系统优化效果的影响研究

..... 张 凡,王 雷,赵 娟,吴 磊(12)

基于湟中县撤县设区政策的多巴新城规划调整 ..... 张 航,郭 强,张 玲,纳 珍,杜三元(21)

## 试验研究

高海拔环境对电气试验设备电场及绝缘影响研究

..... 马永福,王理丽,蒋 玲,陈 尧,李子彬,朱广秀源,彭 洁(25)

高海拔地区±800 kV 换流变压器直流耐压试验回路空间电场分布仿真分析

..... 王理丽,李子彬,包正红,林万德,张成磊,刘志华(31)

1 050 MW 超(超)临界机组深度调峰控制技术研究 ..... 李文杰(35)

多维链表 IO 应急接管日志记录算法研究 ..... 朱先清,秦 浩,王忠花,佟 芳(38)

## 技术应用

电力监控 RHEL7.3 的 UEFI 启动模式 PXE 自动化装机 ..... 王瑞雪(41)

特高压承台式岩石锚杆基础施工技术

..... 靳义奎,周冰雁,王春林,韩学文,韩 伟,张小龙,王 庭(46)

西宁地区 10 kV 配电网合环操作分析袁

..... 袁拉麻加,张少琳,王 梅,石晓蕊,赵志刚,陈 彬,郭文倩,汪 凯,余全胜(50)

带电更换 330 kV 直线整串绝缘子板凳卡的研制与应用

..... 朱国强,星生智,雷友琦,范永德,顾希珍,樊昌军(55)

## 事故分析

660 MW 超超临界锅炉水冷壁管失效原因分析 ..... 魏 然,常 伟,马 彪(58)

一起 110 kV 复合外套金属氧化物避雷器爆炸事故分析

..... 马永福,李秋阳,马文强,杨韬辉,马 骥,杨洪易,刘敬之,马志青,尹生得(61)

燃煤电厂亚临界机组低温过热器管泄漏原因分析 ..... 魏 然(66)

## 综合管理

高海拔地区新型后勤医疗保障体系建设建立 ..... 贾顺召,赵鹏程(69)

封面照片 ..... 国网青海省电力公司果洛供电公司 提供

**CONTENTS**

**ANALYSIS AND DISCUSSION**

- Effect of Power System Control Variables on its Power Loss and Voltage Deviation  
..... ZHANG Fan, WANG Lei, ZHAO Juan, YAN Huan, WANG Zhe, JIA Honggang(1)
- Study on Flexible Control Method of New Energy Grid-connected Considering the Station Grid-related Performance  
..... GAO Yuan, YANG Hong(7)
- Influence of Population Size and Number of Iterations of PSO on the Optimization Effect of Power System  
..... ZHANG Fan, WANG Lei, ZHAO Juan, WU Lei(12)
- Planning Adjustment of Duoba New Town Based on the Policy of Removing Counties and Establishing  
Districts in Huangzhong County ..... ZHANG Hang, GUO Qiang, ZHANG Ling, NA Zhen, DU Sanyuan(21)

**TEST AND RESEARCH**

- Influences of High Altitudes Conditions on the Electric Field and Insulation of Equipment  
..... MA Yongfu, WANG Lili, JIANG Ling, CHEN Yao, LI Zibin, ZHU Guangxiuyuan, PENG Jie(25)
- Simulation Analysis of Space Electric Field Distribution in DC Withstand Voltage Test Loop of Converter  
Transformer ±800 kV in High Altitude Area  
..... WANG Lili, LI Zibin, BAO Zhenghong, LIN Wande, ZHANG Chenglei, LIU Zhihua(31)
- Research on Deep Peak Regulation Control Technology of 1 050 MW Supercritical Unit  
..... LI Wenjie(35)
- Research on Multidimensional Linked List IO Emergency Takeover Logging Algorithm  
..... ZHU Xianqing, QIN hao, WANG Zhonghua, TONG Fang(38)

**TECHNICAL APPLICATION**

- Power Monitoring RHEL7.3's UEFI Boot Mode PXE Automatic Installation  
..... WANG Ruixue(41)
- Construction Technology of Rock Bolt Foundation for UHV Bearing Platform  
..... JIN Yikui, ZHOU Bingyan, WANG Chunlin, HAN Xuewen, HAN Wei, ZHANG Xiaolong, WANG Ting(46)
- Analysis of Loop Closure Operation of 10 kV Distribution Network in Xining Area  
..... YUAN Lamajia, ZHANG Shaolin, WANG Mei, SHI Xiaorui,  
ZHAO Zhigang, CHEN Bin, GUO Wenqian, WANG Kai, YU Quansheng (50)
- Development and Application of 330 kV Linear Whole String Insulator Bench Card for Replacement  
During Electrification  
..... ZHU Guoqiang, XING Shengzhi, LEI Youqi, FAN Yongde, GU Xizhen, FAN Changjun(55)

**ACCIDENT ANALYSIS**

- Failure Analysis of Water Wall Tube of 600 MW Ultra Supercritical Boiler  
..... WEI Ran, CHANG Wei, MA Biao(58)
- Analysis of a 110 kV Composite Shell Metal Oxide Arrester Explosion Accident  
..... MA Yongfu, LI Qiuyang, MA Wenqiang, YANG Taohui, MA Ji,  
YANG Hongyi, LIU Jingzhi, MA Zhiqing, YIN Shengde (61)
- Reason for Leakage of Low Temperature Superheater Pipe in Subcritical Units for a Coal-fired Power Plant  
..... WEI Ran(66)

**MANAGEMENT**

- Establishment of a New Logistics Medical Security System in High Altitude Areas  
..... JIA Shunzhao, ZHAO Pengcheng(69)





冈仁波齐

汪彦奎 摄影

ISSN 1006-8198  
CN 63-1041/TM

万方数据

广告经营许可证号：6300005000006 国内定价：10.00元