

2025 IEEE 5th International Conference on Electrical Materials and Power Equipment (ICEMPE 2025)

**Harbin, China
3-6 August 2025**

Pages 1-502



**IEEE Catalog Number: CFP25J57-POD
ISBN: 979-8-3315-3753-1**

**Copyright © 2025 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:	CFP25J57-POD
ISBN (Print-On-Demand):	979-8-3315-3753-1
ISBN (Online):	979-8-3315-3752-4
ISSN:	2996-301X

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

Space Charge Dynamics in HVDC Cable Insulation Under Transient Voltages	1
<i>Yanqing Li, Tao Han, Jianda Li, Wenbo Zhu, Boxue Du</i>	
Transient Space Charge Measurement in XLPE Under DC Superimposed with Impulse Voltages	5
<i>Yanqing Li, Tao Han, Qiang Li, Wenhao Li, Wenbo Zhu, Boxue Du</i>	
Effect of Temperature on Partial Discharge Feature in a Void in Polypropylene Blends as Cable Insulation.....	9
<i>Zhilong Yu, Yu Gao, Rongqi Pei, Di Lu, Tao Han, Qifeng Shang, Bosen Si, Boxue Du</i>	
Synergistic Enhancement of High-Temperature Properties for Capacitor Film by Cyclic Olefin Copolymer and Polypropylene	13
<i>Yi Qiao, Peiyan Liu, Bin Zhou, Yijun Zhen, Xinru Yang, Yang Feng, Shengtao Li</i>	
Suppression of Partial Discharge in Package Insulation Under Square-Wave Voltage by Plasma-Enhanced Film Deposition	17
<i>Xiuhan Guan, Fengjie Zhang, Junhao Xu, Hongtu Cheng, Yalin Wang, Xi Zhu, Zhi Fang</i>	
Application of On-Line Partial Discharge Detection Technology in Switchgear Based on Bushing Sensors	21
<i>Dabiao Nie, Chunlin Hao, Tao Han, Heng Yang, Jin He, Boxue Du</i>	
Identification of Reflection Peaks in Multiparameter Constrained Based on Frequency Domain Reflection Method.....	25
<i>Jianda Li, Yanqing Li, Tao Han, Zeping Zheng, Wenbo Zhu, Boxue Du</i>	
Effect of Functionalized Organic Antioxidants on Electrical Treeing Degradation of XLPE Insulation.....	29
<i>Heyu Wang, Zhonglei Li, You Wu, Zhong Zheng, Guozheng Cao, Yifan Yin, Shuai Zhao, Zechao Yang, Boxue Du</i>	
Enhancing Flashover Performance of Gil Insulator by Functionally Graded Materials Under Temperature Gradient and Polarity Reversal Voltage.....	33
<i>J. N. Dong, H. C. Liang, Z. Y. Jin, B. X. Du, H. Yao, Z. J. Guo</i>	
Battery Energy Storage System Architecture and DC System Electrical Fault Mechanism Analysis.....	37
<i>Zebo Gu, Jun Wang, Jiaxu Duan, Chao Ma, Jingxiang Hu, Xilin Wang</i>	
Atmospheric Pressure Argon Plasma Jet Enhances the Surface Repair Effect of Wind Turbine Blades.....	41
<i>Zibei Yang, Jun Wang, Guilai Yin, Hongyu Wang, Nianping Yan, Xilin Wang</i>	
Research on the Corrosion Mechanism of Carbon Steel Under AC and DC Electric Fields.....	45
<i>Zhongchen Xia, Jiang Ye, Qishuai Liang, Jie Li, Qingqing Wan, Guiqin Chen</i>	
Mechanical and Insulating Properties of Polypropylene/Propylene-Based Elastomer Composites Over a Wide Temperature Range.....	50
<i>Yanqun Liao, Minhong Lin, Guangwei Zhang, Shuai Hou, Jie Liu, Zepeng Lv, Kai Wu</i>	
Study on the Low Temperature Aging Performance of Acrylic Rubber Under Oil Immersed and Pressurized Conditions	54
<i>Zhanpeng Ye, Yiyang An, Xiaohong Chi, Yao Zhou, Wenfeng Liu</i>	

Effects of Defect Locations and Loading Voltages on Breakdown Morphologies of GIL Tri-Post Insulators	58
<i>Zhijun Guo, Boxue Du, Hucheng Liang</i>	
Effects of Temperature Gradients on Breakdown Patterns of AC-GIL Tri-Post Insulators	62
<i>Zhijun Guo, Boxue Du, Hucheng Liang</i>	
Effect of Extrusion Process on Electrical Properties of 35kV Polypropylene Cable Insulation.....	66
<i>Kai Yang, Zeli Ju, Haoran Sui, Bo Yang, Wenqiang Dang, Lu Pu, Zhe Hou, Haofei Sun, Kangning Wu</i>	
Effect of Aging on Leakage Current in Oil-Paper Composite Insulation Under Oil Flow Conditions.....	70
<i>Qingdong Zhu, Jian Wang, Longlong Li, Wenbing Zhu, Qi Wen, Kai Wu</i>	
Monitoring of Vanadium Redox Flow Battery State-of-Charge using Color Analysis.....	74
<i>Iliia Khristoforov, Nikita Buriak, Maxim Minin, Vasileva Alexandra, Igor Bolotin, Andrei Novikov, Federico M. Ibanez, Mikhail Pugach</i>	
Stress Relaxation Characteristics of Silicone Rubber Used in Cable Accessory Under Extreme Environment Temperature	78
<i>Chao Wu, Yanding Wang, Xia Wang</i>	
Experimental Study on Arc Discharge Pressure and Gas Production Characteristics in Transformer Oil.....	82
<i>Zongliang Zhang, Ke Wang, Yikun Zhao, Jianyi Wang, Shuqi Zhang, Peng Li</i>	
Space Charge Distribution Characteristics of XLPE/Charge Emission Shielding Layer Composite Samples	86
<i>Baiyuan Chang, Weikang Li, Jinghui Gao, Lisheng Zhong</i>	
Comparative Analysis of Electric Field Simulation Under Isotropic and Anisotropic Bulk Conductivity in DC Bushing	90
<i>Nengfeng Guo, Yulin Jiang, Bohan Lan, Wenhao Gao, Xia Wang, Weidong Ding</i>	
Research on Photoacoustic Spectroscopy Gas Detection Technology for High Voltage Cable Joint.....	95
<i>Jing Zhang, Fenglian Liu, Fan Liu, Zerui Li, Fan Songhai, Hang Jiang</i>	
Migration of Water at Silicone Oil/Silicone Rubber Interface Considering the Swelling Behavior.....	99
<i>Jingyi Li, Yuan Li, Hao Zhou, Kai Zhou</i>	
Branched Chain Structure Dependent Breakdown Characteristics of Polyethylene.....	104
<i>Aozu Xu, Jiahui Li, Haomiao Li, Jie Liu, Shengtao Li, Yuanwei Zhu</i>	
Effect of Bismuth Content in In-Situ Repair Medium on the Repair Effect of Varistor Based on Simulation	108
<i>Yue Yin, Pengfei Meng, Xin Cheng, Jingke Guo, Tengfei Li, Shiqi Gou</i>	
The Effect of FeS ₂ /Co-BTC on the Thermal Conductivity and Dielectric Properties of LDPE Matrix	112
<i>Xiangyu Li, Dingming Cao, Haodong Yan, Dong Zhang</i>	
Plasma Drift-Diffusion Modeling of Shock Pressure Waves Generated by Streamer Discharge	116
<i>Yuan Li, Ranran Li, Kai Zhou, Yefei Xu, Chengjie Zhang, Shangchen Ji</i>	
Theoretical Calculation of Interface Pressure Between Cables and Accessories Within a Wide Temperature Range.....	121
<i>Yanding Wang, Chao Wu, Guanghao Lv, Xia Wang</i>	

Analysis of Shock Wave Energy Characteristics of Pulse Discharge in Transformer Oil	125
<i>Jinlu Li, Yi Liu, Liuxia Li, Shijie Huang, Pengzhen Wang, Fuchang Lin</i>	
Electric Field Simulation Analysis of ± 525 kV HVDC Cable GIS Termination Under Different Temperatures	130
<i>Xiaoxiao Kong, Lizheng Geng, Wenbo Zhu, Qi Li, Xiaoge Zhang, Jingjing Zhang, Zhaoxuan Song, Boyu Jiang, Boxue Du</i>	
A Dynamic Model of Thermally Induced Bubble Growth in Transformer Oil-Pressboard Insulation.....	134
<i>Jiali Liu, Ruxue Zhao, Yizhen Sui, Jingtong Feng, A. M. A. Abdo, Hongshun Liu</i>	
Lightning Performance of Selected Dielectric Liquids After Thermal Aging	140
<i>Filip Stuchala, Pawel Rozga, Jakub Jakubowski, Kamil Puchala, Pawel Borowiak, Feipeng Wang, Zhengyong Huang</i>	
Research on the Alcohololysis Kinetic of Anhydride-Cured Epoxy Resins	144
<i>Xin Zhao, Guanjun Zhang, Shiyin Zeng, Changchun Qi, Qiang Li</i>	
Silicone-Oil-Based Repair Agent for Buffer Layer Ablation: Swelling Effects on Insulation Shields in High-Voltage Power Cables	148
<i>Dapeng Duan, Yekun Men, Zhe Fan, Mengdi Qian, Boda Li, Kangning Wu</i>	
Evaluation of Insulation Tolerance Index of Epoxy Resin Under Square Wave Voltage	152
<i>Mingli Fu, Ziling Guan, Changshen Li, Weihong Yang, Yongsheng Xu, Weiwang Wang</i>	
Evaluation of Electrical Tree Length Information Based on Partial Discharge Signal.....	157
<i>Yinge Li, Xiangyang Peng, Shihu Yu, Xin Yu</i>	
Impact of Repeated Impulse Voltage on the Breakdown and Space Charge Characteristics of Polypropylene for High-Voltage Cable Insulation.....	161
<i>Yunpeng Zhan, Shuai Hou, Baojun Hui, Mingli Fu, Yanfei Li, Lingmeng Fan, Kai Yu</i>	
Enhancing Dielectric Properties of Polypropylene Insulation for HVDC Cables by Annealing at an Appropriate Temperature.....	165
<i>Kexin Chen, Tianyi Gao, Ruiqi Li, Yanqun Liao, Man Xu</i>	
Crystallization Mechanism and Properties of Polypropylene Insulation Material for DC Cable Produced by Blending Method.....	170
<i>Zhenhao Xu, Peng Zhao, Anzhe Wang, Benhong Ouyang</i>	
Partial Discharge Characteristics of Electric Machine Insulation Under Square Wave Voltage for Flywheel Energy Storage.....	177
<i>Taoran Yang, Hao Wu, Yalin Wang, Gang Zheng, Yizhong Zhang, Yin Yi</i>	
Divergent Voltage Dependence of Frequency Dielectric Response in Natural Ester and Mineral Oil-Impregnated Press-Board	182
<i>Zhiming Huang, Chuanhui Cheng, Ran Zhuo, Xipeng Chen, Xiong Zhou, Yunfeng Que, Jishi Chen, Kejun Fan, Zixin Wang</i>	
Analysis of Influencing Factors of Self-Sustaining Discharge Along Surface of DC GIL/GIS Spacer	186
<i>Chao Li, Wei Yin, Jiajie Shi, Xu Cai, Xulei Zhao, Zhaojun Jiang, Junbo Deng</i>	
Design of Routine Test Device for High-Voltage Cable Accessories Testing.....	190
<i>Aleksandr A. Filippov, Aleksandr Z. Slavinsky, Valeria G. Kovalchuk, Chunyu Sui, Junguo Gao, Chi Minghe, Jun Deng</i>	

Self-Healing Characteristics of Metallized Film Capacitors Based on Coupling Capacitance Modulation of Charge Injection Amount.....	196
<i>Yuteng Lu, Feipeng Wang, Yao Wu, Guoliang Li, Pawel Rozga, Filip Stuchala</i>	
Study on Gas Diffusion Characteristics at the Insulation Interface of High Voltage Cable Accessories.....	200
<i>Guang Li, Yuhang Lu, Junqing Wang, Yujing Guo, Yanfeng Xiao, Yingbing Ran, Chengxiang Liu</i>	
Investigation on Effects of Low-Content W Additives on Post-Arc Process of Cr-Based Contact in Vacuum Circuit Breakers: MD Simulation.....	205
<i>Ruoyu Xu, Mingyu Zhou, Yi Ding, Haonan Yang, Shanika Matharage, Zhongdong Wang</i>	
Performance Evolution Analysis of Polypropylene Cable Insulation Materials Under Thermal Treatment.....	209
<i>Yunpeng Zhan, Shuai Hou, Jie Liu, Mingli Fu, Yanfei Li, Fanling Meng, Limei Jiang</i>	
Ampacity Analysis of EHVDC Cable Accessories Based on Electro-Thermal-Fluid Field Coupling	213
<i>Zhaogui Liu, Jiayang He, Yatong Fang, Xiaomei Liu, Ying Liu, Ruobin Huang, Lang Jiang, Qianyu Shan, Zhiyi Liu</i>	
Correlation Between Crystallization Characteristics and Electrical Properties of Polypropylene	218
<i>Gyujin Jung, Yoon-Hyoung Kim, Heon G. Lee, Dae-Jin Park, Jungnyun Kim</i>	
Analysis of Crystallization and Crosslinking Characteristics of Bilayer XLPE Insulation of Factory Joints.....	222
<i>Xiaofan Song, Li Yin, Jiaping Pan, Lisheng Zhong, Yanjie Le, Jinghui Gao</i>	
Molecular Insights into the Effects of Voltage Ramp Rate on the Self-Healing Properties of Metallized Film Capacitors	227
<i>Guoliang Li, Feipeng Wang, Yuteng Lu, Yao Wu, Pawel Rozga, Filip Stuchala</i>	
Electro-Thermal Aging Characteristics and Dielectric Properties of Silicone Rubber for High Voltage Applications.....	231
<i>Xiaoxiao Kong, Lizheng Geng, Qiang Fu, Chong Zhang, Juntong Zong, Hangyu Mi, Yifang Wang, Jiahong Duan, Boxue Du</i>	
Research on the Influence of Frequent Short-Circuit Grounding on the Insulation Characteristics of XLPE Material	236
<i>Hang Su, Chengde Liu, Zhe Zheng, Su Zhao, Mingli Fu, Bin Feng, Yi Yin</i>	
Dielectric Properties of Recyclable Epoxy Resins Based on Dynamic Borate Ester Bonds	240
<i>Hangyu Mi, Yijun Du, Jiahong Duan, Xiaoge Zhang, Qi Li, Yifang Wang, Yun Chen, Xiaoxiao Kong, Boxue Du</i>	
Enhancing FDS Low-Frequency Micro-Current Measurement: A Lock-In Amplification Approach with High Precision	244
<i>Kejun Fan, Zhiming Huang, Ran Zhuo, Chuanhui Cheng, Yan Luo, Xipeng Chen, Zixin Wang</i>	
Rapid Thermal Life Assessment of Corrugated Plate Inside the Stator Slot of Large-Scale Turbogenerator	250
<i>Fei Liu, Song Zhou, Gang Zheng, Pingkai Jiang</i>	
Degradation Mechanisms of Polypropylene Film Under Coupled Electrical and Mechanical Stress During Frequent Charge-Discharge Cycles.....	254
<i>Y. F. Li, B. X. Du, H. L. Liu, M. Xiao</i>	

Research on the Influence of pH on Scaling Ion Forms and Deposition Mechanism in Cooling Water Dielectric of HVDC Converter Valves	258
<i>Wei Peng, Xianqin Deng, Chengyichang Jin, Hongtao Chen, Jinwei Lu, Rui Zhu, Ming Wu, Xuezhong Liu, Jinghui Gao, Lisheng Zhong</i>	
Electrical Tree Degradation Characterization of Epoxy Resin Under Thermal and Mechanical Composite Stresses Based on Photoelastic Effect	263
<i>Siyuan Chen, Yuhuai Wang, Hein H. Aung, Renyong Zhao, Ying Zhang, Jin Li</i>	
Research on the Thermal Aging Characteristics of Epoxy Resin for High Frequency Transformers Based on Activation Energy	267
<i>Ziling Guan, Weiwang Wang, Jiaqi Fan, Shihao Fan, Changshen Li, Weihong Yang, Yongsheng Xu, Mingli Fu</i>	
Research and Application of Integrated Oil Exchange Device for Natural Ester Retrofilled Transformer	272
<i>Qingdan Huang, Haoyong Song, Yida Li, Yuqing Chen, Tingyan Wang</i>	
Investigation of Temperature, Electric Field and Thermal Aging Effect on Conductance Characteristics of Fluorinert-Paper Composites	278
<i>Shihao Fan, Changshen Li, Ziling Guan, Weiwang Wang, Weihong Yang, Mingli Fu</i>	
Evaluation and on-Site Retrofilling Procedures with Natural Ester for a 110kV Power Transformer.....	282
<i>Qing Wang, Feiyu Niu, Yihua Qian, Ruifeng Wang, Yang Xu</i>	
Study on the Compatibility Between Synthetic Ester Mixed with Mineral Oil and Construction Materials for Liquid Filled Transformer.....	286
<i>Yihua Qian, Qing Wang, Yifeng Zhao, Lei Peng, Siwei Pan</i>	
Surface Morphology Induced DC Breakdown Strength Reduction of XLPE Insulation for High Voltage Cables	291
<i>Xiyao Li, Shihang Wang, Ni Wang, Jialin Shi, Xu Zhang, Shengtao Li</i>	
Precipitation Hardening of La Doped BaTiO ₃ Piezoelectric Ceramics Based on Redox Reaction	295
<i>Linda Qi, Changhao Zhao, Peitao Ye, Shengtao Li</i>	
Space Charge Characteristics in ZnO Microvaristors-Doped Silicone Rubber Composite	300
<i>Shuojie Gao, Zhikang Yuan, Dongjun Yang, Yewen Zhang, Feihu Zheng, Fei Ni</i>	
Electrical Treeing Degradation Characteristics of Glass Fibre Reinforced Epoxy Composites Under Extension-Compression Mechanical Loads	305
<i>Siyuan Chen, Yuhuai Wang, Renyong Zhao, Yufan Wang, Songtao Liu, Jin Li</i>	
Interface Charge Characteristics of Double-Layer Laminated XLPE Samples for HVDC Cable Factory Joint.....	309
<i>Jiaping Pan, Li Yin, Guoqi Ma, Yang Lv, Zhimin Yan, Zihao Wu, Chenxi Wang</i>	
High Performance Energy Storage Materials Based on Rochelle Salt Micro-Doped Composite Films.....	313
<i>Zening Lu, Boxue Du, Meng Xiao</i>	
Double Dynamic Covalent Bonds Cross-Linked Epoxy Resins: Synthesis Strategies, Decomposition Mechanisms, and Properties Evaluation.....	317
<i>Ruomeng An, Chuang Zhang, Huize Cui, Shengtao Li</i>	

Study on the Influence of Preferred Antioxidants on the Thermal and Oxygen Stability of Quaternary Alcohol Ester Insulation Oil	321
<i>Feng Tang, Yigong Yang, Xiaojing Dang, Hongmin Zou, Hong Shen</i>	
Investigation of Partial Discharge Features and Inception Voltage in Cable Insulation Defects	326
<i>Baiyu Li, Su Zhao, Yanhao Zhou, Yi Yin, Xiaolei Zhao, Yalin Wang</i>	
Simulation on Bending Characteristics of Spiral-Structured Profile Conductor Cable	330
<i>Chen Wu, Hongyu Zhang, Changshun Wu, Jinghui Gao</i>	
Interaction of Biaxial Mechanical Stress with Electrical Tree Growth of Epoxy Resin.....	336
<i>W. J. Zhang, M. Xiao, Z. H. Wang, H. C. Liang, B. X. Du</i>	
The Effect of 2D γ -Al ₂ O ₃ on the Energy Storage Density Improvement of Biaxially Oriented Polypropylene Nanocomposite Films.....	340
<i>Xinyu Liu, Bin Gai, Zhiyuan Li, Lu Cheng, Wenfeng Liu, Yao Zhou</i>	
Simulation Study on the Repair Effectiveness of Ablation Failure in High-Voltage Cable Buffer Layer Based on Electro-Thermal-Mechanical Coupling	344
<i>Boda Li, Zhou Ge, Ziyi Yang, Ke Zhang, Kangning Wu</i>	
Comparative Analysis of Dielectric Properties at Different Radial Positions in Insulation Layer of a 330kV XLPE Cable Before and After Type Tests	348
<i>Shengwu Wang, Zhimin Yan, Fei Wang, Qijun Duan, Jiankang Zhao, Lei Niu, Yufei Fu</i>	
Development of a Dry-Type Iron-Core Power Reactor Interturn Insulation Detection Device Based on Frequency Conversion Resonance Technology	352
<i>Xuguang Li, Jian Zhang, Zhongyuan Li, Heqian Liu, Ji Liu, Mingze Zhang</i>	
Research on Inter-Turn Short-Circuit Fault Detection and Diagnosis for Dry-Type Air-Core Reactors Based on Impulse Oscillation Method.....	356
<i>Shiqi Luan, Jian Zhang, Zhongyuan Li, Heqian Liu, Ji Liu, Zhen Li</i>	
Research on the Power Supply System of Ring Main Unit Monitoring Equipment Based on Directional Microwave Wireless Energy Transmission.....	360
<i>Quanlong Men, Jian Zhang, Zhongyuan Li, Heqian Liu, Ji Liu, Hongda Yang</i>	
Effect of Thermal Aging on Space Charge Distribution in BOPP Films.....	364
<i>Xingzhe Zhao, Feihu Zheng, Jiachen Li, Changbing Wu, Yewen Zhang</i>	
Compressed Sensing-Based Frequency Domain Reflection Method for Defect Localization in Power Cables.....	368
<i>Haotian He, Feihu Zheng, Xingzhe Zhao</i>	
Influence of Cyclic Tensile Stress on Electrical Treeing in Epoxy Resin.....	372
<i>W. J. Zhang, M. Xiao, Z. H. Wang, H. C. Liang, B. X. Du</i>	
Study on the Influence Mechanism of Molecular Sieve Structure on the Dielectric Properties of LDPE Composites	376
<i>Yang Zhao, Bai Han, Shuo Sun, Yiqun Zhang, Jian Yang, Jiahua Zhou</i>	
Thermal Performance Evaluation of T-Shaped Cables Insulation using Intelligent Heating and Infrared Thermography.....	380
<i>Umair Bacha, Jinsong Tao, He Yigang, Samee U. Rehman, Zeenab Ali, Muneeb Ahmed</i>	

Modification of Nano-Zeolite/Transformer Oil Composites and Optimization of Insulation Performance.....	385
<i>Yiqun Zhang, Bai Han, Yang Zhao, Shuo Sun, Jiahua Zhou, Yue Wang</i>	
Preparation and Electrical Resistance Properties of Graft-Modified 4A Nano-Zeolite/XLPE Nanocomposites	389
<i>Shuo Sun, Bai Han, Yang Zhao, Yue Wang, Jian Yang, Jiahua Zhou</i>	
Investigation of Space Charge Detection in Micron Polyimide Films Based on Waveform Symmetry of Thermal Response Current	393
<i>Jiachen Li, Feihu Zheng, Xingzhe Zhao, Yewen Zhang</i>	
Research on the Partial Discharge Characteristics of Transformers Under Multiple Types of Voltages Based on DFB Fiber Ultrasonic Sensors.....	398
<i>Hao Zhan, Zhengyang Liu, Jing Zhang, Zhenbo Du, Lifeng Cheng, Yulong Ma</i>	
Voltage Stress Analysis in Hairpin Windings of Inverter-Fed Motors for Electric Aircraft Under Repetitive Impulsive Voltages Motors.....	402
<i>Mingpeng He, Yue Zhang, Guoyong Liu, Muhong Lin, Changsheng Cao, Peng Wang</i>	
Influence of the Temperature- and Field-Dependent Conductivity of EPDM Insulation on the Electrical Field Distribution in HVDC Prefabricated Joints for XLPE Cables	406
<i>Wenwei Zhu, Jianjun Yang, Tong Lv, Yatong Fang</i>	
Electro-Thermal Simulation Analysis of $\pm 500\text{kV}$ HVDC Submarine Cable Under External Steady-State Loads	410
<i>Ji Wu, Yazhou Fan, Xin Yu, Linheng Li, Weichao Zhang</i>	
Study of Thermal Conductivity and Dielectric Properties of Electrospun Epoxy Resin Composites	416
<i>Zhenxing Wang, Haoxiang Xu, Hanwu Zhu, Ziming Li, Xubin Wang, Changhai Zhang</i>	
Study on Transient Overvoltage and Multi-Point Secondary Discharge in Ultra-Long GIL During Power Frequency Withstand Test	419
<i>Lei Zhang, Guobao Zhang, Hengyang Zhao, Wei Yang, Taiyun Zhu, Wenhui Han</i>	
Study on the Change Rule of Electro-Optical Frequency Dielectric Characteristics in Epoxy Resin Insulation Systems Under Multifactorial Combined Aging.....	427
<i>Songhan Hu, Mingze Zhang, Ji Liu, Weichao Zhang, Sergey Maksimenko</i>	
Spatiotemporal Analysis of Interfacial Charges in High Voltage Power Module Packaging Under Square-Wave Stress	432
<i>Meng Chen, Yalin Wang, Lu Fan, Yi Yin, Zhaokai Lei, Xinyang Zhu</i>	
Physics-Informed Deep Learning for Electric Field Distortion Analysis in Power Transmission Line Foreign Object Recognition.....	436
<i>Ziyang Ye, Fuchao Li, Yihui Ding, Junyi Cai, Lanling Wang, Lin Huang</i>	
Effects of Short-Term X-Ray Radiation on Low-Density Polyethylene Properties	442
<i>Luyao Zhong, Su Zhao, Xiaolei Zhao, Yalin Wang, Yi Yin</i>	
Effect of Cooling Rate on Structure and Electrical Properties of Polypropylene-Based Cable Insulation Materials	446
<i>Yunpeng Zhan, Shuai Hou, Jie Liu, Baojun Hui, Wenbo Zhu, Mingli Fu, Yanfei Li, Lingmeng Fan</i>	
Key Operation-Maintenance Indicators for HV XLPE Cable Aging.....	451
<i>Wenxin Zhong, Tianxiang Kang, Huachun Li, Zehua Pan, Kangning Wu, Jianying Li</i>	

Evaluation of the Cole-Cole Model for Oil-Paper Insulation in Extreme Cold Environments via Dielectric Response and Parameter Optimization	456
<i>Raheel Ahmed, Ji Liu, Mingze Zhang, Xianhao Fan, Muhammad T. Amin, Abdul R. Zahid</i>	
Non-Destructive Testing of Crystallinity and Breakdown Performance Assessment of XLPE Based on Near-Infrared Spectroscopy.....	463
<i>Zichao Yang, Haoyue Jiang, Xinyu Yang, Kaiying Chang, Benhong Ouyang, Jianying Li</i>	
Calculation and Influence Factor Analysis of Induced Voltage and Current in Double-Circuit Transmission Lines on the Same Tower Based on ATP-EMTP.....	468
<i>Yuchen Li, Yong Liu, Yi Chen, Xuegang Li, Longji Li, Boxue Du</i>	
Assessment of Elongation at Break of Silicone Rubber Insulation by NIR Spectroscopy	473
<i>Xinyu Yang, Zichao Yang, Haoyue Jiang, Kaiying Chang, Benhong Ouyang, Jianying Li</i>	
Investigation of Threshold Electric Field Characteristics in Polypropylene-Laminated Paper and Oil-Impregnated Paper Insulation	478
<i>Jiabei Zhu, Jiandong Wu, Xiang Tian, Xuebei Wang, Weijia Zhao, Yi Yin</i>	
Study on Nonlinear Conductivity Characteristics of SiC-Based Corona-Resistant Tapes	482
<i>Shuai Yang, Yue Zhang, Haohao Cai, Libo Rao, Jiandong Wu</i>	
Monomer Engineering of Polyimides for High-Temperature Capacitive Energy Storage	486
<i>Yanzhi Li, Yuhan Chen, Yadong Tang, Jing Liu, Zichen Bai, Yuxin Cui, Lu Cheng, Wenfeng Liu, Yao Zhou</i>	
Characteristics of Electroluminescence in Polyimide Under DC, AC and Square Wave Fields.....	490
<i>Xinyang Zhu, Yalin Wang, Miaoran Cao, Lu Fan, Meng Chen, Yi Yin</i>	
Investigation of Partial Discharges in Epoxy Resin with Horizontally and Vertically Aligned Two Voids.....	494
<i>Swe Z. L. Htet, May T. Khaing, Tatsuya Sakoda, Yoshihiro Harada, Teruo Shibata, Kazunori Miyazaki</i>	
Preparation and Properties of Peelable Semiconductive Shielding for Polypropylene Insulation.....	499
<i>Zijian Liu, Jiaming Yang, Xindong Zhao, Kai Wang, Jianjun Liu, Chuang Wang</i>	
Evaluation of the Degradation Degree of 20-Year-Aged Insulator by using Surface Discharge.....	503
<i>May O. Khin, Hirose Nonoka, May T. Khaing, Tatsuya Sakoda, Yoshiki Nakayama, Kota Niwa</i>	
Research on Stress Whitening Phenomenon of Polypropylene and Its Modified Materials.....	507
<i>Chuang Wang, Jiaming Yang, Xindong Zhao, Yunpeng Zhan, Shuai Hou, Mingli Fu</i>	
Study on Polypropylene Based Shielding Material for High Voltage DC Cable.....	512
<i>Jianjun Liu, Xindong Zhao, Jiaming Yang, Yunpeng Zhan, Shuai Hou, Mingli Fu</i>	
Study on the Transient Distribution Characteristics of Step Voltage in Prefabricated Substations Under Lightning Strike Conditions	517
<i>Wei Shen, Sen Wang, Yanhua Han, Bo Niu, Dingge Yang, Xinmin Li</i>	
Synergistic Effect of Co ₃ O ₄ Nanofillers on the Performance of P(VDF-HFP) Dielectrics	522
<i>Khatri Nirajan, Wang Feipeng, Asad Ullah, Ruta W. Deusdedith</i>	
Improved Energy Storage Density of Polypropylene Film via Surface Functionalization	527
<i>Yuxin Cui, Ting Zhang, Zhiyuan Li, Yang Chu, Yanzhi Li, Lu Cheng, Wenfeng Liu, Bin Gai</i>	

Spectral Characteristics of Streamer Discharge of Positive Polarity Streamers in Submillimeter Air Gap	531
<i>Yanzhi Chen, Yuanchi Ma, Haipeng Zhao, Zhuokai Shao, Yingxu Zhou, Zhi Sun</i>	
Effect of Molecular Chain Structure on the Thermal Conductivity of Liquid Crystal Epoxy Composites	535
<i>Wei Song, Jixuan Fan, Lin Li, Xiufeng Peng, Wenhong Song, Lipeng Zhu</i>	
Study on the Thermal and Dielectric Properties of Magnetically Oriented Fe ₃ O ₄ @SiC _w /Liquid Crystal Epoxy Resin Composites	540
<i>Wei Song, Zengkun Chen, Lin Li, Mengmeng Gou, Jixuan Fan, Xiufeng Peng</i>	
Dry-Type Transformers in Intelligent Monitoring and Health Assessment Based on Digital Twin Technology	544
<i>Hu Ran, Dai Hao, Lin Zizhao, Huang Zhanhua, Li Bing, Chen Chen</i>	
Fabrication and Electrochromic Properties of Electrochromic Composite Materials.....	548
<i>Wei Song, Hanyong Mao, Lin Li, Jiafeng Fan, Jixuan Fan, Chunli Ma</i>	
3-APTES-Functionalized Epoxidized Castor Oil-Epoxy Biocomposite: A Sustainable High Voltage Insulator with Enhanced AC Breakdown Strength	552
<i>Ruta W. Deusedith, Xingliang Jiang, Mahmoud A. Ali, Khatri Nirajan, Tesfalem M. Malto</i>	
Research on Temperature Rise Characteristics of Dry-Type Transformers Based on Fiber Bragg Grating Thermometry	558
<i>Ran Hu, Bing Li, Wenzhong Ye, Weichao Zhang, Longsheng Chen, Yinglong Gan, Yanjia Liu</i>	
An Optimized Optical System for Trace Detection of Characteristic Components in Electrical Insulation Gases	564
<i>Anhao Jiang, Chaohai Zhang, Jin Deng, Chunlin Li, Min Zhu, Jun Deng</i>	
Optical Partial Discharge Detection and Analysis for Insulation Aging Evolution	570
<i>Jun Deng, Yanjie Cui, Jinzhuang Lv, Zhicheng Xie, Jinyin Zhang, Zhaokai Lei</i>	
Variation Law and Generation Mechanism of Electromagnetic Rail Muzzle Arc.....	574
<i>Jingtong Feng, Luyao Liu, Pengfei Lu, Jiali Liu, A. M. A. Abdo, Hongshun Liu</i>	
Study on the Dynamic Behavior of Charged Water Droplets in Crude Oil Emulsions Under Electromagnetic Coupling Fields	579
<i>Chunhui Song, Xu Cao, Xuedong Gao, Qing Li</i>	
Effects of Crosslinking Coagents on the Crosslinking Behavior and Electrical Properties of XLPE Cable Insulation Materials.....	584
<i>Wei Qin, Chuang Wang, Hua Liu, Yao Zhang, Guangbing Guan</i>	
Research and Development on Frequency Domain Dielectric Response Test Device for Transformer Oil-Paper Insulation.....	588
<i>Haowen Xu, Haiyue Zhang, Shouming Wang, Ji Liu, Limin Qu, Dewen Zhang</i>	
Effects of Antioxidant Co-Blending on Crosslinking and Aging Performance of XLPE Cable Insulation Materials	592
<i>Jian Lin, Kaiming Du, Min Xu, Chuang Wang, Xu Zheng, Aixian Lu</i>	
500kV Ultra-High Voltage Cable Fine Manufacturing Technology Research.....	596
<i>Tao Zhang, Ye Wang, Rui Lan, Weixin Sun</i>	

The Application of High-Voltage Cable Laying Technology in Urban Power Engineering.....	602
<i>Xuefeng Zhao, Chong Wang, Lu Pu, Tao Lin, Dawei Zhang, Tao Zhang</i>	
Design and Application of Seamless Smooth Aluminum-Sheathed Cable.....	606
<i>Tao Lin, Yong Sheng, Chong Wang, Lu Pu, Xuefeng Zhao, Dawei Zhang, Tao Zhang</i>	
Development of On-Line Monitoring Device for Interturn Short-Circuit of Dry-Type Air-Core Reactor Based on Star-Arm Current Change Rate	610
<i>Muyu Gu, Jian Zhang, Zhongyuan Li, Heqian Liu, Ji Liu, Peng Zhang</i>	
Surface-Modified SiO ₂ Nanoparticles on Thermal Aging Life of PP.....	614
<i>Ziwu Xue, Junguo Gao, Wengang Chen, Haibo Gao, Ran Xue, Licong Hen</i>	
Effect of Space Charge Accumulation on Electric Field Distortion in Polypropylene at Different Temperatures	619
<i>Xiaoning Shi, Wenpeng Li, Shuxin Bi, Chong Zhang, Xuebei Wang, Jiandong Wu</i>	
Impact of Pipeline Configuration on Dissolved Gas Content in Oil.....	623
<i>Zixi Liu, Leyu Shen, Guanghao Qu, Chuang Zhang, Wei Zhang, Xuran Zhu, Yanzong Meng, Haifeng Gao, Shengtao Li</i>	
Study on the Effect of Nano-SiO ₂ on the Electrical Properties of XLPE	628
<i>Shihe Sun, Junguo Gao, Xiongjun Liu, Xiao Han, Baiwan Shi, Haibo Gao</i>	
Research on the Synergistic Regulation of Electrical and Thermal Conductivity of LDPE-Based Nonlinear Dielectrics by Assisted Electric Field Induction and Nanoparticles-Doping.....	632
<i>Changhai Fu, Delong Zhang, Huicong Yang, Honggeng Tan, Yunlong Sun</i>	
Study of the Thickness Effect on the Conductive Behavior of Polymer-Based Nonlinear Insulating Dielectrics.....	637
<i>Yashuai Liang, Jinjiang Pang, Junyi Jiang, Yunlong Sun</i>	
Breakdown Discharge in Submillimeter Gaps: A Study Based on Needle-Needle Electrode Configuration.....	643
<i>Haipeng Zhao, Yanzhi Chen, Yingxu Zhou, Yuanchi Ma, Zhuokai Shao, Zhi Sun</i>	
Solid Insulation Partial Discharge Detection of Fiber Laser Based on Polarized Light Feedback Demodulation System	647
<i>Zhenpeng Zhang, Zhengbo Liang, Mingzhong Xu, Junping Hou, Jianwei Jin, Fanwu Chu</i>	
Study on Impedance Spectrum Distribution Characteristics of Turn-to-Turn Defects in Dry-Type Air-Core Reactor Under High Frequency Excitation	652
<i>Jian Zhang, Haowen Xu, Zixu Xie</i>	
Study on Interturn Defect Diagnosis of Dry-Type Air-Core Reactor Based on FRA.....	656
<i>Zhongyuan Li, Jian Zhang, Muyu Gu, Peng Zhang, Ji Liu</i>	
Study on the Influence of Water Molecules on the Electrical Properties of the PE/Al (0 0 1) and PE/Al (1 0 0) Interfaces.....	660
<i>Teng Cao, Kunqi Cui, Jiabao Du, Bo Zhang, Yan Du, Yang Wang</i>	
A First-Principles Study of BTA-Regulated Charge Distribution and Interfacial Potential Barrier at the Oil-Paper Interface	664
<i>Wei Teng, Kunqi Cui, Jiabao Du, Yan Du, Bo Zhang, Yang Wang</i>	

Investigation and Performance Evaluation of High Thermal Conductivity Resin for Multi-Resin Primary Insulation in Generators.....	668
<i>Yazhi Shen, Zhipeng Lei, Yuanyuan Li, Menghan Wang</i>	
The Influence of Organic Functional Molecule Grafting on Space Charge and Electrical Conductivity Behavior of EPDM Insulation	672
<i>Ruhuai Tan, Chunyang Li, Xu Yang, Yuxuan Sun, Fei Meng, Duo Ji</i>	
The Transmission Mechanism of Sound Waves Inside a Transformer	676
<i>Liang Zhang, Huidong Guan, Song Cheng, Jingyuan Chi, Bing Wei, Mingze Zhang</i>	
Study on the Electrical Conductivity Characteristics of Semi-Conductive Buffer Layer for High-Voltage Cables	681
<i>Meisi Tian, Chunyang Li, Fenglian Ma, Chengcheng Zhang, Xu Yang, Duo Ji</i>	
Simulation Analysis of Non-Uniformity Moisture Dampness of Oil-Immersed Bushing.....	685
<i>Mingze Zhang, Sixu Peng, Ji Liu, Longtao Yang, Xiaodong Li</i>	
A Joint Localization Method using Multi-Physical Signals for Partial Discharges in Transformer Oil.....	689
<i>Liang Zhang, Yi Lu, Song Cheng, Jingyuan Chi, Bing Wei, Mingze Zhang</i>	
Modulation of Dielectric Properties of Furfuryl Isopropyl Sulfide Grafted Polypropylene and Applicability to High-Voltage Cable Insulations.....	694
<i>Lu Li, Zhongyuan Li, Lei Wang, Jianquan Liang, Kexin Zhang, Yue Wang, Haoze Li, Ling Weng, Limin Dong</i>	
Effect of Intense DC Electric Field on Energy Density of BOPP Films for Capacitor Applications.....	703
<i>Ke Chen, Buxue Du, Meng Xiao, Liangtian Zhang, Haoliang Liu</i>	
Optimization of Dielectric Properties and Energy Storage Characteristics of Sulfur-Containing Functional Monomer Grafted Polypropylene via Melt Grafting	707
<i>Du Yuhan, Xiaoming Wang, Ling Weng, Haoze Li, Xiaorui Zhang</i>	
Surface Charge Accumulation of Cylindrical Insulator in Atmospheric Pressure Air After Positive and Negative Impulse Flashover	716
<i>Xinwei Li, Jinyu Wang, Han Jiang, Chen Guan, Kai Ma, Xiaoguang Zheng</i>	
Electromagnetic Safety Simulation Study of Electromagnetic Safety Operation on $\pm 800\text{kV}\pm 500\text{kV}$ Same-Tower Double-Circuit DC Lines	721
<i>Yi Zhang, Ning Xu, Yinlong Wang, Jie Zhang, Rui Wang</i>	
Study on the Adsorption Mechanism of SF ₆ Decomposition Characteristic Components by kdhf-03 Molecular Sieve.....	725
<i>Yanfeng Xiao, Junqing Wang, Zehao Li, Ge Xu, Yujing Guo, Guang Li, Wanshuang Yi, Yingbing Ran, Liying Zhang</i>	
Ageing Behaviors of Polypropylene Film Under the Operating Condition of Oil-Impregnated Capacitors.....	729
<i>Yang Chu, Yuxin Cui, Zhiyuan Li, Lu Cheng, Lin Zhu, Di Hu, Tao Li, Zhong Chen</i>	
Research on Identification of Encapsulation Defects in Dry-Type Air-Core Reactor Based on Differential Impedance Spectrum.....	733
<i>Haiyue Zhang, Jian Zhang, Ji Liu, Shouming Wang, Mingze Zhang, Haowen Xu</i>	

Analysis of AC and DC Withstand Electrical Performance of Cable Insulation Samples at Different Scales.....	737
<i>Zhao Peng, Ouyang Benhong, Wang Anzhe, Wang Ge, Xu Zhenhao, Li Zhe</i>	
Impact Mechanism of Liquefaction Phenomenon on Insulation Properties of SF ₆ /N ₂ Gas Mixtures Under Cryogenic Conditions	742
<i>Chunming Zhao, Saipeng Zhang, Changjian Si, Daiyong Yang, Yaoxin Wei, Lei Sun, Zhen Li, Ji Liu</i>	
Research on the Influence of Ambient Temperature and Load Current on Surface Charge Accumulation of Basin Insulators in Extremely Cold Environments.....	747
<i>Chunming Zhao, Saipeng Zhang, Changjian Si, Daiyong Yang, Lei Sun, Yaoxin Wei, He Gao, Zhen Li, Ji Liu</i>	
Mechanism of the Effect on Partial Discharge Characteristics of EP/GF Composites by Cold-to-Hot Cycling Ageing.....	752
<i>Ji Liu, Pengfei Wang, Chao Zhang, Shouming Wang, Longfei Zhang, Zhen Li</i>	
High-Performance Energy Storage Materials Based on Polypropylene/Bacterial Cellulose Multilayered Composite Films	757
<i>Xiangyu Dong, Boxue Du, Meng Xiao</i>	
Aqueous Reactive Species Induced by Dielectric Barrier Discharge Plasma in PBS: A Quantitative Study.....	761
<i>Sun Yihan, Li Jin, Zhong Cheng, Li Wenwen, Wang Yuhuai, Que Kehua</i>	
Aqueous Reactive Species Induced by Dielectric Barrier Discharge Plasma in Pure Water: A Quantitative Study	765
<i>Ren Shuai, Sun Yihan, Li Wenwen, Li Jin, Zhong Cheng, Wang Yuhuai</i>	
Study on the Aging Mechanism of Epoxy Impregnated Glass Fiber Composite Materials Under Multi-Factor Aging.....	769
<i>Chunqing Wang, Jian Zhang, Zhongyuan Li, Ji Liu, Mingze Zhang</i>	
Simultaneously Enhanced Dielectric Property and Interfacial Shear Strength of Aramid Fiber Reinforced Polymer Composite via GO	773
<i>Xiaoxiao Kong, Chengyao Hou, Yijun Du, Yun Chen, Kaiwen Huang, Chenlei Han, Yifang Wang, Ge Zhang, Boxue Du</i>	
Temperature Dependence of Surface Electrode Degradation in Metallized Film Capacitors Under High Voltage Stress	777
<i>Liangtian Zhang, Boxue Du, Meng Xiao</i>	
Effects of Aging and Moisture on the Health Status of Transformer Oil-Paper Insulation	781
<i>Qingdong Zhu, Jian Wang, Longlong Li, Wenbing Zhu, Qi Wen, Kai Wu</i>	
Impact of Surface Sand Holes on the Electro-Thermal Performance for Crimping Sleeves in 35 kV Cable Joints	785
<i>Jin Gu, Yan Fang, Yazhong Ye, Kai Shi, Feng Liu, Jiandong Wu</i>	
Study on the Surface Charge Accumulation Characteristics of Insulation Materials in CF ₃ I/CO ₂ Mixed Gas	789
<i>Cai Xu, Li Chao, Shi Jiajie, Yin Wei, Deng Junbo</i>	

Enabling Recyclable and High-Insulation-Performance Aramid Fiber Reinforced Polymer Composites by Dynamic Borate Ester.....	793
<i>Ge Zhang, Xiaoxiao Kong, Yifang Wang, Hangyu Mi, Wentao Qiu, Yijun Du, Yun Chen, Jiahong Duan, Boxue Du</i>	
Research on Long-Term Withstand Voltage Characteristics and Lifetime Prediction of Grafted Modified Polypropylene Cable Insulation.....	797
<i>Yinfan Yin, Boxue Du, Shuai Zhao, Heyu Wang, Zechao Yang, Zhonglei Li</i>	
Research on the Improvement of Thermal Aging Resistance of Polypropylene Cable Insulation Based on Antioxidant Grafting.....	801
<i>Yinfan Yin, Boxue Du, Shuai Zhao, Heyu Wang, Zechao Yang, Zhonglei Li</i>	
Selection Method for Optical Units in 66kV Dynamic Submarine Cables Based on Finite Element Simulation	805
<i>Xin Yu, Manting Guo, Shihu Yu, Yanpeng Hao, Xiangyang Peng, Yashuang Zheng</i>	
Effect of Nanoclusters on Dielectric Properties of Epoxy Composites	811
<i>Gang Peng, Dajian Li, Lei Zhang, Wei Zhang, Shaoming Pan</i>	
Research on Feature Extraction and Monitoring Early Warning Technologies for Overhead Line Galloping.....	814
<i>Bohan Wang, Yong Liu, Qiran Li, B. X. Du</i>	
Dynamic Analysis and Study of Overhead Line Galloping Based on Finite Element Method	818
<i>Bohan Wang, Yong Liu, Yuanhao Wan, Zhanghong Ma, B. X. Du</i>	
The Effect of Antioxidant Types on the Mechanical Properties of XLPE Insulation Material After Thermal-Oxidative Aging.....	822
<i>Ma Zhuxin, Yang Shuting, Yang Tianyu, Yang Tianpeng, Wang Kun, Wu Ming, Qiao Bo, Zhong Lisheng</i>	
Effects of Degassing on Space Charge and Conductivity in Water Tree-Resistant XLPE	826
<i>Wenpeng Li, Yifan Cao, Weijia Zhao, Chong Zhang, Lili Zhao, Jiandong Wu</i>	
Impact of the Biaxial Stretching on the Breakdown Strength of Polypropylene Films.....	830
<i>Yijun Zhen, Bin Zhou, Peiyan Liu, Yi Qiao, Yang Feng, Shengtao Li</i>	
Study on Space Charge and DC Breakdown Characteristics of Polypropylene-Based Insulation Interface in Cable Factory Joints.....	834
<i>Zhong Zheng, Zhonglei Li, Zhaorui Luo, Heyu Wang, You Wu, Guozheng Cao, Boxue Du</i>	
Suppression of Metal Particle and Surface Flashover by Dielectric Functionally Graded Spacers.....	838
<i>Zhouyu Jin, Boxue Du, Meng Xiao, Hucheng Liang, Jianan Dong, Zhijun Guo</i>	
Optimization of Permittivity Graded Spacer for Suppressing Metal Particles in AC-GIS	842
<i>Zhouyu Jin, Boxue Du, Meng Xiao, Hucheng Liang, Hang Yao, Wenjin Zhang</i>	
Leakage Current Characteristic Analysis for Electrical Corrosion Evaluation of All Dielectric Self-Supporting (ADSS) Optical Cables.....	846
<i>Yufeng Guo, Yong Liu, Hao Wang, Zhihui Wang, Sheng Gao, Boxue Du</i>	
Residual Stress Assessment on Epoxy Insulators using Thermo-Elastic Method	850
<i>Bei Chu, Hucheng Liang, Weiwei Li, Boxue Du</i>	

Effect of Various C ₄ F ₇ N/CO ₂ Mixtures on Surface Charge Accumulation on Basin Insulator with Metal Particle Under AC Voltage	854
<i>Qifeng Shang, Yu Gao, Di Lu, Shuangying Li, Pinhao Huang, Xiaohui Duan, Chuanyun Zhu, Boxue Du</i>	
Influence of High-Frequency Impulsive Voltage on End-Winding Corona Protection Systems in Medium-Voltage Inverter-Fed Motors.....	858
<i>Qiuhan Zhang, Yuguang Man, Jijun Zeng, Peng Wang, Yingwei Zhu, Wenhuan Zhao</i>	
Study on the Effects of Thermal Vibration Aging and Water Penetration on the Insulation Performance of Epoxy/Glass Fiber.....	862
<i>Chao Zhang, Pengfei Wang, Jian Zhang, Zhen Li, Zhongyuan Zhang, Ji Liu</i>	
Effect of Gamma-Ray Irradiation on Aging Behavior of PP Composites as Cable Insulation	868
<i>Tingyue Xue, Yu Gao, Baixin Liu, Chenyi Guo, Bosen Si, Boxue Du</i>	
Simulation Research on Outer Sheath Defects of 110kV XLPE Based on Multiple Characteristic Quantities	872
<i>Hankun Wei, Yong Liu, Hao Wang, Hongbao Zong, B. X. Du</i>	
Global Multi-Physical Field Coupling Failure Simulation of Submarine Cables Under Sudden Loads	876
<i>Hankun Wei, Yong Liu, Qiran Li, Xiaowen Li, B. X. Du</i>	
Optimization of Cable High-Frequency Model Based on Partial Discharge Propagation Characteristics	881
<i>Jia Chu, Chunlin Hao, Dabiao Nie, Jianda Li, Tao Han, Boxue Du</i>	
Characterization of Space Charge Distribution of Cross-Linked Polyethylene Cable Insulation Under Temperature Gradient Ageing.....	886
<i>Jia Chu, Wenhao Li, Yanqing Li, Zeping Zheng, Tao Han, Boxue Du</i>	
Multi-Stage Partial Discharge Signal Denoising Algorithm Based on SVD-ICEEMDAN.....	891
<i>Dabiao Nie, Chunlin Hao, Tao Han, Heng Yang, Jin He, Boxue Du</i>	
Electric Field Control and Metal Particle Suppression by Structure Optimization of DC-GIL Spacer	895
<i>Weiwei Li, Hucheng Liang, Hang Yao, Boxue Du, Bei Chu, Jianan Dong</i>	
Physical Quantities Measurable by the Current Integration Method - Conductivity, Space Charge, and Permittivity	899
<i>Yoshimichi Ohki, Naoshi Hirai, Baskarasethuptathi Thangabalan, Shunsuke Shinogi, Yasuhiro Tanaka, Naohiro Hozumi</i>	
Charge Suppression and Breakdown Characteristics Improvement of Factory Joint for Submarine Cable by Atmosphere Pressure Plasma Jet	903
<i>Zhaorui Luo, Zhonglei Li, Zhong Zheng, Boxue Du</i>	
Characteristics of Partial Discharge During Electrical Tree Growth Under Low Atmospheric Pressure	908
<i>Zeping Zheng, Chunlin Hao, Dabiao Nie, Yanqing Li, Tao Han, Boxue Du</i>	
Interfacial Breakdown Behavior of XLPE/EPDM Bilayer Insulation in DC Cable Terminations Under Varying Treatment Conditions.....	912
<i>Yuhuai Wang, Xu Guo, Siyuan Chen, Kaulya Pathiraja, Shuai Ren, Jin Li</i>	
Space Charge Characteristics of SiR Insulation of 220 kV AC Cable Joint Accessories	916
<i>Hong Zhou, Tianyu Yang, Shuting Yang, Jiabao Cui, Jiandong Wu, Feng Liu</i>	

Degradation Characteristics of Electrical Treeing in Glass Fiber-Reinforced Epoxy Under Mechanical Loading	920
<i>Yuhuai Wang, Siyuan Chen, Renyong Zhao, Yun Chen, Boyuan Cui, Jin Li</i>	
Study on Diffusion Behavior of Crosslinking Byproducts of Semiconductive Layer in Polypropylene Blends.....	924
<i>Bosen Si, Yu Gao, Baixin Liu, Chenyi Guo, Tingyue Xue, Boxue Du</i>	
Preparation and Properties of Eco-Friendly Piezoelectric Composites Based on Bacterial Cellulose/ ZnFe ₂ O ₄	928
<i>Zhaochen Wang, Boxue Du, Meng Xiao</i>	
Polypropylene vs. XLPE Cables: Observed Differences Related to Cable Accessories.....	932
<i>Yi Luo, Haitian Wang, Mingyu Zhou, Ruoyu Xu, Wenpeng Li, Xuyang Zhao</i>	
Electrical Treeing Degradation Characteristics of β -Nucleating Agent-Modified Polypropylene Cable Insulation Under Mechanical Tensile Stress	936
<i>Shuai Zhao, Zhonglei Li, Yifan Yin, Boxue Du</i>	
Electrical Treeing Behavior and Breakdown Characteristics of Polypropylene Cable Insulation Under Mechanical Stress and Low-Temperature Conditions	940
<i>Shuai Zhao, Zhonglei Li, Yifan Yin, Heyu Wang, Zechao Yang, Boxue Du</i>	
Cable Aging Type Identification Method Based on Frequency Domain Reflection and Multilayer Perceptron.....	944
<i>Jianda Li, Yanqing Li, Tao Han, Zeping Zheng, Wenbo Zhu, Boxue Du</i>	
Study on Combined Dielectric Barrier Discharge Treatment and Flash Sintering of ZnO Ceramics.....	948
<i>Guilai Yin, Yimeng Huang, Nianping Yan, Haoran Wang, Zhuo Liu, Xilin Wang</i>	
Study on Aging Characteristics of Polypropylene Based on Electrical Conductivity and Space Charge	953
<i>Qi Shen, Xuebei Wang, Jiandong Wu, Xiaoning Shi, Wenpeng Li, Weijia Zhao</i>	
The Growth Characteristics of Electrical Trees Under Low Atmospheric Pressure.....	957
<i>Zeping Zheng, Wenhao Li, Jianda Li, Yong Fang, Tao Han, Boxue Du</i>	
Effect of Temperature-Dependent Volume Conductivity on Surface Charge Accumulation in DC-GIL/GIS.....	961
<i>Pinhao Huang, Yu Gao, Di Lu, Shuangying Li, Qifeng Shang, Boxue Du</i>	
Development of Factory Joints for Medium Voltage AC Extruded Polypropylene-Based-Insulated Power Cables.....	965
<i>Bin Du, Haitian Wang, Yunning Long, Yi Luo, Ruoyu Xu, Yuan Gao, Jingyi Kang, Mingyu Zhou</i>	
Effects of Thermo-Oxidative Aging on the Microstructure and DC Breakdown Performance of Crosslinked Polyethylene Copolymer Insulation Material.....	969
<i>Weijie Zhang, Yifan Wu, Yongkang Zhang, Xin Yu, Shihu Yu, Shihang Wang, Shengtao Li</i>	
Effects of Residual Space Charge on Breakdown Voltage in Silicone Rubber Materials Used in HVDC Cables.....	973
<i>Qingzhuo Li, Juntao Zhao, Shengfu Zhang, Xiang Wang, Kai Wu</i>	
Effect of Disulfide Bonds on Dielectric Properties of Recyclable Epoxy Vitrimer.....	977
<i>Di Lu, Yu Gao, Pinhao Huang, Luji Jing, Chicheng Liu, Boxue Du</i>	

Effect of Zoning-Coating on Charge Suppression on Asymmetric Surface of DC GIS Insulator	981
<i>Di Lu, Yu Gao, Pinhao Huang, Zhilong Yu, Qifeng Shang, Boxue Du</i>	
Aging Evaluation of Retired 220 kV XLPE Cables: Correlating Long-Term Breakdown Performance with Short-Term Characteristics.....	985
<i>Zechao Yang, Pengxian Song, Yuming Dong, Zhengzheng Meng, Qinghua Tang, Zhonglei Li</i>	
Impact of Thickness on Electrical Breakdown Characteristics and Mechanical Properties of XLPE Insulation.....	989
<i>Zechao Yang, Qinghua Tang, Yuming Dong, Zhengzheng Meng, Pengxian Song, Zhonglei Li</i>	
Research on Non-Uniform Thermal Aging Mechanisms in Submarine Cables Based on Multiphysics Coupling Analysis.....	993
<i>Xukai Duan, T. Han, Yong Liu, Minxin Wang, B. X. Du</i>	
Aging Characterization Parameters of Oil-Pressboard Insulation Based on Repetitive PDC Current Characteristics	997
<i>Yu Zhuang, Chao Li, Yonghong Wang, Hongxiang Lai, Liang Zhang, Mingze Zhang</i>	

Author Index