

Zhonglei Li

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118
papers

1,209
citations

20
h-index

28
g-index

192
ext. papers

1,745
ext. citations

2.6
avg. IF

5.35
L-index

#	Paper	IF	Citations
118	Space charge behaviors of PP/POE/ZnO nanocomposites for HVDC cables. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016 , 23, 3165-3174	2.3	56
117	. <i>IEEE Electrical Insulation Magazine</i> , 2018 , 34, 30-43	2.1	54
116	Trap Modulated Charge Carrier Transport in Polyethylene/Graphene Nanocomposites. <i>Scientific Reports</i> , 2017 , 7, 4015	4.9	53
115	Effects of ambient temperature on surface charge and flashover of heat-shrinkable polymer under polarity reversal voltage. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016 , 23, 1190-1197	2.3	52
114	Nonlinear conductivity and interface charge behaviors between LDPE and EPDM/SiC composite for HVDC cable accessory. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 1566-1573	2.3	41
113	Carrier mobility and trap distribution dependent flashover characteristics of epoxy resin. <i>IET Generation, Transmission and Distribution</i> , 2018 , 12, 466-471	2.5	40
112	Suppressing interface charge between LDPE and EPDM for HVDC cable accessory insulation. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 1331-1339	2.3	35
111	Promising functional graded materials for compact gaseous insulated switchgears/pipelines. <i>High Voltage</i> , 2020 , 5, 231-240	4.1	30
110	Effects of non-linear conductivity on charge trapping and de-trapping behaviours in epoxy/SiC composites under DC stress. <i>IET Science, Measurement and Technology</i> , 2018 , 12, 83-89	1.5	27
109	Trap Distribution and Dielectric Breakdown of Isotactic Polypropylene/Propylene Based Elastomer With Improved Flexibility for DC Cable Insulation. <i>IEEE Access</i> , 2018 , 6, 58645-58661	3.5	27
108	Understanding Trap Effects on Electrical Treeing Phenomena in EPDM/POSS Composites. <i>Scientific Reports</i> , 2018 , 8, 8481	4.9	26
107	Effect of voltage stabilizers on the space charge behavior of XLPE for HVDC cable application. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2019 , 26, 34-42	2.3	25
106	Mechanism of deep trap sites in epoxy/graphene nanocomposite using quantum chemical calculation. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2019 , 26, 1577-1580	2.3	25
105	Effects of nano-SiO ₂ particles on surface tracking characteristics of silicone rubber composites. <i>Applied Physics Letters</i> , 2014 , 105, 102905	3.4	24
104	Mechanical stress distribution and risk assessment of 110kV GIS insulator considering Al ₂ O ₃ settlement. <i>High Voltage</i> , 2019 , 4, 65-71	4.1	23
103	Effects of AC and pulse voltage combination on surface charge accumulation and decay of epoxy resin. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016 , 23, 2368-2376	2.3	22
102	Space charge accumulation in double-layer dielectric systems measurement methods and quantum chemical calculations. <i>IEEE Electrical Insulation Magazine</i> , 2019 , 35, 36-46	2.1	22

101	Effects of mechanical stretching on space charge behaviors of PP/POE blend for HVDC cables. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 1438-1445	2.3	22
100	Electrical tree degradation in high-voltage cable insulation: progress and challenges. <i>High Voltage</i> , 2020 , 5, 353-364	4.1	22
99	Surface charge coupling behavior of fluorinated polyimide film under DC and pulse voltage. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 567-573	2.3	21
98	Effects of ZnO magnetron sputtering on surface charge and flashover voltage of oil-impregnated paper. <i>High Voltage</i> , 2019 , 4, 308-315	4.1	20
97	Surface Layer Fluorination-Modulated Space Charge Behaviors in HVDC Cable Accessory. <i>Polymers</i> , 2018 , 10,	4.5	18
96	Effects of mechanical stress on treeing growth characteristics in HTV silicone rubber. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 1547-1556	2.3	18
95	. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2018 , 25, 1479-1486	2.3	18
94	Trap distribution of electron beam irradiated epoxy resin under repetitive pulse voltage. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 3869-3877	2.3	17
93	Improved ampacity of buried HVDC cable with high thermal conductivity LDPE/BN insulation. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 2667-2676	2.3	17
92	Dynamic behavior of surface charge on gamma-ray irradiated polybutylene naphthalate. <i>Polymer Degradation and Stability</i> , 2009 , 94, 139-143	4.7	16
91	Multistep and Multiscale Electron Trapping for High-Efficiency Modulation of Electrical Degradation in Polymer Dielectrics. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 7045-7053	3.8	15
90	Effects of high temperature and high electric field on the space charge behavior in epoxy resin for power modules. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2020 , 27, 882-890	2.3	14
89	Electrical Tree Initiation and Growth in Silicone Rubber under Combined DC-Pulse Voltage. <i>Energies</i> , 2018 , 11, 764	3.1	14
88	Temperature-dependent DC conductivity and space charge distribution of XLPE/GO nanocomposites for HVDC cable insulation. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2020 , 27, 418-426	2.3	13
87	Effects of direct fluorination on space charge accumulation in HTV silicone rubber. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016 , 23, 2353-2360	2.3	13
86	Improved DC Conductivity and Space Charge Characteristics of XLPE for HVDC Cable Application: Effect of Voltage Stabilizers. <i>IEEE Access</i> , 2019 , 7, 66576-66583	3.5	13
85	Electrical and mechanical ageing behaviors of used heat-shrinkable insulation tubes. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2014 , 21, 1875-1881	2.3	13
84	Surface charge and flashover voltage of EVA/CB nanocomposite under mechanical stresses. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016 , 23, 3734-3741	2.3	13

83	Temperature-dependent surface charge behavior of polypropylene film under DC and pulse voltages. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2017 , 24, 774-783	2.3	12
82	Dielectric relaxation and trap-modulated DC breakdown of polypropylene blend insulation. <i>Polymer</i> , 2019 , 185, 121935	3.9	12
81	Surface Charge Transport Characteristics of ZnO/Silicone Rubber Composites Under Impulse Superimposed on DC Voltage. <i>IEEE Access</i> , 2019 , 7, 3008-3017	3.5	12
80	Surface FGM Insulator Based on BaTiO ₃ Magnetron Sputtering for Electric Field Grading of AC Gas Insulated Power Apparatus. <i>IEEE Access</i> , 2019 , 7, 62681-62688	3.5	11
79	Investigation of charge transport and breakdown properties in XLPE/GO nanocomposites part 1: The role of functionalized GO quantum wells. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2020 , 27, 1204-1212	2.3	11
78	Temperature dependent surface charge and discharge behavior of epoxy/AlN nanocomposites. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2018 , 25, 1300-1307	2.3	10
77	Improved space charge transport model in bi-layer dielectrics considering carrier dynamic equilibrium. <i>High Voltage</i> , 2020 , 5, 176-183	4.1	10
76	Electric Field Regulation of Insulator Interface by FGM With Conductivity for Superconducting-GIL. <i>IEEE Transactions on Applied Superconductivity</i> , 2019 , 29, 1-5	1.8	10
75	Investigation of electrification and breakdown strength about transformer oil/pressboard. <i>IET Electric Power Applications</i> , 2017 , 11, 386-392	1.8	9
74	The calculation of circulating current for the single-core cables in Smart Grid 2012 ,		9
73	Tracking and erosion resistance of silicone rubber/BN nanocomposites under DC voltage 2013 ,		9
72	Effect of gamma-ray irradiation on surface charge behavior of polybutylene naphthalate. <i>Journal of Electrostatics</i> , 2009 , 67, 22-26	1.7	9
71	Numerical simulation on the surface charge accumulation process of epoxy insulator under needle-plane corona discharge in air. <i>IET Science, Measurement and Technology</i> , 2018 , 12, 9-16	1.5	9
70	Effects of multiple parameters on static electrification and breakdown strength of transformer oil. <i>IET Science, Measurement and Technology</i> , 2016 , 10, 597-601	1.5	8
69	Improved carrier mobility dependent surface charge am flashover voltage of polypropylene film under DC and pulse voltages. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2018 , 25, 1014-1021	2.3	8
68	Inhibition Effect of Graphene on Space Charge Injection and Accumulation in Low-Density Polyethylene. <i>Nanomaterials</i> , 2018 , 8,	5.4	8
67	Temperature-Dependent Surface Charge and Flashover Behaviors of Oil-Paper Insulation Under Impulse With Superimposed DC Voltage. <i>IEEE Access</i> , 2018 , 6, 63087-63093	3.5	8
66	Inhibition Effect of Graphene Nanoplatelets on Electrical Degradation in Silicone Rubber. <i>Polymers</i> , 2019 , 11,	4.5	7

65	Molecular Structure Modulated Trap Distribution and Carrier Migration in Fluorinated Epoxy Resin. <i>Molecules</i> , 2020 , 25,	4.8	7
64	Evaluation of high-voltage AC cable grounding systems based on the real-time monitoring and theoretical calculation of grounding currents. <i>High Voltage</i> , 2018 , 3, 38-43	4.1	6
63	Deep trap sites suppressing space charge injection in polycyclic aromatic compounds doped XLPE composite. <i>IET Nanodielectrics</i> , 2020 , 3, 10-13	2.8	6
62	Electrical Treeing Characteristics in Epoxy under Electro-magnetic Coupled Field. <i>Journal of Physics: Conference Series</i> , 2020 , 1559, 012089	0.3	6
61	Interface charge behaviors between LDPE and EPDM filled with carbon black nanoparticles. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2016 , 23, 3696-3703	2.3	6
60	Discharge Breakdown Characteristics With Fluorinated Polyimide Films in High-Temperature Superconducting Cable Insulation. <i>IEEE Transactions on Applied Superconductivity</i> , 2016 , 26, 1-5	1.8	5
59	Temperature-dependent surface charge and discharge behaviour of converter transformer oil/paper insulation under DC voltage. <i>IET Science, Measurement and Technology</i> , 2019 , 13, 29-34	1.5	5
58	Nanoscale-trap-modulated electrical degradation in polymer dielectric composites using antioxidants as voltage stabilizers. <i>Composites Part B: Engineering</i> , 2019 , 178, 107434	10	5
57	Improved Electric Field Distribution Within Bushing Insulation by EP/GO Nanocomposites With Reduced Temperature Coefficient of Conductivity. <i>IEEE Access</i> , 2020 , 8, 176864-176872	3.5	5
56	Investigation of charge transport and breakdown properties in XLPE/GO nanocomposites part 2: Effect of polarity reversal. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2020 , 27, 1213-1221	2.3	5
55	An investigation on discharge fault in buffer layer of 220kV XLPE AC cable. <i>IET Science, Measurement and Technology</i> , 2021 , 15, 508-516	1.5	5
54	Coupling Effect of Molecular Chain Displacement and Carrier Trap Characteristics on DC Breakdown of HDPE/LDPE Blend Insulation. <i>Polymers</i> , 2020 , 12,	4.5	4
53	Numerical Investigation on Collision of Pollution Particles on Outdoor Insulators. <i>IEEE Access</i> , 2019 , 7, 56974-56985	3.5	4
52	Effect of Polycyclic Compounds Fillers on Electrical Treeing Characteristics in XLPE with DC-Impulse Voltage. <i>Energies</i> , 2019 , 12, 2767	3.1	4
51	Electronic and optical properties of C-doped BN nanotubes by adsorption of typical decomposition products of C ₃ F ₇ CN gas. <i>Applied Surface Science</i> , 2019 , 491, 698-706	6.7	4
50	Improved Breakdown Strength of Polypropylene Film by Polycyclic Compounds Addition for Power Capacitors. <i>Materials</i> , 2021 , 14,	3.5	4
49	Electrical Field Distribution in 600 kV Converter Transformer Bushing Core with the Application of Epoxy Resin with Nonlinear Conductivity 2018 ,		4
48	Reduction of vibration noise for amorphous metal alloy core distribution transformer. <i>Transactions of Tianjin University</i> , 2015 , 21, 289-298	2.9	3

47	Study on Improving Interface Performance of HVDC Composite Insulators by Plasma Etching. <i>Coatings</i> , 2020 , 10, 1036	2.9	3
46	Trap Distribution and Flashover Characteristics of Carbon-Black-Filled EPDM in Low Temperature. <i>IEEE Transactions on Applied Superconductivity</i> , 2016 , 26, 1-5	1.8	3
45	Effects of low temperature on treeing phenomena of silicone rubber 2013 ,		3
44	Molecule diffusion behaviours of waterproof sealants into silicone rubber insulation for submarine cable joint based on molecular dynamics simulations. <i>High Voltage</i> , 2021 , 6, 230-241	4.1	3
43	Effect of micro-HO and micro-O on the decomposition characteristics of insulating medium CFCN gas using molecular dynamics and transition state method. <i>Journal of Molecular Modeling</i> , 2020 , 26, 252 ²		3
42	. <i>IEEE Transactions on Applied Superconductivity</i> , 2019 , 29, 1-5	1.8	3
41	Simulation of Interface Charge Behaviors in HVDC Cable Accessory Based on Bipolar Carrier Transportation Model 2018 ,		3
40	Effect of Fullerene Nanoparticle on Tuning Trap Level Distribution of Fullerene/Polyethylene Nanocomposites 2019 ,		2
39	Electrical Tree Characteristics in Polypropylene Under Impulse Superimposed DC Voltage in LN ₂ . <i>IEEE Transactions on Applied Superconductivity</i> , 2019 , 29, 1-3	1.8	2
38	Effect of Crystalline Morphology on Electrical Tree Growth Characteristics of High-Density and Low-Density Polyethylene Blend Insulation. <i>IEEE Access</i> , 2020 , 8, 114413-114421	3.5	2
37	Polycyclic Compounds Affecting Electrical Tree Growth in Polypropylene Under Ambient Temperature. <i>IEEE Access</i> , 2020 , 8, 8886-8898	3.5	2
36	Effect of direct fluorination on partial discharge characteristics of polyimide film used as magnet wire insulation of generator. <i>IET Generation, Transmission and Distribution</i> , 2016 , 10, 2251-2258	2.5	2
35	Effects of nonlinear conductivity on interface charge in HVDC cable accessories 2017 ,		2
34	Surface charge accumulate and decay of direct-fluorinated RTV silicone rubber 2013 ,		2
33	Chaos existence in surface discharge of tracking test. <i>Transactions of Tianjin University</i> , 2009 , 15, 168-172.9		2
32	Non-Linear Conductivity Epoxy/SiC Composites for Emerging Power Module Packaging: Fabrication, Characterization and Application. <i>Materials</i> , 2020 , 13,	3.5	2
31	Effects of Antioxidant Additives on Electrical Tree Characteristics in EPDM Under Liquid Nitrogen. <i>IEEE Transactions on Applied Superconductivity</i> , 2019 , 29, 1-5	1.8	2
30	Application of E-Field Adaptive Insulator for DC GHe-Insulated Pipeline. <i>IEEE Transactions on Applied Superconductivity</i> , 2019 , 29, 1-3	1.8	2

29	Effects of Magnetic field on Partial Discharge in Epoxy Resin for Superconducting Coil Insulation. <i>IEEE Transactions on Applied Superconductivity</i> , 2021 , 1-1	1.8	2
28	Non-Intrusive Measurement of Transient Electric Field Distribution Under AC and Impulse Voltages. <i>IEEE Sensors Journal</i> , 2020 , 20, 10898-10902	4	1
27	Electric-Field- and Temperature-Dependent Nonlinear Conductivity of SiC/Epoxy Resin Composites at Cryogenic Temperature. <i>IEEE Transactions on Applied Superconductivity</i> , 2020 , 30, 1-6	1.8	1
26	Trap dependent interface charge behaviors of fluorinated HVDC cable accessories 2017 ,		1
25	Effect of external magnetic fields on the breakdown and partial discharge characteristics of vegetable oil 2015 ,		1
24	Acoustic Characteristic of Surface Discharge for Hydrophobicity Evaluation of HVDC Silicone Rubber Insulator. <i>IEEJ Transactions on Fundamentals and Materials</i> , 2013 , 133, 121-122	0.2	1
23	Conduction and Charge Transport Characteristics of Silicone Rubber Composites with Nonlinear Conductivity 2021 , 215-242		1
22	Crystallization Morphology-Dependent Breakdown Strength of Polypropylene Films for Converter Valve Capacitor. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2021 , 28, 964-971	2.3	1
21	Surface Functional Graded Material Considered for DC Gas-Insulated Pipeline 2019 ,		1
20	Surface Discharge Property of Polypropylene/BN Nanocomposite for HTS Apparatus Application. <i>IEEE Transactions on Applied Superconductivity</i> , 2019 , 29, 1-4	1.8	1
19	Effect of polarity-reversal voltage on charge accumulation and carrier mobility in silicone rubber/silicon carbide composites. <i>IET Science, Measurement and Technology</i> , 2021 , 15, 184-192	1.5	1
18	Coupling Effects of Ambient Temperature and Filler Contents on Surface Charge and Discharge Behavior of Epoxy/AlN Nanocomposites 2018 ,		1
17	Simulation of Interface Charge Behaviors in HVDC Cable Accessory Based on Bipolar Carrier Transportation Model 2018 ,		1
16	Electrical Tree in Epoxy Resin under Combined DC-harmonic Voltage 2018 ,		1
15	Suppressing Space Charge in LDPE/GO Nanocomposites for HVDC Cable Application 2018 ,		1
14	Effects of High Magnetic Field on Partial Discharge and Flashover Behavior of Epoxy Resin. <i>IEEE Transactions on Applied Superconductivity</i> , 2021 , 31, 1-4	1.8	1
13	Effects of Temperature Gradient on Electrical Tree Initiation and Breakdown Phenomenon in XLPE Under Harmonic Superimposed DC Voltage. <i>IEEE Access</i> , 2021 , 9, 7586-7596	3.5	1
12	Electric Field Optimization of 1MV DC-GIL Spacer With Surface Conductivity Gradient for ITER NBI. <i>IEEE Transactions on Applied Superconductivity</i> , 2021 , 1-1	1.8	0

11	Dynamic Interface Charge Behaviors in HVDC Cable Terminal Considering Carrier Dynamic Equilibrium. <i>IEEJ Transactions on Fundamentals and Materials</i> , 2021 , 141, 567-573	0.2	0
10	Effect of Electrical Aging On PPLP Insulation Characteristics in LN2. <i>IEEE Transactions on Applied Superconductivity</i> , 2021 , 31, 1-4	1.8	0
9	Effects of Pre-Crosslinking on Space Charge and Breakdown Characteristics of XLPE Cable Insulation. <i>Energies</i> , 2022 , 15, 2360	3.1	0
8	Chaos analysis of discharge current based on tracking test of phenolic resin. <i>Transactions of Tianjin University</i> , 2009 , 15, 1-6	2.9	
7	Semi-conductive Polymer Composites for Power Cables 2021 , 153-178		
6	Effects of Atmospheric Pressure on Insulation Breakdown of Gamma-ray Irradiated Polyphenylene Oxide. <i>IEEJ Transactions on Fundamentals and Materials</i> , 2004 , 124, 271-276	0.2	
5	Electric Ageing and Breakdown Phenomenon in Polypropylene Under Complex DC Operating Condition 2021 , 173-214		
4	The Insulating Properties of Polypropylene Blends Modified by ULDPPE and Graphene for HVDC Cables 2021 , 97-126		
3	Effects of Al ₂ O ₃ Particles on Surface Charge of Epoxy Nanocomposites. <i>IEEJ Transactions on Fundamentals and Materials</i> , 2013 , 133, 224-230	0.2	
2	Trap Level Characteristics and DC Breakdown Performance of Isotactic/Syndiotactic/Atactic Polypropylene Blend Insulation. <i>IEEE Access</i> , 2020 , 8, 220840-220847	3.5	
1	Effect of Harmonic Voltage On Partial Discharge Properties of LN ₂ /PPLP Insulation for HTS DC Cable. <i>IEEE Transactions on Applied Superconductivity</i> , 2021 , 31, 1-4	1.8	