Jun Hu

List of Publications by Citations

133 papers	2,998 citations	31 h-index	50 g-index
153 ext. papers	4,016 ext. citations	5.4 avg, IF	5.65 L-index

#	Paper	IF	Citations
133	Short-Term Load Forecasting With Deep Residual Networks. *IEEE Transactions on Smart Grid*, **2019**, 10, 3943-3952	10.7	198
132	A Scalable, High-Throughput, and Environmentally Benign Approach to Polymer Dielectrics Exhibiting Significantly Improved Capacitive Performance at High Temperatures. *Advanced Materials*, **2018**, 30, e1805672	24	145
131	Evaluation of polypropylene/polyolefin elastomer blends for potential recyclable HVDC cable insulation applications. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2015**, 22, 673-681	2.3	114
130	Self-healing of electrical damage in polymers using superparamagnetic nanoparticles. *Nature Nanotechnology*, **2019**, 14, 151-155	28.7	104
129	Polymer/molecular semiconductor all-organic composites for high-temperature dielectric energy storage. *Nature Communications*, **2020**, 11, 3919	17.4	97
128	A current sensor based on the giant magnetoresistance effect: design and potential smart grid applications. *Sensors*, **2012**, 12, 15520-41	3.8	91
127	Large Enhancement in Polarization Response and Energy Storage Properties of Poly(vinylidene fluoride) by Improving the Interface Effect in Nanocomposites. *Journal of Physical Chemistry C*, **2014**, 118, 831-838	3.8	89
126	Understanding surface charge accumulation and surface flashover on spacers in compressed gas insulation. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2018**, 25, 1152-1166	2.3	87
125	Surface morphology and electrical characteristics of direct fluorinated epoxy-resin/alumina composite. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2016**, 23, 3071-3077	2.3	76
124	Photoresponsive Self-Healing Polymer Composite with Photoabsorbing Hybrid Microcapsules. *ACS Applied Materials & Interfaces*, **2015**, 7, 25546-52	9.5	72
123	Influence of functionalized MgO nanoparticles on electrical properties of polyethylene nanocomposites. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2015**, 22, 1512-1519	2.3	71
122	Effect of different nanoparticles on tuning electrical properties of polypropylene nanocomposites. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2017**, 24, 1380-1389	2.3	71
121	Surface-modified MgO nanoparticle enhances the mechanical and direct-current electrical characteristics of polypropylene/polyolefin elastomer nanodielectrics. *Journal of Applied Polymer Science*, **2016**, 133, n/a-n/a	2.9	65
120	The potentially neglected culprit of DC surface flashover: electron migration under temperature gradients. *Scientific Reports*, **2017**, 7, 3271	4.9	63
119	A Nonintrusive Power Supply Design for Self-Powered Sensor Networks in the Smart Grid by Scavenging Energy From AC Power Line. *IEEE Transactions on Industrial Electronics*, **2015**, 62, 4398-4407	8.9	60
118	Discussions on Nonuniformity of Energy Absorption Capabilities of ZnO Varistors. *IEEE Transactions on Power Delivery*, **2007**, 22, 1523-1532	4.3	56
117	Large improvement in trap level and space charge distribution of polypropylene by enhancing the crystalline amorphous interface effect in blends. *Polymer International*, **2016**, 65, 371-379	3.3	55

116	Direct Detection of Local Electric Polarization in the Interfacial Region in Ferroelectric Polymer Nanocomposites. *Advanced Materials*, **2019**, 31, e1807722	24	47
115	Understanding the Percolation Characteristics of Nonlinear Composite Dielectrics. *Scientific Reports*, **2016**, 6, 30597	4.9	46
114	Titanium oxide nanoparticle increases shallow traps to suppress space charge accumulation in polypropylene dielectrics. *RSC Advances*, **2016**, 6, 48720-48727	3.7	45
113	Polymer nanocomposites with high energy density and improved charge–discharge efficiency utilizing hierarchically-structured nanofillers. *Journal of Materials Chemistry A*, **2020**, 8, 6576-6585	13	44
112	A Framework for Automatically Extracting Overvoltage Features Based on Sparse Autoencoder. *IEEE Transactions on Smart Grid*, **2016**, 1-1	10.7	42
111	The Effect of Aluminum on Electrical Properties of ZnO Varistors. *Journal of the American Ceramic Society*, **2010**, 93, 2441-2444	3.8	41
110	Local Dielectric Property Detection of the Interface between Nanoparticle and Polymer in Nanocomposite Dielectrics. *Scientific Reports*, **2016**, 6, 38978	4.9	41
109	Tailored ferroelectric responses and enhanced energy density in PVDF-based homopolymer/terpolymer blends. *Journal of Applied Polymer Science*, **2014**, 131,	2.9	38
108	Electric and Dielectric Behaviors of Y-Doped Calcium Copper Titanate. *Journal of the American Ceramic Society*, **2010**, 93, 3043-3045	3.8	38
107	ZnO varistors with high voltage gradient and low leakage current by doping rare-earth oxide. *Science in China Series D: Earth Sciences*, **2008**, 51, 693-701		38
106	Enhanced breakdown strength and energy density in PVDF nanocomposites with functionalized MgO nanoparticles. *RSC Advances*, **2016**, 6, 33599-33605	3.7	36
105	Convolutional sequence to sequence non-intrusive load monitoring. *Journal of Engineering*, **2018**, 2018, 1860-1864	0.7	36
104	Hysteretic Modeling of Output Characteristics of Giant Magnetoresistive Current Sensors. *IEEE Transactions on Industrial Electronics*, **2015**, 62, 516-524	8.9	31
103	Temperature dependent electrical properties of thermoplastic polypropylene nanocomposites for HVDC cable insulation. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2019**, 26, 1596-1604	2.3	31
102	Effective Protection Distances of Low-Voltage SPD With Different Voltage Protection Levels. *IEEE Transactions on Power Delivery*, **2010**, 25, 187-195	4.3	31
101	Identification of Partial Discharge Defects Based on Deep Learning Method. *IEEE Transactions on Power Delivery*, **2019**, 34, 1557-1568	4.3	30
100	Thermoplastic polypropylene/aluminum nitride nanocomposites with enhanced thermal conductivity and low dielectric loss. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2016**, 23, 2768-2776	2.3	29
99	Novel HVDC spacers by adaptively controlling surface charges part iii: industrialization prospects. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2018**, 25, 1259-1266	2.3	29

98	"Thermal Stabilization Effect" of Al2O3 nano-dopants improves the high-temperature dielectric performance of polyimide. *Scientific Reports*, **2015**, 5, 16986	4.9	29
97	Electrical degradation of double-Schottky barrier in ZnO varistors. *AIP Advances*, **2016**, 6, 030701	1.5	28
96	High Nonlinearity and High Voltage Gradient ZnO Varistor Ceramics Tailored by Combining Ga2O3, Al2O3, and Y2O3 Dopants. *Journal of the American Ceramic Society*, **2016**, 99, 769-772	3.8	27
95	Fluorine gas treatment improves surface degradation inhibiting property of alumina-filled epoxy composite. *AIP Advances*, **2016**, 6, 025017	1.5	27
94	Tailoring the nonlinear conducting behavior of silicone composites by ZnO microvaristor fillers. *Journal of Applied Polymer Science*, **2015**, 132, n/a-n/a	2.9	26
93	Magnetic energy harvesting properties of piezofiber bimorph/NdFeB composites. *Applied Physics Letters*, **2014**, 104, 093901	3.4	26
92	Tailoring low leakage current and high nonlinear coefficient of a Y-doped ZnO varistor by indium doping. *Materials Letters*, **2017**, 188, 77-79	3.3	24
91	Surface-modification effect of MgO nanoparticles on the electrical properties of polypropylene nanocomposite. *High Voltage*, **2020**, 5, 249-255	4.1	23
90	Overhead Transmission Line Parameter Reconstruction for UAV Inspection Based on Tunneling Magnetoresistive Sensors and Inverse Models. *IEEE Transactions on Power Delivery*, **2019**, 34, 819-827	4.3	21
89	High voltage gradient and low residual-voltage ZnO varistor ceramics tailored by doping with In2O3 and Al2O3. *Ceramics International*, **2016**, 42, 19437-19440	5.1	19
88	A Novel High-Performance Energy Harvester Based on Nonlinear Resonance for Scavenging Power-Frequency Magnetic Energy. *IEEE Transactions on Industrial Electronics*, **2017**, 64, 6556-6564	8.9	18
87	Switching Transient of 1000-kV UHV System Considering Detailed Substation Structure. *IEEE Transactions on Power Delivery*, **2012**, 27, 112-122	4.3	17
86	Tuning the potential distribution of AC cable terminals by stress cone of nonlinear conductivity material. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2017**, 24, 2686-2693	2.3	16
85	Observation of the charged defect migration that causes the degradation of double-Schottky barriers using a nondestructive quantitative profiling technique. *Applied Physics Letters*, **2014**, 105, 133508	3.4	16
84	Mesoporous Nano-Silica Serves as the Degradation Inhibitor in Polymer Dielectrics. *Scientific Reports*, **2016**, 6, 28749	4.9	16
83	Naturally asymmetrical double-Schottky barrier model: Based on observation of bicrystal. *Applied Physics Letters*, **2012**, 101, 173508	3.4	15
82	Method of inter-turn fault detection for next-generation smart transformers based on deep learning algorithm. *High Voltage*, **2019**, 4, 282-291	4.1	15
81	Functionalized TiO2 Nanoparticles Tune the Aggregation Structure and Trapping Property of Polyethylene Nanocomposites. *Journal of Physical Chemistry C*, **2016**, 120, 24754-24761	3.8	14

80	PiezoelectricPiezoresistive Coupling MEMS Sensors for Measurement of Electric Fields of Broad Bandwidth and Large Dynamic Range. *IEEE Transactions on Industrial Electronics*, **2020**, 67, 551-559	8.9	14
79	Tailored sPP/Silica Nanocomposite for Ecofriendly Insulation of Extruded HVDC Cable. *Journal of Nanomaterials*, **2015**, 2015, 1-9	3.2	13
78	Nickel oxide doping effects on electrical characteristics and microstructural phases of ZnO varistors with low residual voltage ratio. *Journal of the Ceramic Society of Japan*, **2011**, 119, 43-47	1	13
77	Cu segregation and its effects on the electrical properties of calcium copper titanate. *Science China Technological Sciences*, **2011**, 54, 2506-2510	3.5	13
76	Microstructures and characteristics of deep trap levels in ZnO varistors doped with Y2O3. *Science in China Series D: Earth Sciences*, **2009**, 52, 3668-3673		13
75	Mapping the Space Charge at Nanoscale in Dielectric Polymer Nanocomposites. *ACS Applied Materials & Interfaces*, **2020**, 12, 53425-53434	9.5	13
74	Electric Field Sensor Based on Piezoelectric Bending Effect for Wide Range Measurement. *IEEE Transactions on Industrial Electronics*, **2015**, 62, 5730-5737	8.9	12
73	Effective Protection Distances of SPDs for Household Electrical Appliances. *IEEE Transactions on Electromagnetic Compatibility*, **2011**, 53, 690-699	2	12
72	Requirement of ultra-high voltage GIS arrester to voltage gradient of metal-oxide varistor. *Science in China Series D: Earth Sciences*, **2009**, 52, 450-455		11
71	Development of polymeric surge ZnO arresters for 500-kV compact transmission line. *IEEE Transactions on Power Delivery*, **2006**, 21, 113-120	4.3	11
70	Stable electrical properties of ZnO varistor ceramics with multiple additives against the AC accelerated aging process. *Ceramics International*, **2019**, 45, 11105-11108	5.1	11
69	How nonlinear V-I characteristics of single ZnO microvaristor influences the performance of its silicone rubber composite. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2018**, 25, 623-630	2.3	10
68	Time-Domain Response Simulation of ZnO Varistors by Voronoi Network with an Actual Grain Boundary Model. *Journal of the American Ceramic Society*, **2010**, 93, 1547	3.8	10
67	Temperature Dependences of Leakage Currents of ZnO Varistors Doped with Rare-Earth Oxides. *Journal of the American Ceramic Society*, **2010**, 93, 2155-2157	3.8	10
66	Minimum Distance of Lightning Protection Between Insulator String and Line Surge Arrester in Parallel. *IEEE Transactions on Power Delivery*, **2009**, 24, 656-663	4.3	10
65	Comparisons of different polypropylene copolymers as potential recyclable HVDC cable insulation materials. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2019**, 26, 674-680	2.3	9
64	Self-healing of electrical damage in thermoset polymers via anionic polymerization. *Journal of Materials Chemistry C*, **2020**, 8, 6025-6033	7.1	9
63	Power-Frequency Voltage Withstand Characteristics of Insulations of Substation Secondary Systems. *IEEE Transactions on Power Delivery*, **2010**, 25, 734-746	4.3	9

62	Defect-targeted self-healing of multiscale damage in polymers. *Nanoscale*, **2020**, 12, 3605-3613	7.7	9
61	A Novel Magnetic Energy Harvester Using Spinning Magnetoelectric Transducer. *IEEE Transactions on Magnetics*, **2016**, 52, 1-4	2	8
60	Failure Risk of UHV AC Transmission Line Considering the Statistical Characteristics of Switching Overvoltage Waveshape. *IEEE Transactions on Power Delivery*, **2013**, 28, 1731-1739	4.3	8
59	Influence of Cr2O3 on the Residual Voltage Ratio of SnO2-Based Varistor. *Journal of the American Ceramic Society*, **2011**, 94, 1999-2002	3.8	8
58	An electrodynamic energy harvester with a 3D printed magnet and optimized topology. *Applied Physics Letters*, **2019**, 114, 013902	3.4	8
57	Elimination of Closing Resistors for Breakers in 1000-kV UHV System by Surge Arresters. *IEEE Transactions on Power Delivery*, **2012**, 27, 2168-2175	4.3	7
56	Different microscopic features of AC and DC electrical trees in insulating polymer. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2018**, 25, 2259-2265	2.3	7
55	Great enhancement of energy harvesting properties of piezoelectric/magnet composites by the employment of magnetic concentrator. *Journal of Applied Physics*, **2015**, 117, 17A304	2.5	6
54	A Novel Current Reconstruction Method Based on Elastic Net Regularization. *IEEE Transactions on Instrumentation and Measurement*, **2020**, 69, 7484-7493	5.2	6
53	Large voltage control of magnetic anisotropy in CoFeB/MgO/OX structures at room temperature. *APL Materials*, **2019**, 7, 101112	5.7	6
52	Detection and classification of transmission line faults based on unsupervised feature learning and convolutional sparse autoencoder **2017**,		6
51	Statistical Pulse Degradation Characteristics of Grain Boundaries in a ZnO Varistor Based on Microcontact Measurement. *Journal of the American Ceramic Society*, **2010**, 93, 2473-2475	3.8	6
50	Characteristics and mixing state of S-rich particles in haze episodes in Beijing. *Frontiers of Environmental Science and Engineering*, **2016**, 10, 1	5.8	6
49	Adjusting nonlinear characteristics of ZnO-silicone rubber composites by controlling filler\'s shape and size **2016**,		6
48	Self-healing of internal damage in mechanically robust polymers utilizing a reversibly convertible molecular network. *Journal of Materials Chemistry A*, **2021**, 9, 15975-15984	13	6
47	Novel method of corrosion diagnosis for grounding grid		5
46	Design of adaptive bushing based on field grading materials. *High Voltage*, **2021**, 6, 625-636	4.1	5
45	Effect of silicone rubber polymer composites on nonuniform electric fields of rod-plane gaps **2013**,		4

44	Solar energy forecasting with numerical weather predictions on a grid and convolutional networks **2017**,		4
43	Characterization of individual grain boundaries and grains of CaCu3Ti4O12 ceramic. *Science China Technological Sciences*, **2012**, 55, 879-882	3.5	4
42	The dependence of sintering temperature on Schottky barrier and bulk electron traps of ZnO varistors. *Science China Technological Sciences*, **2011**, 54, 375-378	3.5	4
41	Effects of manganese dioxide additives on the electrical characteristics of Al-doped ZnO varistors. *Science China Technological Sciences*, **2011**, 54, 2204-2208	3.5	4
40	Design and application of line surge arresters to improve lightning protection characteristics of transmission lines **2008**,		4
39	The theory and implementation of corrosion diagnosis for grounding system		4
38	Electroluminescence and electrical degradation of insulating polymers at electrode interfaces under divergent fields. *Journal of Applied Physics*, **2018**, 123, 135106	2.5	3
37	Dependence of residual voltage ratio behavior of SnO2-based varistors on Nb2O5 addition. *Science China Technological Sciences*, **2011**, 54, 1415-1418	3.5	3
36	High Voltage Gradient ZnO Nonlinear Resistor Doped with Rare-Earth Oxide **2006**,		3
35	Novel HVDC Spacers in GIS/GIL by Adaptively Controlling Surface Charges - Insulation Compounding Scheme **2019**,		3
34	Micro-Cantilever Capacitive Sensor for High-Resolution Measurement of Electric Fields. *IEEE Sensors Journal*, **2021**, 21, 4317-4324	4	3
33	A novel line position recognition method in transmission line patrolling with UAV using machine learning algorithms **2018**,		3
32	Smart dielectric materials for next-generation electrical insulation **2022**, 1, 19-49		3
31	Equivalent Waveform Parameters of Switching Overvoltages in UHV Systems. *IEEE Transactions on Power Delivery*, **2013**, 28, 1740-1749	4.3	2
30	Data-driven residential customer aggregation based on seasonal behavioral patterns **2017**,		2
29	Dynamic observation of dc surface charge dissipation for epoxy-resin/alumina composite **2015**,		2
28	Effect of Nonuniformities of Microstructure and Electrical Property of Grain Boundary to the Global Electrical Characteristics **2006**,		2
27	Scattered Phenomenon of Energy Absorption Capabilities of ZnO Varistors **2006**,		2

26	Comparison of Effects of Ethylene-Based and Propylene-Based Copolymer on Tailoring the Properties of Polypropylene. *IEEE Access*, **2020**, 8, 123507-123513	3.5	2
25	Hot electron injection regulation in Al2O3-filled epoxy resin composite using Cr2O3 coatings **2016**,		2
24	Polymer Dielectrics: A Scalable, High-Throughput, and Environmentally Benign Approach to Polymer Dielectrics Exhibiting Significantly Improved Capacitive Performance at High Temperatures (Adv. Mater. 49/2018). *Advanced Materials*, **2018**, 30, 1870378	24	2
23	Dielectric Properties Improvement of Grafting-Modified Polypropylene by Silane for HVDC Cable Insulation. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2021**, 28, 2004-2010	2.3	2
22	High voltage gradient zinc oxide varistors for line surge arresters and GIS tank-type arresters **2019**,		1
21	Influence of surface modification on electrical properties of polyethylene SiO2 nanocomposites **2015**,		1
20	Influence of Y2O3 on electrical properties and dielectric characteristics in ZnO based varistor ceramics **2009**,		1
19	Residual voltage properties of ZnO varistors doped with Y2O3 for high voltage gradient **2009**,		1
18	Dielectric spectroscopies of ZnO varistors with high voltage gradient under surge aging condition **2009**,		1
17	Effect of the mutual inductances among grounding conductors on the transient performance of grounding grids **2009**,		1
16	Grading Structure Design of Surge Arrester for 1000-kV Ultra-high Voltage Air-insulated Substation **2008**,		1
15	Microstructure Simulation on Puncturing Phenomenon of ZnO Varistor under High Current **2006**,		1
14	Systematic Analysis and Characterization of Extreme Failure for IGCT in MMC-HVDC systemPart II: Failure Mechanism and Short Circuit Characteristics. *IEEE Transactions on Power Electronics*, **2021**, 1-1	7.2	1
13	Excellent electrical properties of zinc-oxide varistors by tailoring sintering process for optimizing line-arrester configuration **2020**,		1
12	Space charge behavior in polypropylene/polyolefin elastomer/MgO nanocomposites under temperature gradient **2016**,		1
11	Linear Control of Magneto-Electric Effect With Small Electric Fields. *IEEE Magnetics Letters*, **2016**, 7, 1-5	1.6	1
10	Micro Piezoelectric-capacitive Sensors for Highsensitivity Measurement of Space Electric Fields **2019**,		1
9	Drive-Current-Free Switch With Internal Transduction in a Magneto Piezo-Electronic Transistor. *IEEE Transactions on Industrial Electronics*, **2020**, 67, 3257-3266	8.9	1

8	Micro Electric-field Sensors: Principles and Applications. *IEEE Industrial Electronics Magazine*, **2021**, 0-0	6.2	1
7	A novel inverse method for automatic UAV line patrolling with magnetic sensors **2018**,		1
6	A Self-Sustained Current Sensor for Smart Grid Application. *IEEE Transactions on Industrial Electronics*, **2021**, 68, 12810-12820	8.9	1
5	Non-linearly conductive ZnO microvaristors/epoxy resin composite prepared by wet winding with polyester fibre cloth. *High Voltage*, **2022**, 7, 32-40	4.1	1
4	Parametric Reconstruction of Multiple Line Currents Based on Magnetic Sensor Array. *IEEE Transactions on Magnetics*, **2020**, 56, 1-8	2	0
3	Comparisons of different polypropylene copolymers as potential recyclable HVDC cable insulation materials. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2019**, 26, 674-680	2.3	0
2	Trampoline-shaped Micro Electric-field Sensor for AC/DC High Electric Field Measurement. *IEEE Transactions on Industrial Electronics*, **2021**, 1-1	8.9	0
1	Ferroelectric Nanocomposites: Direct Detection of Local Electric Polarization in the Interfacial Region in Ferroelectric Polymer Nanocomposites (Adv. Mater. 21/2019). *Advanced Materials*, **2019**, 31, 1970154	24	