

Yang Cao

List of Publications by Year in descending order

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Version: 2024-02-01

159
papers

2,748
citations

279798

23
h-index

214800

47
g-index

160
all docs

160
docs citations

160
times ranked

1878
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrochromic Fabric Displays from a Robust, Open-Air Fabrication Technique. <i>Advanced Materials Technologies</i> , 2022, 7, 2100548.	5.8	16
2	Altitude Readiness of High-Voltage IGBTs Subjected to the Partial Discharge at Harsh Environmental Conditions for Hybrid Electric Aircraft Propulsion. <i>IEEE Transactions on Power Electronics</i> , 2022, 37, 3733-3736.	7.9	13
3	Charge transport and space charge dynamics in EPDM/2D-nanoclay composite dielectrics. <i>Composites Science and Technology</i> , 2022, 219, 109241.	7.8	10
4	Materials Compatibility Study of C ₄ F ₇ N/CO ₂ Gas Mixture for Medium-Voltage Switchgear. <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 2022, 29, 270-278.	2.9	10
5	Flexible polyolefin dielectric by strategic design of organic modules for harsh condition electrification. <i>Energy and Environmental Science</i> , 2022, 15, 1307-1314.	30.8	56
6	Enhancing corona resistance in Kapton with self-assembled two-dimensional montmorillonite nanocoatings. <i>Materials Advances</i> , 2022, 3, 3853-3861.	5.4	2
7	High dielectric constant and high breakdown strength polyimide <i>via</i> tin complexation of the polyamide acid precursor. <i>RSC Advances</i> , 2022, 12, 9095-9100.	3.6	7
8	An inventive multi-scale, multiphysics modelling approach and comparative analysis of distinctive features of planar ionization waves in air: II. Positive streamers. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 245204.	2.8	2
9	Shallow trap mediated charge transport in polymer dielectrics for HVDC by incorporating 2D nanoclay. <i>Applied Physics A: Materials Science and Processing</i> , 2022, 128, 1.	2.3	2
10	An inventive multi-scale, multiphysics modeling approach and comparative analysis of distinctive features of planar ionization waves in air: I. Negative streamers. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 245203.	2.8	3
11	Polyamideimide dielectric with montmorillonite nanosheets coating for high-temperature energy storage. <i>Chemical Engineering Journal</i> , 2022, 437, 135430.	12.7	32
12	Insulator Surface Charge Behaviors: From Hazards to Functionality. <i>IEEE Electrical Insulation Magazine</i> , 2022, 38, 6-14.	0.8	10
13	Motor Stator Insulation Stress Due to Multilevel Inverter Voltage Output Levels and Power Quality. <i>Energies</i> , 2022, 15, 4091.	3.1	4
14	Temperature-dependent breakdown and pre-breakdown conduction of polyethylene terephthalate. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 365302.	2.8	3
15	Scalable self-assembly interfacial engineering for high-temperature dielectric energy storage. <i>IScience</i> , 2022, 25, 104601.	4.1	7
16	Novel Machine Insulation Material for Transportation Electrification Applications. , 2022, , .		1
17	Insulating materials for realising carbon neutrality: Opportunities, remaining issues and challenges. <i>High Voltage</i> , 2022, 7, 610-632.	4.7	85
18	Improving the Rotational Freedom of Polyetherimide: Enhancement of the Dielectric Properties of a Commodity High-Temperature Polymer Using a Structural Defect. <i>Chemistry of Materials</i> , 2022, 34, 6553-6558.	6.7	22

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19	A Review of Knowledge-Based Defect Identification via PRPD Patterns in High Voltage Apparatus. IEEE Access, 2021, 9, 77705-77728.	4.2	14
20	Investigation of 2D Nano-Structured Winding Insulation for High Torque Density Medium-Voltage Motor. IEEE Access, 2021, 9, 2274-2282.	4.2	14
21	High Temperature Insulation Materials for DC Cable Insulation – Part III: Degradation and Surface Breakdown. IEEE Transactions on Dielectrics and Electrical Insulation, 2021, 28, 240-247.	2.9	11
22	Charge Transport Dynamics and Space Charge Accumulation in XLPE Composites with 2D Platelet Fillers for HVDC Cable Insulation. IEEE Transactions on Dielectrics and Electrical Insulation, 2021, 28, 3-10.	2.9	12
23	High Temperature Insulation Materials for DC Cable Insulation – Part I: Space Charge and Conduction. IEEE Transactions on Dielectrics and Electrical Insulation, 2021, 28, 223-230.	2.9	21
24	High Temperature Insulation Materials for DC Cable Insulation – Part II: Partial Discharge Behavior at Elevated Altitudes. IEEE Transactions on Dielectrics and Electrical Insulation, 2021, 28, 231-239.	2.9	8
25	Novel high voltage polymer insulators using computational and data-driven techniques. Journal of Chemical Physics, 2021, 154, 174906.	3.0	12
26	Effects of WBG Devices in Medium-voltage Inverters on Induction Machine Stator Insulation. , 2021, , .		1
27	Temperature-dependent partial discharge characteristics of high temperature materials at DC voltage for hybrid propulsion systems. High Voltage, 2021, 6, 590-598.	4.7	13
28	Barrier heights of polymer-electrode interfaces measured via photo injection current method. Surfaces and Interfaces, 2021, 24, 101070.	3.0	8
29	Tailoring insulation surface conductivity for surface partial discharge mitigation. Applied Physics Letters, 2021, 119, .	3.3	10
30	Reviving the “Schottky” Barrier for Flexible Polymer Dielectrics with a Superior 2D Nanoassembly Coating. Advanced Materials, 2021, 33, e2101374.	21.0	53
31	All-Organic Flexible Ferroelectric Nanogenerator with Fabric-Based Electrodes for Self-Powered Body Area Networks. Small, 2021, 17, e2103161.	10.0	24
32	Dielectric Polymers Tolerant to Electric Field and Temperature Extremes: Integration of Phenomenology, Informatics, and Experimental Validation. ACS Applied Materials & Interfaces, 2021, 13, 53416-53424.	8.0	20
33	Remarks on the Design of Flexible High-Temperature Polymer Dielectrics for Emerging Grand Electrification - Exemplified by Poly(oxa)norbornenes. IEEE Transactions on Dielectrics and Electrical Insulation, 2021, 28, 1468-1470.	2.9	5
34	All-Organic Flexible Ferroelectric Nanogenerator with Fabric-Based Electrodes for Self-Powered Body Area Networks (Small 33/2021). Small, 2021, 17, 2170170.	10.0	0
35	Reviving the “Schottky” Barrier for Flexible Polymer Dielectrics with a Superior 2D Nanoassembly Coating (Adv. Mater. 34/2021). Advanced Materials, 2021, 33, 2170264.	21.0	1
36	Endurance life of nanostructured insulation material for high torque density propulsion motors. , 2021, , .		1

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37	Guest editorial: Partial discharge at DC voltage. High Voltage, 2021, 6, 563-564.	4.7	1
38	Large improvement in DC electrical properties of EPDM with 2D platelet nanoclay. Journal Physics D: Applied Physics, 2021, 54, 475304.	2.8	5
39	Tuning Surface States of Metal/Polymer Contacts Toward Highly Insulating Polymer-Based Dielectrics. ACS Applied Materials & Interfaces, 2021, 13, 46142-46150.	8.0	31
40	Gas-liquid solid interface charge tailoring techniques: what we grasped and where to go. Nanotechnology, 2021, 32, 122001.	2.6	23
41	3D computational study of arc splitting during power interruption: the influence of metal vapor enhanced radiation on arc dynamics. Journal Physics D: Applied Physics, 2021, 54, 085502.	2.8	12
42	Flexible cyclic-olefin with enhanced dipolar relaxation for harsh condition electrification. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	22
43	Modeling of Solid-state Circuit Breaker During Current Interruption Phase. , 2021, , .		5
44	Investigating the Effect of Multilevel Inverters on Motor Stator Insulation Stress. , 2021, , .		1
45	Novel nanocomposite thin film for arc ablation resistance. , 2021, , .		0
46	Self-assembly 2D Montmorillonite Coating to Impede Charge Injection to Polystyrene. , 2021, , .		0
47	Deep Well Trapping of Hot Carriers in a Hexagonal Boron Nitride Coating of Polymer Dielectrics. ACS Applied Materials & Interfaces, 2021, 13, 60393-60400.	8.0	5
48	Enhanced dielectric and electrical properties of high-temperature polymers with 2D nanocoatings. , 2021, , .		0
49	Flexible nanogenerator with 3D-printed ferroelectrets. , 2021, , .		6
50	Flashover characteristics of printed circuit boards at low pressures. , 2021, , .		1
51	Evolution of Space Charge with Increasing Electric Field in High Temperature Materials Used in Hybrid Propulsion Systems. , 2021, , .		0
52	Computable Bulk and Interfacial Electronic Structure Features as Proxies for Dielectric Breakdown of Polymers. ACS Applied Materials & Interfaces, 2020, 12, 37182-37187.	8.0	21
53	The Correlation and Balance of Material Properties for DC Cable Insulation at Design Field. IEEE Access, 2020, 8, 187840-187847.	4.2	7
54	Interfacial charge dynamics in multi-dielectrics under various electric fields and thermal gradient. , 2020, , .		2

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55	Electric field tailoring in HVDC cable joints utilizing electro-thermal simulation: effect of field grading materials. , 2020, , .		8
56	Development of an arc root model for studying the electrode vaporization and its influence on arc dynamics. AIP Advances, 2020, 10, .	1.3	15
57	Frequency-dependent dielectric constant prediction of polymers using machine learning. Npj Computational Materials, 2020, 6, .	8.7	75
58	Novel modulated equivalent model of point-to-point LCC-based high voltage AC/DC/AC system for geomagnetic storm-induced unbalanced harmonic studies. International Journal of Electrical Power and Energy Systems, 2020, 122, 106173.	5.5	4
59	Molecular Engineering: Flexible Temperature-Invriant Polymer Dielectrics with Large Bandgap (Adv.) Tj ETQq1 1 0,784314 ggBT /Over	21.0	17
60	All-organic flexible fabric antenna for wearable electronics. Journal of Materials Chemistry C, 2020, 8, 5662-5667.	5.5	43
61	Flexible Temperature-Invriant Polymer Dielectrics with Large Bandgap. Advanced Materials, 2020, 32, e2000499.	21.0	128
62	High-temperature dielectric polymer nanocomposites with interposed montmorillonite nanosheets. Chemical Engineering Journal, 2020, 401, 126093.	12.7	65
63	Development of Nonlinear Field Grading Material for Controlling Electric Field in DC Connectors. , 2020, , .		0
64	Computational Study of the Arc Splitting in Power Interruption: The Effect of the Metallic Vapor on Arc Dynamics. , 2020, , .		3
65	Sandwiched Barium Titanate/Polyamideimide Nanocomposite for Dielectric Energy Storage. , 2020, , .		0
66	A Modified Polyetherimide Film Exhibiting Greatly Suppressed Conduction for High-temperature Dielectric Energy Storage. , 2020, , .		3
67	All-organic flexible ferroelectret nanogenerator for wearable electronics. , 2020, , .		1
68	Surface discharge studies of insulation materials in aviation power system under DC voltage. , 2020, , .		5
69	Surface discharge behaviors of high temperature insulation subjected to gas pressure variations in hybrid propulsion systems. , 2020, , .		1
70	Influence of ZnO Nanoparticles on the Light Absorption Spectrum of PMMA for Ablation Dominated Arc Interruption. , 2020, , .		4
71	Novel EPR-insulated DC cables for future multi-terminal MVDC integration. IEEE Electrical Insulation Magazine, 2019, 35, 20-27.	0.8	20
72	Dipole-relaxation dynamics in a modified polythiourea with high dielectric constant for energy storage applications. Applied Physics Letters, 2019, 115, .	3.3	18

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73	Integrity of novel high-performance nanostructured insulation for high torque density propulsions. , 2019, , .		2
74	Study of wall ablation on low-voltage arc interruption: The effect of Stefan flow. Journal of Applied Physics, 2019, 125, .	2.5	18
75	High energy density and high efficiency all-organic polymers with enhanced dipolar polarization. Journal of Materials Chemistry A, 2019, 7, 15026-15030.	10.3	72
76	Tailoring Polymeric Insulation Materials for DC Cable Dielectrics. , 2019, , .		3
77	Partial discharge studies on high-temperature insulation materials for hybrid compulsion systems. , 2019, , .		2
78	Study of space charge behavior of insulations for high temperature applications. , 2019, , .		5
79	Interfacial Potential Barrier Induced Constriction and Stepwise Transition of a Dynamic Arc Root. , 2019, , .		7
80	High field prebreakdown aging in polymer dielectric thin films. , 2019, , .		0
81	Discharge behavior of the nanostructured insulation material for high torque density electrical propulsion. , 2019, , .		0
82	Enhanced Electrical Breakdown Strength in Nano-coatings of Polymer Composites. , 2019, , .		0
83	High Electric Field Conduction of Polymers at Ambient and Elevated Temperatures. , 2019, , .		3
84	Snâ€Polyester/Polyimide Hybrid Flexible Freeâ€Standing Film as a Tunable Dielectric Material. Macromolecular Rapid Communications, 2019, 40, e1800679.	3.9	19
85	Charge Injection at Metal-Polymer Interfaces a First-Principles Study. ECS Meeting Abstracts, 2019, , .	0.0	0
86	Data-Driven Modeling of Dielectric Breakdown Phenomena in Polymers. ECS Meeting Abstracts, 2019, , .	0.0	0
87	Molecular Dynamics Simulation and Quantum Chemical Calculations of Surfactant Having Suppression Effect on Water Trees. IEEJ Transactions on Fundamentals and Materials, 2019, 139, 92-98.	0.2	3
88	The Correlation and Balance of Critical Material Properties for DC Cable Dielectrics. , 2018, , .		0
89	Discharge Resistant Nano-Coatings. , 2018, , .		3
90	Discharge Resistant Epoxy/Clay Nanocomposite for High Torque Density Electrical Propulsion. , 2018, , .		5

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91	Correlation between current-voltage characteristics and DC field grading for dielectric liquid used in wet-mate DC connector. IEEE Transactions on Dielectrics and Electrical Insulation, 2018, 25, 1668-1678.	2.9	1
92	High-Voltage High-Frequency Testing for Medium-Voltage Motor Insulation Degradation. , 2018, , .		9
93	Organometallic-Organic Hybrid System as Flexible Dielectric Material. , 2018, , .		0
94	Low- Voltage Arc Interruption Computation: the Effect of Stefan Flow. , 2018, , .		6
95	A material genome approach towards exploration of Zn and Cd coordination complex polyester as dielectrics: Design, synthesis and characterization. Polymer, 2018, 159, 95-105.	3.8	7
96	Electronic Structure of Polymer Dielectrics: The Role of Chemical and Morphological Complexity. Chemistry of Materials, 2018, 30, 7699-7706.	6.7	26
97	Temperature dependent large area breakdown strength of polymeric films. , 2018, , .		1
98	A thermo-electrodynamic electric field dependent molecular ionization model to design electrical insulation system of HVDC wet-mate connectors under transient conditions. IEEE Transactions on Dielectrics and Electrical Insulation, 2018, 25, 476-485.	2.9	7
99	Characterizations of solid-liquid interface in a wet-mate subsea HVDC connector. Journal of Electrostatics, 2018, 94, 51-59.	1.9	2
100	Fluoronitrile/CO ₂ mixture as an eco-friendly alternative to SF ₆ for medium voltage switchgears. IEEE Transactions on Dielectrics and Electrical Insulation, 2018, 25, 1340-1350.	2.9	86
101	Tin-Polyester/Polyimide Hybrid System As Flexible Free- Standing Film with Tunable Dielectric Constant for Energy Storage Application. ECS Meeting Abstracts, 2018, , .	0.0	0
102	Rock-salt-type nanoprecipitates lead to high thermoelectric performance in undoped polycrystalline SnSe. RSC Advances, 2017, 7, 8258-8263.	3.6	40
103	A thermo-electrodynamic electric field dependent molecular ionization model to realize positive streamer propagation in a wet-mate DC connector. IEEE Transactions on Dielectrics and Electrical Insulation, 2017, 24, 901-914.	2.9	12
104	A rational co-design approach to the creation of new dielectric polymers with high energy density. IEEE Transactions on Dielectrics and Electrical Insulation, 2017, 24, 732-743.	2.9	26
105	A study on performance of a wet-mate DC connector under overvoltages. , 2017, , .		2
106	Evaluation of poly(4-methylacrylate) as a dielectric capacitor film for high-temperature energy storage applications. Journal of Polymer Science, Part B: Polymer Physics, 2017, 55, 1497-1515.	2.1	17
107	The influence of magnitude and rise time of applied voltage and the type of oil on streamer growth in a wet-mate DC connector. IEEE Transactions on Dielectrics and Electrical Insulation, 2017, 24, 1646-1656.	2.9	13
108	Torque enhancement and re-rating of medium-voltage induction machines using nano-structured stator winding insulation. , 2017, , .		8

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109	Characterization of space charge and DC field distribution in XLPE and EPR during voltage polarity reversal with thermal gradient. , 2017, , .		7
110	Quantum chemical calculations of surfactant having suppression effect on water trees. , 2017, , .		1
111	Nanostructured insulation for high torque density electric propulsion motors. , 2017, , .		8
112	A novel aromatic polyurea for high energy density capacitors. , 2017, , .		2
113	A superior nanolaminate dielectric barrier coating for high breakdown strength. , 2017, , .		1
114	A Rational Co-Design Approach for Next Generation Dielectric Materials with the Transition Metal Containing Coordination Polymers. ECS Meeting Abstracts, 2017, , .	0.0	0
115	Transient characterization of extreme field conduction in dielectrics. AIP Advances, 2016, 6, .	1.3	23
116	Dynamics of nonlinear charge injection in polymeric films. , 2016, , .		0
117	Multisource inverse-geometry CT. Part II. X-ray source design and prototype. Medical Physics, 2016, 43, 4617-4627.	3.0	18
118	Electrical-insulation behavior of cellular polymer foams in comparison to their piezoelectret properties. , 2016, , .		6
119	Enhancing dielectric property of polymer films with nanoclay coatings. , 2016, , .		0
120	Modeling a liquid-solid insulation system used in a DC wet-mate connector. , 2016, , .		6
121	Density of bulk trap states in polymeric films. , 2016, , .		1
122	Characterization of solid-liquid interface for wet-mate subsea HVDC connectors. , 2016, , .		1
123	Optimization of Organotin Polymers for Dielectric Applications. ACS Applied Materials & Interfaces, 2016, 8, 21270-21277.	8.0	33
124	AC and impulse performance of medium voltage ethylene propylene- rubber cables with over 25 years of in-service aging in a wet underground environment. IEEE Electrical Insulation Magazine, 2016, 32, 24-28.	0.8	7
125	Rational Co-Design of Polymer Dielectrics for Energy Storage. Advanced Materials, 2016, 28, 6277-6291.	21.0	149
126	Pre-breakdown conduction in polymeric films. , 2015, , .		6

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127	Novel dielectric films with high energy density. , 2015, , .		3
128	Rational design and synthesis of polythioureas as capacitor dielectrics. Journal of Materials Chemistry A, 2015, 3, 14845-14852.	10.3	81
129	Rational Design of Organotin Polyesters. Macromolecules, 2015, 48, 2422-2428.	4.8	54
130	Poly(dimethyltin glutarate) as a Prospective Material for High Dielectric Applications. Advanced Materials, 2015, 27, 346-351.	21.0	64
131	Tunable Nanodielectric Composites. Advances in Materials Science and Engineering, 2014, 2014, 1-6.	1.8	2
132	Effect of Incorporating Aromatic and Chiral Groups on the Dielectric Properties of Poly(dimethyltin) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	3.9	29
133	Nanofiller dispersion in polymer dielectrics. , 2012, , .		3
134	High power distributed x-ray source. Proceedings of SPIE, 2010, , .	0.8	12
135	Mechanical and Thermal Properties. , 2010, , 163-196.		5
136	Nanostructured dielectric materials. , 2010, , .		1
137	Mechanical and Thermal Properties. , 2010, , 163-196.		0
138	X-ray multisource for medical imaging. Proceedings of SPIE, 2009, , .	0.8	8
139	Multi-source inverse-geometry CT: From system concept to research prototype. , 2009, , .		9
140	Nano-enabled metal oxide varistors. IEEE Transactions on Dielectrics and Electrical Insulation, 2009, 16, 934-939.	2.9	11
141	Nano-Enabled Metal Oxide Varistors for Surge Protection. , 2008, , .		1
142	Development of High Temperature Capacitors for High Density, High Temperature Applications. SAE International Journal of Aerospace, 2008, 1, 817-821.	4.0	5
143	DC Breakdown in Polyetherimide Composites and Implication for Structural Engineering. , 2007, , .		6
144	Advanced Dielectrics for Capacitors. IEEJ Transactions on Fundamentals and Materials, 2006, 126, 1153-1159.	0.2	127

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145	Mechanism of high field electroluminescence and determination of the space charge limited field in polymeric dielectrics. IEEE Transactions on Dielectrics and Electrical Insulation, 2005, 12, 690-699.	2.9	12
146	The future of nanodielectrics in the electrical power industry. IEEE Transactions on Dielectrics and Electrical Insulation, 2004, 11, 797-807.	2.9	479
147	High field measurements with a guarded needle. IEEE Electrical Insulation Magazine, 2003, 19, 19-25.	0.8	10
148	Thermally induced currents in coaxial signal cables. IEEE Transactions on Power Delivery, 2003, 18, 351-358.	4.3	1
149	Guarded needle for "charge injection" measurement. Review of Scientific Instruments, 2002, 73, 3012-3017.	1.3	17
150	Study of porous dielectrics as electret materials. IEEE Transactions on Dielectrics and Electrical Insulation, 1998, 5, 58-62.	2.9	32
151	Influence of heat treatment on the electret properties of sol-gel prepared silicon-dioxide films. Journal of Electrostatics, 1996, 37, 29-37.	1.9	8
152	The electrical and optical properties of the nonlinear optical polymer DR1/PMMA films. , 0, , .		4
153	The poling process and distribution of polarization in double layered P(VDF/TrFE) and Teflon FEP films system. , 0, , .		1
154	Electret properties of silicon dioxide aerogels. , 0, , .		0
155	Numerical study of space charge dispersive transport in non-polar electrets. , 0, , .		0
156	Electret properties for porous polytetrafluoroethylene (PTFE) film. , 0, , .		5
157	Thermally induced current in coaxial signal cables. , 0, , .		0
158	Electroluminescence based determination of the space charge limited field. , 0, , .		3
159	High Voltage Metal Oxide Varistors for Surge Protection. , 0, , .		0