

Yanlei Wang

List of Publications by Year in descending order

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119
papers

4,206
citations

109321

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144013

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121
docs citations

121
times ranked

4561
citing authors

#	ARTICLE	IF	CITATIONS
1	Smart heat isolator with hollow multishelled structures. <i>Green Energy and Environment</i> , 2023, 8, 1154-1160.	8.7	2
2	Highly Efficient Photothermal Conversion and Water Transport during Solar Evaporation Enabled by Amorphous Hollow Multishelled Nanocomposites. <i>Advanced Materials</i> , 2022, 34, e2107400.	21.0	68
3	Continuous Energy Harvesting from Ubiquitous Humidity Gradients using Liquid-Infused Nanofluidics. <i>Advanced Materials</i> , 2022, 34, e2106410.	21.0	27
4	Ionic liquids screening for lignin dissolution: COSMO-RS simulations and experimental characterization. <i>Journal of Molecular Liquids</i> , 2022, 348, 118007.	4.9	14
5	Unraveling the Synergistic Coupling Mechanism of Li ⁺ Transport in an "Ionogel-in-Ceramic" Hybrid Solid Electrolyte for Rechargeable Lithium Metal Battery. <i>Advanced Functional Materials</i> , 2022, 32, 2108706.	14.9	38
6	Compressive Behavior of Circular Sawdust-Reinforced Ice-Filled Large Rupture Strain Fiber-Reinforced Polymer Tubular Short Columns. <i>Lecture Notes in Civil Engineering</i> , 2022, , 1044-1054.	0.4	1
7	Insights into Ionic Liquids: From Z-Bonds to Quasi-Liquids. <i>Jacs Au</i> , 2022, 2, 543-561.	7.9	42
8	Circadian humidity fluctuation induced capillary flow for sustainable mobile energy. <i>Nature Communications</i> , 2022, 13, 1291.	12.8	12
9	Tensile strain and damage self-sensing of flax FRP laminates using carbon nanofiber conductive network coupled with acoustic emission. <i>Composite Structures</i> , 2022, 290, 115549.	5.8	11
10	Axial compressive behavior and modeling of fiber-reinforced polymer-concrete-steel double-skin tubular stub columns with a rectangular outer tube and an elliptical inner tube. <i>Engineering Structures</i> , 2022, 260, 114222.	5.3	9
11	Entropy driving highly selective CO ₂ separation in nanoconfined ionic liquids. <i>Chemical Engineering Journal</i> , 2022, 440, 135918.	12.7	13
12	Ionic Liquid-Based Extraction System for In-Depth Analysis of Membrane Protein Complexes. <i>Analytical Chemistry</i> , 2022, 94, 758-767.	6.5	5
13	Machine Learning Screening of Efficient Ionic Liquids for Targeted Cleavage of the "O" Bond of Lignin. <i>Journal of Physical Chemistry B</i> , 2022, 126, 3693-3704.	2.6	6
14	Experimental study and piezoresistive mechanism of electrostatic self-assembly of carbon nanotubes-carbon black/epoxy nanocomposites for structural health monitoring. <i>Journal of Materials Science</i> , 2022, 57, 12416-12437.	3.7	7
15	High CO ₂ absorption capacity of metal-based ionic liquids: A molecular dynamics study. <i>Green Energy and Environment</i> , 2021, 6, 253-260.	8.7	60
16	Hygrothermal ageing behavior and mechanism of carbon nanofibers modified flax fiber-reinforced epoxy laminates. <i>Composites Part A: Applied Science and Manufacturing</i> , 2021, 140, 106142.	7.6	36
17	Performance and analysis of unidirectional GFRP actively confined high-strength concrete under monotonic and cyclic axial compression. <i>Construction and Building Materials</i> , 2021, 271, 121593.	7.2	5
18	Behavior and Modeling of Circular Large Rupture Strain FRP-Confined Ice under Axial Compression. <i>Journal of Composites for Construction</i> , 2021, 25, .	3.2	12

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19	Axial compressive behavior and confinement mechanism of circular FRP-steel tubed concrete stub columns. <i>Composite Structures</i> , 2021, 256, 113082.	5.8	72
20	Molecular thermodynamic understanding of transport behavior of CO_2 at the ionic liquids-electrode interface. <i>AIChE Journal</i> , 2021, 67, e17060.	3.6	12
21	Out-of-Plane Deformations Determined Mechanics of Vanadium Disulfide (VS_2) Sheets. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 3040-3050.	8.0	21
22	A bioinspired interfacial design to toughen carbon nanotube fibers. <i>Materials Chemistry Frontiers</i> , 2021, 5, 5706-5717.	5.9	3
23	Ionophobic nanopores enhancing the capacitance and charging dynamics in supercapacitors with ionic liquids. <i>Journal of Materials Chemistry A</i> , 2021, 9, 15985-15992.	10.3	27
24	“Mix-Then-On-Demand-Complex” <i>In Situ</i> Cascade Anionization and Complexation of Graphene Oxide for High-Performance Nanofiltration Membranes. <i>ACS Nano</i> , 2021, 15, 4440-4449.	14.6	26
25	Data-Driven Discovery and Understanding of Ultrahigh-Modulus Crystals. <i>Chemistry of Materials</i> , 2021, 33, 1276-1284.	6.7	16
26	Understanding Electric Field-Dependent Structure Variation of Functional Ionic Liquids at the Electrode Interface. <i>ChemElectroChem</i> , 2021, 8, 1588-1595.	3.4	6
27	Interfacial Engineering Promoting Electrosynthesis of Ammonia over Mo/Phosphotungstic Acid with High Performance. <i>Advanced Functional Materials</i> , 2021, 31, 2009151.	14.9	47
28	Regulated interfacial stability by coordinating ionic liquids with fluorinated solvent for high voltage and safety batteries. <i>Journal of Power Sources</i> , 2021, 491, 229603.	7.8	20
29	Intensified Energy Storage in High-Voltage Nanohybrid Supercapacitors <i>via</i> the Efficient Coupling between $\text{TiNb}_2\text{O}_7/\text{Holey-rGO}$ Nanoarchitectures and Ionic Liquid-Based Electrolytes. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 21349-21361.	8.0	18
30	Probing Charge Injection-Induced Structural Transition in Ionic Liquids Confined at the MoS_2 Surface. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 7835-7843.	3.7	1
31	Abnormal Enhanced Free Ions of Ionic Liquids Confined in Carbon Nanochannels. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 6078-6084.	4.6	15
32	The Ionic Liquid- H_2O Interface: A New Platform for the Synthesis of Highly Crystalline and Molecular Sieving Covalent Organic Framework Membranes. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 36507-36516.	8.0	31
33	Hygrothermal aging behavior and aging mechanism of carbon nanofibers/epoxy composites. <i>Construction and Building Materials</i> , 2021, 294, 123538.	7.2	27
34	Tracking the Micro-Heterogeneity and Hydrogen-Bonding Interactions in Hydroxyl-Functionalized Ionic Liquid Solutions: A Combined Experimental and Computational Study. <i>ChemPhysChem</i> , 2021, 22, 1891-1899.	2.1	4
35	Comparison of monotonic axial compressive behavior of rectangular concrete confined by FRP with different rupture strains. <i>Construction and Building Materials</i> , 2021, 299, 124241.	7.2	19
36	Interfacial Proton Transfer for Hydrogen Evolution at the Sub-Nanometric Platinum/Electrolyte Interface. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 47252-47261.	8.0	4

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37	In situ growth of nano-antioxidants on cellular vesicles for efficient reactive oxygen species elimination in acute inflammatory diseases. <i>Nano Today</i> , 2021, 40, 101282.	11.9	22
38	Bond durability and degradation mechanism of GFRP bars in seawater sea-sand concrete under the coupling effect of seawater immersion and sustained load. <i>Construction and Building Materials</i> , 2021, 307, 124878.	7.2	19
39	Atomic structure and electrical property of ionic liquids at the MoS ₂ electrode with varying interlayer spacing. <i>Journal of Molecular Modeling</i> , 2021, 27, 41.	1.8	2
40	Understanding Structural and Transport Properties of Dissolved Li ₂ S ₈ in Ionic Liquid Electrolytes through Molecular Dynamics Simulations. <i>ChemPhysChem</i> , 2021, 22, 419-429.	2.1	16
41	Ionic liquid decoration for the hole transport improvement of PEDOT. <i>Materials Advances</i> , 2021, 2, 2009-2020.	5.4	8
42	Thermodynamical Origin of Nonmonotonic Inserting Behavior of Imidazole Ionic Liquids into the Lipid Bilayer. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 9926-9932.	4.6	9
43	Behavior and design-oriented model for elliptical FRP-confined concrete under axial compression. <i>Engineering Structures</i> , 2021, 249, 113387.	5.3	22
44	Balancing Anchoring and Diffusion for Screening of Metal Oxide Cathode Materials in Lithium-Sulfur Batteries. <i>Journal of Physical Chemistry C</i> , 2021, 125, 24318-24327.	3.1	3
45	Topological engineering of two-dimensional ionic liquid islands for high structural stability and CO ₂ adsorption selectivity. <i>Chemical Science</i> , 2021, 12, 15503-15510.	7.4	16
46	Reconstructing Vanadium Oxide with Anisotropic Pathways for a Durable and Fast Aqueous K-Ion Battery. <i>ACS Nano</i> , 2021, 15, 17717-17728.	14.6	30
47	Tailoring Multiple Sites of Metal-Organic Frameworks for Highly Efficient and Reversible Ammonia Adsorption. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 56025-56034.	8.0	28
48	Mesoscale structures and mechanisms in ionic liquids. <i>Particuology</i> , 2020, 48, 55-64.	3.6	22
49	Behavior of circular ice-filled self-luminous FRP tubular stub columns under axial compression. <i>Construction and Building Materials</i> , 2020, 232, 117287.	7.2	65
50	A space-confined strategy toward large-area two-dimensional crystals of ionic liquid. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 1820-1825.	2.8	15
51	Suppressing surface passivation of bimetallic phosphide by sulfur for long-life alkaline aqueous zinc batteries. <i>Energy Storage Materials</i> , 2020, 33, 230-238.	18.0	36
52	Strong sequentially bridged MXene sheets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 27154-27161.	7.1	148
53	Sequential drug release via chemical diffusion and physical barriers enabled by hollow multishelled structures. <i>Nature Communications</i> , 2020, 11, 4450.	12.8	52
54	Molecular mechanism of anion size regulating the nanostructure and charging process at ionic liquid-electrode interfaces. <i>Journal of Materials Chemistry A</i> , 2020, 8, 19908-19916.	10.3	31

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55	Effect of Clusters on [Li] Solvation and Transport in Mixed Organic Compound/Ionic Liquid Electrolytes under External Electric Fields. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 11308-11316.	3.7	14
56	Influence of Thickness on Water Absorption and Tensile Strength of BFRP Laminates in Water or Alkaline Solution and a Thickness-Dependent Accelerated Ageing Method for BFRP Laminates. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 3618.	2.5	6
57	Monotonic axial compressive behaviour and confinement mechanism of square CFRP-steel tube confined concrete. <i>Engineering Structures</i> , 2020, 217, 110802.	5.3	75
58	Tailoring sensing properties of smart cementitious composites based on excluded volume theory and electrostatic self-assembly. <i>Construction and Building Materials</i> , 2020, 256, 119452.	7.2	17
59	Structure and interaction properties of MBIL [Bmim][FeCl ₄] and methanol: A combined FTIR and simulation study. <i>Journal of Molecular Liquids</i> , 2020, 309, 113061.	4.9	26
60	Unleashing ultra-fast sodium ion storage mechanisms in interface-engineered monolayer MoS ₂ /C interoverlapped superstructure with robust charge transfer networks. <i>Journal of Materials Chemistry A</i> , 2020, 8, 15002-15011.	10.3	26
61	Compressive Behavior of Circular Sawdust-Reinforced Ice-Filled Flax FRP Tubular Short Columns. <i>Materials</i> , 2020, 13, 957.	2.9	6
62	Initiating Hexagonal MoO ₃ for Superbly Stable and Fast NH ₄ ⁺ Storage Based on Hydrogen Bond Chemistry. <i>Advanced Materials</i> , 2020, 32, e1907802.	21.0	186
63	An effective interface-regulating mechanism enabled by non-sacrificial additives for high-voltage nickel-rich cathode. <i>Journal of Power Sources</i> , 2020, 453, 227852.	7.8	26
64	Super-tough MXene-functionalized graphene sheets. <i>Nature Communications</i> , 2020, 11, 2077.	12.8	289
65	Molecular Insights into the Abnormal Wetting Behavior of Ionic Liquids Induced by the Solidified Ionic Layer. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 8028-8036.	3.7	14
66	Ultratough graphene/black phosphorus films. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 8727-8735.	7.1	74
67	Neuron-Mimic Smart Electrode: A Two-Dimensional Multiscale Synergistic Strategy for Densely Packed and High-Rate Lithium Storage. <i>ACS Nano</i> , 2019, 13, 9148-9160.	14.6	15
68	First-principles study on screening doped TiO ₂ (B) as an anode material with high conductivity and low lithium transport resistance for lithium-ion batteries. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 17985-17992.	2.8	12
69	Superflexible C ₆₈ -graphyne as a promising anode material for lithium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2019, 7, 17357-17365.	10.3	19
70	Primary Nucleation-Dominated Chemical Vapor Deposition Growth for Uniform Graphene Monolayers on Dielectric Substrate. <i>Journal of the American Chemical Society</i> , 2019, 141, 11004-11008.	13.7	52
71	Design and Fabrication of Silk Templated Electronic Yarns and Applications in Multifunctional Textiles. <i>Matter</i> , 2019, 1, 1411-1425.	10.0	98
72	Recent progress in theoretical and computational studies on the utilization of lignocellulosic materials. <i>Green Chemistry</i> , 2019, 21, 9-35.	9.0	96

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73	Ultralow Thermal Resistance across the Solidâ€“Ionic Liquid Interface Caused by the Charge-Induced Ordered Ionic Layer. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 20109-20115.	3.7	25
74	Molecular Insights into the Regulatable Interfacial Property and Flow Behavior of Confined Ionic Liquids in Graphene Nanochannels. <i>Small</i> , 2019, 15, e1804508.	10.0	44
75	Theoretical Insights Into the Depolymerization Mechanism of Lignin to Methyl p-hydroxycinnamate by [Bmim][FeCl ₄] Ionic Liquid. <i>Frontiers in Chemistry</i> , 2019, 7, 446.	3.6	14
76	Behavior of Circular Fiber-Reinforced Polymerâ€“Steel-Confined Concrete Columns Subjected to Reversed Cyclic Loads: Experimental Studies and Finite-Element Analysis. <i>Journal of Structural Engineering</i> , 2019, 145, .	3.4	96
77	Ultrastrong Graphene Films via Long-Chain Î€-Bridging. <i>Matter</i> , 2019, 1, 389-401.	10.0	108
78	Synergistic Regulation of Polysulfides Conversion and Deposition by MOFâ€“Derived Hierarchically Ordered Carbonaceous Composite for Highâ€“Energy Lithiumâ€“Sulfur Batteries. <i>Advanced Functional Materials</i> , 2019, 29, 1900875.	14.9	104
79	Theoretical Elucidation of Î²-O-4 Bond Cleavage of Lignin Model Compound Promoted by Sulfonic Acid-Functionalized Ionic Liquid. <i>Frontiers in Chemistry</i> , 2019, 7, 78.	3.6	24
80	Understanding the Antifouling Mechanism of Zwitterionic Monomer-Grafted Polyvinylidene Difluoride Membranes: A Comparative Experimental and Molecular Dynamics Simulation Study. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 14408-14417.	8.0	39
81	A 3D molecular cantilever based on interfacial self-assembly and the cobra-like actuation of long-chain imidazolium ionic liquids. <i>Nanoscale</i> , 2019, 11, 7277-7286.	5.6	5
82	Effect of specimen thicknesses on water absorption and flexural strength of CFRP laminates subjected to water or alkaline solution immersion. <i>Construction and Building Materials</i> , 2019, 208, 314-325.	7.2	22
83	Mechanical responses of boron-doped monolayer graphene. <i>Carbon</i> , 2019, 147, 594-601.	10.3	28
84	Height-driven structure and thermodynamic properties of confined ionic liquids inside carbon nanochannels from molecular dynamics study. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 12767-12776.	2.8	22
85	Preparation of MWCNTs-Graphene-Cellulose Fiber with Ionic Liquids. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 20013-20021.	6.7	40
86	Spider-Web-Inspired Nanocomposite-Modified Separator: Structural and Chemical Cooperativity Inhibiting the Shuttle Effect in Liâ€“S Batteries. <i>ACS Nano</i> , 2019, 13, 1563-1573.	14.6	65
87	Nature-Inspired 2D-Mosaic 3D-Gradient Mesoporous Framework: Bimetal Oxide Dual-Composite Strategy toward Ultrastable and High-Capacity Lithium Storage. <i>ACS Nano</i> , 2018, 12, 2035-2047.	14.6	40
88	Lower Limit of Interfacial Thermal Resistance across the Interface between an Imidazolium Ionic Liquid and Solid Surface. <i>Journal of Physical Chemistry C</i> , 2018, 122, 22194-22200.	3.1	27
89	The confined [Bmim][BF ₄] ionic liquid flow through graphene oxide nanochannels: a molecular dynamics study. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 17773-17780.	2.8	40
90	Solidâ€“Liquid Electrolyte as a Nanoion Modulator for Dendrite-Free Lithium Anodes. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 20412-20421.	8.0	17

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91	Strain monitoring of concrete components using embedded carbon nanofibers/epoxy sensors. <i>Construction and Building Materials</i> , 2018, 186, 367-378.	7.2	44
92	In Situ Strain and Damage Monitoring of GFRP Laminates Incorporating Carbon Nanofibers under Tension. <i>Polymers</i> , 2018, 10, 777.	4.5	17
93	Strain and damage self-sensing of basalt fiber reinforced polymer laminates fabricated with carbon nanofibers/epoxy composites under tension. <i>Composites Part A: Applied Science and Manufacturing</i> , 2018, 113, 40-52.	7.6	55
94	Behavior of innovative circular ice filled steel tubular stub columns under axial compression. <i>Construction and Building Materials</i> , 2018, 171, 680-689.	7.2	32
95	Axial compressive behavior of square ice filled steel tubular stub columns. <i>Construction and Building Materials</i> , 2018, 188, 198-209.	7.2	18
96	A new thickness-based accelerated aging test methodology for resin materials: Theory and preliminary experimental study. <i>Construction and Building Materials</i> , 2018, 186, 986-995.	7.2	12
97	Properties and mechanisms of self-sensing carbon nanofibers/epoxy composites for structural health monitoring. <i>Composite Structures</i> , 2018, 200, 669-678.	5.8	84
98	Strain and damage self-sensing properties of carbon nanofibers/carbon fiber reinforced polymer laminates. <i>Advances in Mechanical Engineering</i> , 2017, 9, 168781401668864.	1.6	13
99	Assessment of Self-Assembled Monolayers as High-Performance Thermal Interface Materials. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700355.	3.7	16
100	Atomistic dynamics of sulfur-deficient high-symmetry grain boundaries in molybdenum disulfide. <i>Nanoscale</i> , 2017, 9, 10312-10320.	5.6	18
101	Interfacial behaviors of betaine and binary betaine/carboxylic acid mixtures in molecular dynamics simulation. <i>Journal of Molecular Liquids</i> , 2017, 240, 412-419.	4.9	23
102	Characterizing the impact of surfactant structure on interfacial tension: a molecular dynamics study. <i>Journal of Molecular Modeling</i> , 2017, 23, 112.	1.8	24
103	A new era of precise liquid regulation: Quasi-liquid. <i>Green Energy and Environment</i> , 2017, 2, 329-330.	8.7	40
104	Measuring Interlayer Shear Stress in Bilayer Graphene. <i>Physical Review Letters</i> , 2017, 119, 036101.	7.8	155
105	Interlayer Coupling Behaviors of Boron Doped Multilayer Graphene. <i>Journal of Physical Chemistry C</i> , 2017, 121, 26034-26043.	3.1	33
106	Confined, Oriented, and Electrically Anisotropic Graphene Wrinkles on Bacteria. <i>ACS Nano</i> , 2016, 10, 8403-8412.	14.6	35
107	Interphase Induced Dynamic Self-Stiffening in Graphene-Based Polydimethylsiloxane Nanocomposites. <i>Small</i> , 2016, 12, 3723-3731.	10.0	39
108	Hierarchical Graphene-Based Films with Dynamic Self-Stiffening for Biomimetic Artificial Muscle. <i>Advanced Functional Materials</i> , 2016, 26, 7003-7010.	14.9	53

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109	Thermal transport in oxidized polycrystalline graphene. Carbon, 2016, 108, 318-326.	10.3	17
110	Intercalated water layers promote thermal dissipation at bio-nano interfaces. Nature Communications, 2016, 7, 12854.	12.8	52
111	Water Intercalation for Seamless, Electrically Insulating, and Thermally Transparent Interfaces. ACS Applied Materials & Interfaces, 2016, 8, 1970-1976.	8.0	27
112	Mechanistic transition of heat conduction in two-dimensional solids: A study of silica bilayers. Physical Review B, 2015, 92, .	3.2	8
113	Multifunctional Pristine Chemically Modified Graphene Films as Strong as Stainless Steel. Advanced Materials, 2015, 27, 6708-6713.	21.0	157
114	Mechanical responses of the bio-nano interface: A molecular dynamics study of graphene-coated lipid membrane. Theoretical and Applied Mechanics Letters, 2015, 5, 231-235.	2.8	17
115	Structure Evolution of Graphene Oxide during Thermally Driven Phase Transformation: Is the Oxygen Content Really Preserved?. PLoS ONE, 2014, 9, e111908.	2.5	29
116	Mechanical Behavior of BFRP-Steel Composite Plate under Axial Tension. Polymers, 2014, 6, 1862-1876.	4.5	20
117	Characterizing phonon thermal conduction in polycrystalline graphene. Journal of Materials Research, 2014, 29, 362-372.	2.6	42
118	The critical power to maintain thermally stable molecular junctions. Nature Communications, 2014, 5, 4297.	12.8	26
119	Experimental Investigation of a Self-Sensing Hybrid GFRP-Concrete Bridge Superstructure with Embedded FBG Sensors. International Journal of Distributed Sensor Networks, 2012, 8, 902613.	2.2	6