

Tao Deng

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

132
papers

6,036
citations

38
h-index

76
g-index

142
ext. papers

7,749
ext. citations

11
avg, IF

5.92
L-index

#	Paper	IF	Citations
132	Solar-driven interfacial evaporation. <i>Nature Energy</i> , 2018 , 3, 1031-1041	62.3	715
131	A bioinspired, reusable, paper-based system for high-performance large-scale evaporation. <i>Advanced Materials</i> , 2015 , 27, 2768-74	24	561
130	Bio-inspired evaporation through plasmonic film of nanoparticles at the air-water interface. <i>Small</i> , 2014 , 10, 3234-9	11	313
129	Temperature effect and thermal impact in lithium-ion batteries: A review. <i>Progress in Natural Science: Materials International</i> , 2018 , 28, 653-666	3.6	282
128	Bioinspired Multifunctional Paper-Based rGO Composites for Solar-Driven Clean Water Generation. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 14628-36	9.5	187
127	Dispersion stability of thermal nanofluids. <i>Progress in Natural Science: Materials International</i> , 2017 , 27, 531-542	3.6	181
126	Bioinspired engineering of thermal materials. <i>Advanced Materials</i> , 2015 , 27, 428-63	24	178
125	Coupling Interface Constructions of MoS /Fe Ni S Heterostructures for Efficient Electrochemical Water Splitting. <i>Advanced Materials</i> , 2018 , 30, e1803151	24	163
124	Bioinspired Bifunctional Membrane for Efficient Clean Water Generation. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 772-9	9.5	152
123	Towards outperforming conventional sensor arrays with fabricated individual photonic vapour sensors inspired by Morpho butterflies. <i>Nature Communications</i> , 2015 , 6, 7959	17.4	143
122	Towards high-speed imaging of infrared photons with bio-inspired nanoarchitectures. <i>Nature Photonics</i> , 2012 , 6, 195-200	33.9	141
121	High-Performance Thermally Conductive Phase Change Composites by Large-Size Oriented Graphite Sheets for Scalable Thermal Energy Harvesting. <i>Advanced Materials</i> , 2019 , 31, e1905099	24	135
120	Paper-based membranes on silicone floaters for efficient and fast solar-driven interfacial evaporation under one sun. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 16359-16368	13	127
119	The impact of surface chemistry on the performance of localized solar-driven evaporation system. <i>Scientific Reports</i> , 2015 , 5, 13600	4.9	117
118	Efficient Solar-Thermal Energy Harvest Driven by Interfacial Plasmonic Heating-Assisted Evaporation. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 23412-8	9.5	109
117	Dynamic tuning of optical absorbers for accelerated solar-thermal energy storage. <i>Nature Communications</i> , 2017 , 8, 1478	17.4	101
116	Bioinspired fabrication of hierarchically structured, pH-tunable photonic crystals with unique transition. <i>ACS Nano</i> , 2013 , 7, 4911-8	16.7	91

115	In Situ Vertical Growth of Fe ₃ Ni Layered Double-Hydroxide Arrays on Fe ₃ Ni Alloy Foil: Interfacial Layer Enhanced Electrocatalyst with Small Overpotential for Oxygen Evolution Reaction. <i>ACS Energy Letters</i> , 2018 , 3, 2357-2365	20.1	90
114	In Situ Environmental TEM in Imaging Gas and Liquid Phase Chemical Reactions for Materials Research. <i>Advanced Materials</i> , 2016 , 28, 9686-9712	24	88
113	Discovery of the surface polarity gradient on iridescent Morpho butterfly scales reveals a mechanism of their selective vapor response. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 15567-72	11.5	79
112	Platinum-Based Nanowires as Active Catalysts toward Oxygen Reduction Reaction: In Situ Observation of Surface-Diffusion-Assisted, Solid-State Oriented Attachment. <i>Advanced Materials</i> , 2017 , 29, 1703460	24	74
111	Magnetically-accelerated large-capacity solar-thermal energy storage within high-temperature phase-change materials. <i>Energy and Environmental Science</i> , 2019 , 12, 1613-1621	35.4	74
110	Infrared detection based on localized modification of Morpho butterfly wings. <i>Advanced Materials</i> , 2015 , 27, 1077-82	24	74
109	Solar-driven interfacial desalination for simultaneous freshwater and salt generation. <i>Desalination</i> , 2020 , 484, 114423	10.3	68
108	Floating rGO-based black membranes for solar driven sterilization. <i>Nanoscale</i> , 2017 , 9, 19384-19389	7.7	68
107	Nanoscale kinetics of asymmetrical corrosion in core-shell nanoparticles. <i>Nature Communications</i> , 2018 , 9, 1011	17.4	64
106	Neighboring Pt Atom Sites in an Ultrathin FePt Nanosheet for the Efficient and Highly CO-Tolerant Oxygen Reduction Reaction. <i>Nano Letters</i> , 2018 , 18, 5905-5912	11.5	58
105	Rapid charging of thermal energy storage materials through plasmonic heating. <i>Scientific Reports</i> , 2014 , 4, 6246	4.9	57
104	Optical Functional Materials Inspired by Biology. <i>Advanced Optical Materials</i> , 2016 , 4, 195-224	8.1	54
103	Bio-Inspired Superhydrophobic Closely Packed Aligned Nanoneedle Architectures for Enhancing Condensation Heat Transfer. <i>Advanced Functional Materials</i> , 2018 , 28, 1800634	15.6	52
102	Enhancing Localized Evaporation through Separated Light Absorbing Centers and Scattering Centers. <i>Scientific Reports</i> , 2015 , 5, 17276	4.9	50
101	Form-Stable Solar Thermal Heat Packs Prepared by Impregnating Phase-Changing Materials within Carbon-Coated Copper Foams. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 3417-3427	9.5	49
100	Plasmonic-Enhanced Oxygen Reduction Reaction of Silver/Graphene Electrocatalysts. <i>Nano Letters</i> , 2019 , 19, 1371-1378	11.5	49
99	High-Efficiency Superheated Steam Generation for Portable Sterilization under Ambient Pressure and Low Solar Flux. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 18466-18474	9.5	48
98	Bioinspired Au@CuS coupled photothermal materials: enhanced infrared absorption and photothermal conversion from butterfly wings. <i>Nano Energy</i> , 2015 , 17, 52-62	17.1	43

97	Highly sensitive, reproducible and uniform SERS substrates with a high density of three-dimensionally distributed hotspots: gyroid-structured Au periodic metallic materials. <i>NPG Asia Materials</i> , 2018 , 10, e462-e462	10.3	40
96	Three-Dimensional Porous Solar-Driven Interfacial Evaporator for High-Efficiency Steam Generation under Low Solar Flux. <i>ACS Omega</i> , 2019 , 4, 3546-3555	3.9	39
95	Biotemplated Morpho Butterfly Wings for Tunable Structurally Colored Photocatalysts. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 4614-4621	9.5	38
94	Patterned Surfaces for Solar-Driven Interfacial Evaporation. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 7584-7590	9.5	36
93	Stably dispersed high-temperature Fe ₃ O ₄ /silicone-oil nanofluids for direct solar thermal energy harvesting. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 17503-17511	13	35
92	Enhancing the Photocatalytic Hydrogen Evolution Performance of a Metal/Semiconductor Catalyst through Modulation of the Schottky Barrier Height by Controlling the Orientation of the Interface. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 12494-12500	9.5	33
91	Fabrication and performance evaluation of flexible heat pipes for potential thermal control of foldable electronics. <i>Applied Thermal Engineering</i> , 2016 , 95, 445-453	5.8	33
90	Substrateless Welding of Self-Assembled Silver Nanowires at Air/Water Interface. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 20483-90	9.5	32
89	Strong Electronic Interaction of Amorphous Fe ₂ O ₃ Nanosheets with Single-Atom Pt toward Enhanced Carbon Monoxide Oxidation. <i>Advanced Functional Materials</i> , 2019 , 29, 1904278	15.6	32
88	Flexible heat pipes with integrated bioinspired design. <i>Progress in Natural Science: Materials International</i> , 2015 , 25, 51-57	3.6	31
87	Crumpled graphene ball-based broadband solar absorbers. <i>Nanoscale</i> , 2018 , 10, 6306-6312	7.7	31
86	Visualization of fast hydrogen pump in core-shell nanostructured Mg@Pt through hydrogen-stabilized Mg ₃ Pt. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 14629-14637	13	30
85	Highly conductive phase change composites enabled by vertically-aligned reticulated graphite nanoplatelets for high-temperature solar photo/electro-thermal energy conversion, harvesting and storage. <i>Nano Energy</i> , 2021 , 89, 106338	17.1	30
84	Vapor-Enabled Propulsion for Plasmonic Photothermal Motor at the Liquid/Air Interface. <i>Journal of the American Chemical Society</i> , 2017 , 139, 12362-12365	16.4	29
83	Photothermally Enabled Pyro-Catalysis of a BaTiO Nanoparticle Composite Membrane at the Liquid/Air Interface. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 21246-21253	9.5	27
82	An open thermo-electrochemical cell enabled by interfacial evaporation. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 6514-6521	13	27
81	Bioinspired roll-to-roll solar-thermal energy harvesting within form-stable flexible composite phase change materials. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 20970-20978	13	26
80	Integrating plasmonic nanostructures with natural photonic architectures in Pd-modified butterfly wings for sensitive hydrogen gas sensing. <i>RSC Advances</i> , 2018 , 8, 32395-32400	3.7	25

79	Bioinspired Infrared Sensing Materials and Systems. <i>Advanced Materials</i> , 2018 , 30, e1707632	24	23
78	Temperature-induced coalescence of colliding binary droplets on superhydrophobic surface. <i>Scientific Reports</i> , 2014 , 4, 4303	4.9	21
77	Silicone oil-based solar-thermal fluids dispersed with PDMS-modified Fe ₃ O ₄ @graphene hybrid nanoparticles. <i>Progress in Natural Science: Materials International</i> , 2018 , 28, 554-562	3.6	21
76	Clean water generation with switchable dispersion of multifunctional Fe ₃ O ₄ -reduced graphene oxide particles. <i>Progress in Natural Science: Materials International</i> , 2018 , 28, 422-429	3.6	18
75	Ternary PtPdAg alloy nanoflowers for oxygen reduction reaction electrocatalysis. <i>CrystEngComm</i> , 2017 , 19, 6964-6971	3.3	18
74	Design of a structure with low incident and viewing angle dependence inspired by Morpho butterflies. <i>Scientific Reports</i> , 2013 , 3, 3427	4.9	18
73	Reconsidering the Benchmarking Evaluation of Catalytic Activity in Oxygen Reduction Reaction. <i>IScience</i> , 2020 , 23, 101532	6.1	18
72	Liquid Metal Composites with Enhanced Thermal Conductivity and Stability Using Molecular Thermal Linker. <i>Advanced Materials</i> , 2021 , 33, e2103104	24	18
71	Butterfly Wing Hears Sound: Acoustic Detection Using Biophotonic Nanostructure. <i>Nano Letters</i> , 2019 , 19, 2627-2633	11.5	17
70	Ga-In liquid metal nanoparticles prepared by physical vapor deposition. <i>Progress in Natural Science: Materials International</i> , 2018 , 28, 28-33	3.6	17
69	Vertical segregation in the self-assembly of nanoparticles at the liquid/air interface. <i>Nanoscale</i> , 2014 , 6, 14662-6	7.7	17
68	Pyroelectric Synthesis of MetalBaTiO ₃ Hybrid Nanoparticles with Enhanced Pyrocatalytic Performance. <i>ACS Sustainable Chemistry and Engineering</i> , 2019 , 7, 2602-2609	8.3	16
67	All-Day Freshwater Harvesting through Combined Solar-Driven Interfacial Desalination and Passive Radiative Cooling. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 47612-47622	9.5	15
66	Light-driven motion of water droplets with directional control on nanostructured surfaces. <i>Nanoscale</i> , 2020 , 12, 4295-4301	7.7	14
65	Subtractive Structural Modification of Morpho Butterfly Wings. <i>Small</i> , 2015 , 11, 5705-11	11	14
64	Large-visual-angle microstructure inspired from quantitative design of Morpho butterflies' lamellae deviation using the FDTD/PSO method. <i>Optics Letters</i> , 2013 , 38, 169-71	3	14
63	Bioinspired Temperature Regulation in Interfacial Evaporation. <i>Advanced Functional Materials</i> , 2020 , 30, 1910481	15.6	12
62	Evaporation: Bio-Inspired Evaporation Through Plasmonic Film of Nanoparticles at the Air/Water Interface (Small 16/2014). <i>Small</i> , 2014 , 10, 3233-3233	11	12

61	Electrically Driven Interfacial Evaporation for High-Efficiency Steam Generation and Sterilization. <i>ACS Omega</i> , 2019 , 4, 16603-16611	3.9	11
60	Erythritol impregnated within surface-roughened hydrophilic metal foam for medium-temperature solar-thermal energy harvesting. <i>Energy Conversion and Management</i> , 2020 , 222, 113241	10.6	11
59	Bubble-Enabled Underwater Motion of a Light-Driven Motor. <i>Small</i> , 2019 , 15, e1804959	11	11
58	Controllable assembly of Pd nanosheets: a solution for 2D materials storage. <i>CrystEngComm</i> , 2017 , 19, 3439-3444	3.3	10
57	Ethylene glycol-based solar-thermal fluids dispersed with reduced graphene oxide.. <i>RSC Advances</i> , 2019 , 9, 10282-10288	3.7	9
56	Synthesis of Liquid Gallium@Reduced Graphene Oxide Core-Shell Nanoparticles with Enhanced Photoacoustic and Photothermal Performance.. <i>Journal of the American Chemical Society</i> , 2022 ,	16.4	9
55	Facets Matching of Platinum and Ferric Oxide in Highly Efficient Catalyst Design for Low-Temperature CO Oxidation. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 15322-15327	9.5	8
54	Optical nanofluids for direct absorption-based solar-thermal energy harvesting at medium-to-high temperatures. <i>Current Opinion in Chemical Engineering</i> , 2019 , 25, 51-56	5.4	8
53	Heterostructure of ZnO Nanosheets/Zn with a Highly Enhanced Edge Surface for Efficient CO Electrochemical Reduction to CO. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 10837-10844	9.5	8
52	Coalescence, Spreading, and Rebound of Two Water Droplets with Different Temperatures on a Superhydrophobic Surface. <i>ACS Omega</i> , 2019 , 4, 17615-17622	3.9	7
51	In Situ Transmission Electron Microscopy Study of Nanocrystal Formation for Electrocatalysis. <i>ChemNanoMat</i> , 2019 , 5, 1439-1455	3.5	7
50	Stability of single-atom catalysts for electrocatalysis. <i>Journal of Materials Chemistry A</i> ,	13	7
49	Coupling effects in 3D plasmonic structures templated by Morpho butterfly wings. <i>Nanoscale</i> , 2018 , 10, 533-537	7.7	7
48	Self-propelled rotation of paper-based Leidenfrost rotor. <i>Applied Physics Letters</i> , 2019 , 114, 113703	3.4	6
47	All-in-one polymer sponge composite 3D evaporators for simultaneous high-flux solar-thermal desalination and electricity generation. <i>Nano Energy</i> , 2022 , 93, 106882	17.1	5
46	Self-Assembly in Hopper-Shaped Crystals. <i>Advanced Functional Materials</i> , 2020 , 30, 1908108	15.6	5
45	Waste heat recovery in an oscillating heat pipe using interfacial electrical double layers. <i>Applied Physics Letters</i> , 2018 , 112, 243903	3.4	5
44	Boosting Oxygen and Peroxide Reduction Reactions on PdCu Intermetallic Cubes. <i>ChemElectroChem</i> , 2020 , 7, 2614-2620	4.3	4

43	Self-dispersible graphene quantum dots in ethylene glycol for direct absorption-based medium-temperature solar-thermal harvesting.. <i>RSC Advances</i> , 2020 , 10, 45028-45036	3.7	4
42	Transparent nanofluids with high thermal conductivity for improved convective thermal management of optoelectronic devices. <i>Experimental Heat Transfer</i> , 2020 , 1-13	2.4	4
41	Self-powered infrared detection using a graphene oxide film. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 9248-9255	13	4
40	Atomistic Imaging of Competition between Surface Diffusion and Phase Transition during the Intermetallic Formation of Faceted Particles. <i>ACS Nano</i> , 2021 , 15, 5284-5293	16.7	4
39	Noncontact human-machine interaction based on hand-responsive infrared structural color.. <i>Nature Communications</i> , 2022 , 13, 1446	17.4	4
38	Bioinspired infrared detection using thermoresponsive hydrogel nanoparticles. <i>Pure and Applied Chemistry</i> , 2015 , 87, 1029-1038	2.1	3
37	Pyroelectric synthesis of Au/Pt bimetallic nanoparticles-BaTiO hybrid nanomaterials.. <i>RSC Advances</i> , 2020 , 10, 22616-22621	3.7	3
36	Bioinspired Icephobicity 2018 , 225-239		3
35	AgPO electrocatalyst for oxygen reduction reaction: enhancement from positive charge.. <i>RSC Advances</i> , 2018 , 8, 5382-5387	3.7	3
34	Construction of 3D Conductive Network in Liquid Gallium with Enhanced Thermal and Electrical Performance. <i>Advanced Materials Technologies</i> , 2100970	6.8	3
33	Rapid one-step scalable microwave synthesis of TiCT MXene. <i>Chemical Communications</i> , 2021 , 57, 12611-12614	12.6	3
32	Butterfly Wing Inspired High Performance Infrared Detection with Spectral Selectivity. <i>Advanced Optical Materials</i> , 2020 , 8, 1901647	8.1	3
31	Human hand as a powerless and multiplexed infrared light source for information decryption and complex signal generation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	3
30	Design of Highly Durable Core-Shell Catalysts by Controlling Shell Distribution Guided by In-Situ Corrosion Study. <i>Advanced Materials</i> , 2021 , 33, e2101511	24	3
29	A Non-Pt Electronically Coupled Semiconductor Heterojunction for Enhanced Oxygen Reduction Electrocatalytic Property. <i>ChemistrySelect</i> , 2019 , 4, 5264-5268	1.8	2
28	Thermal Emissivity: Basics, Measurement, and Biological Examples 2018 , 159-174		2
27	Structural evolution of Pt-based oxygen reduction reaction electrocatalysts. <i>Chinese Journal of Catalysis</i> , 2022 , 43, 47-58	11.3	2
26	Crumpled particles of ethanol-wetted graphene oxide for medium-temperature nanofluidic solar-thermal energy harvesting. <i>Carbon</i> , 2022 , 186, 492-500	10.4	2

25	Enhancement of infrared emissivity by the hierarchical microstructures from the wing scales of butterfly <i>Rapala dioetas</i> . <i>APL Photonics</i> , 2021 , 6, 036101	5.2	2
24	A bottom-up approach to generate isotropic liquid metal network in polymer-enabled 3D thermal management. <i>Chemical Engineering Journal</i> , 2022 , 439, 135674	14.7	2
23	Silicone oil nanofluids dispersed with mesoporous crumpled graphene for medium-temperature direct absorption solar-thermal energy harvesting. <i>Solar Energy Materials and Solar Cells</i> , 2022 , 243, 111794	6.4	2
22	Bioinspired Materials in Evaporation 2018 , 73-98		1
21	Bioinspired Microfluidic Cooling 2018 , 129-158		1
20	Bioinspired Thermal Insulation and Storage Materials 2018 , 201-223		1
19	Boosting electrocatalysis of oxygen reduction reaction through photovoltaic-driven potential manipulation strategy. <i>Materials Today Energy</i> , 2018 , 10, 34-39	7	1
18	Thickness dependent thermal performance of a poly(3,4-ethylenedioxythiophene) thin film synthesized an electrochemical approach.. <i>RSC Advances</i> , 2022 , 12, 1897-1903	3.7	1
17	Integration of Biological Components into Engineered Functional Systems. <i>Matter</i> , 2020 , 3, 974-976	12.7	1
16	Light-Driven Nanodroplet Generation Using Porous Membranes. <i>Nano Letters</i> , 2020 , 20, 7874-7881	11.5	1
15	Vapor detection through dynamic process of molecule desorption from butterfly wings. <i>Pure and Applied Chemistry</i> , 2020 , 92, 223-232	2.1	1
14	Ethylene glycol nanofluids dispersed with monolayer graphene oxide nanosheet for high-performance subzero cold thermal energy storage.. <i>RSC Advances</i> , 2021 , 11, 30495-30502	3.7	1
13	Hydrogen evolution from silicon nanowire surfaces.. <i>RSC Advances</i> , 2018 , 8, 41657-41662	3.7	1
12	Gallium-Based Liquid Metal Composites with Enhanced Thermal and Electrical Performance Enabled by Structural Engineering of Filler. <i>Advanced Engineering Materials</i> , 2101678	3.5	0
11	Pyroelectric Synthesis of the Site-Specific Au-ZnO Nanorod Array. <i>ChemistrySelect</i> , 2021 , 6, 11224-11230	1.8	0
10	Bioinspired Color Change through Guided Reflection. <i>Advanced Optical Materials</i> , 2018 , 6, 1800464	8.1	0
9	Paste-Like Recyclable Ga Liquid Metal Phase Change Composites Loaded with Miscible Ga ₂ O ₃ particles for Transient Cooling of Portable Electronics. <i>Applied Thermal Engineering</i> , 2022 , 118766	5.8	0
8	Hopper-Shaped Crystals: Self-Assembly in Hopper-Shaped Crystals (Adv. Funct. Mater. 26/2020). <i>Advanced Functional Materials</i> , 2020 , 30, 2070170	15.6	

- 7 Introduction to Thermal Properties of Materials **2018**, 1-23
- 6 The Engineering History of Thermal Materials **2018**, 25-46
- 5 Bioinspired Surfaces for Enhanced Boiling **2018**, 47-71
- 4 Bioinspired Engineering of Photothermal Materials **2018**, 99-128
- 3 Bioinspired Thermal Detection **2018**, 175-200
- 2 Research progress of bio-inspired radiative cooling. *Wuli Xuebao/Acta Physica Sinica*, **2022**, 71, 024401 0.6
- 1 Unzipping Carbon Nanotube Bundles through NH₂-Stacking for Enhanced Electrical and Thermal Transport. *ACS Applied Materials & Interfaces*, **2021**, 13, 28583-28592 9.5