

Zhuo Kang

List of Publications by Year in descending order

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123
papers

8,445
citations

28190

55
h-index

48187

88
g-index

124
all docs

124
docs citations

124
times ranked

10470
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-Atom Vacancy Defect to Trigger High-Efficiency Hydrogen Evolution of MoS ₂ . Journal of the American Chemical Society, 2020, 142, 4298-4308.	6.6	585
2	Toward the Application of High Frequency Electromagnetic Wave Absorption by Carbon Nanostructures. Advanced Science, 2019, 6, 1801057.	5.6	312
3	Enhanced photoelectrochemical efficiency and stability using a conformal TiO ₂ film on a black silicon photoanode. Nature Energy, 2017, 2, .	19.8	217
4	Ultrasensitive and stretchable resistive strain sensors designed for wearable electronics. Materials Horizons, 2017, 4, 502-510.	6.4	206
5	Band alignment engineering for improved performance and stability of ZnFe ₂ O ₄ modified CdS/ZnO nanostructured photoanode for PEC water splitting. Nano Energy, 2016, 24, 25-31.	8.2	196
6	Poly(4-styrenesulfonate)-induced sulfur vacancy self-healing strategy for monolayer MoS ₂ homojunction photodiode. Nature Communications, 2017, 8, 15881.	5.8	191
7	Electromagnetic Shielding Hybrid Nanogenerator for Health Monitoring and Protection. Advanced Functional Materials, 2018, 28, 1703801.	7.8	178
8	3D Branched ZnO/CdS Nanowire Arrays for Solar Water Splitting and the Service Safety Research. Advanced Energy Materials, 2016, 6, 1501459.	10.2	177
9	Graphdiyne: Bridging SnO ₂ and Perovskite in Planar Solar Cells. Angewandte Chemie - International Edition, 2020, 59, 11573-11582.	7.2	171
10	Site Management Prompts the Dynamic Reconstructed Active Phase of Perovskite Oxide OER Catalysts. Advanced Energy Materials, 2021, 11, 2003755.	10.2	171
11	Recent Advances in Triboelectric Nanogenerator-Based Health Monitoring. Advanced Functional Materials, 2019, 29, 1808849.	7.8	167
12	An innovative design of perovskite solar cells with Al ₂ O ₃ inserting at ZnO/perovskite interface for improving the performance and stability. Nano Energy, 2016, 22, 223-231.	8.2	157
13	All-Inorganic Perovskite Quantum Dot-Monolayer MoS ₂ Mixed-Dimensional van der Waals Heterostructure for Ultrasensitive Photodetector. Advanced Science, 2018, 5, 1801219.	5.6	157
14	Interface Engineering for Modulation of Charge Carrier Behavior in ZnO Photoelectrochemical Water Splitting. Advanced Functional Materials, 2019, 29, 1808032.	7.8	153
15	Electronic Structure Engineering of Cu ₂ O Film/ZnO Nanorods Array All-Oxide p-n Heterostructure for Enhanced Photoelectrochemical Property and Self-powered Biosensing Application. Scientific Reports, 2015, 5, 7882.	1.6	151
16	Engineering an Earth-Abundant Element-Based Bifunctional Electrocatalyst for Highly Efficient and Durable Overall Water Splitting. Advanced Functional Materials, 2019, 29, 1807031.	7.8	146
17	Self-Powered Photoelectrochemical Biosensor Based on CdS/RGO/ZnO Nanowire Array Heterostructure. Small, 2016, 12, 245-251.	5.2	142
18	Enhanced photoelectrochemical property of ZnO nanorods array synthesized on reduced graphene oxide for self-powered biosensing application. Biosensors and Bioelectronics, 2015, 64, 499-504.	5.3	133

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19	Green hybrid power system based on triboelectric nanogenerator for wearable/portable electronics. Nano Energy, 2019, 55, 151-163.	8.2	129
20	Deciphering the NH_4Pb_3 Intermediate Phase for Simultaneous Improvement on Nucleation and Crystal Growth of Perovskite. Advanced Functional Materials, 2017, 27, 1701804.	7.8	117
21	Graphene-Based Mixed-Dimensional van der Waals Heterostructures for Advanced Optoelectronics. Advanced Materials, 2019, 31, e1806411.	11.1	115
22	Development, applications, and future directions of triboelectric nanogenerators. Nano Research, 2018, 11, 2951-2969.	5.8	112
23	Self-powered user-interactive electronic skin for programmable touch operation platform. Science Advances, 2020, 6, eaba4294.	4.7	112
24	Interfacial Charge Behavior Modulation in Perovskite Quantum Dot-Monolayer MoS_2 2D Mixed-Dimensional van der Waals Heterostructures. Advanced Functional Materials, 2018, 28, 1802015.	7.8	107
25	Hydrophobic Polystyrene Passivation Layer for Simultaneously Improved Efficiency and Stability in Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 18787-18795.	4.0	107
26	Design of sandwich-structured ZnO/ZnS/Au photoanode for enhanced efficiency of photoelectrochemical water splitting. Nano Research, 2015, 8, 2891-2900.	5.8	104
27	Single-Atom Engineering to Ignite 2D Transition Metal Dichalcogenide Based Catalysis: Fundamentals, Progress, and Beyond. Chemical Reviews, 2022, 122, 1273-1348.	23.0	104
28	Near-ideal van der Waals rectifiers based on all-two-dimensional Schottky junctions. Nature Communications, 2021, 12, 1522.	5.8	103
29	Photoelectrochemical performance enhancement of ZnO photoanodes from ZnIn_2S_4 nanosheets coating. Nano Energy, 2015, 14, 392-400.	8.2	98
30	Enhanced Efficiency and Stability of Perovskite Solar Cells via Anti-Solvent Treatment in Two-Step Deposition Method. ACS Applied Materials & Interfaces, 2017, 9, 7224-7231.	4.0	97
31	Strain-Engineered van der Waals Interfaces of Mixed-Dimensional Heterostructure Arrays. ACS Nano, 2019, 13, 9057-9066.	7.3	94
32	Defect-Engineered Atomically Thin MoS_2 Homogeneous Electronics for Logic Inverters. Advanced Materials, 2020, 32, e1906646.	11.1	94
33	Enzyme-coated single ZnO nanowire FET biosensor for detection of uric acid. Sensors and Actuators B: Chemical, 2013, 176, 22-27.	4.0	93
34	Kelvin probe force microscopy for perovskite solar cells. Science China Materials, 2019, 62, 776-789.	3.5	93
35	Self-powered photoelectrochemical biosensing platform based on Au NPs@ZnO nanorods array. Nano Research, 2016, 9, 344-352.	5.8	92
36	Highly Robust and Self-Powered Electronic Skin Based on Tough Conductive Self-Healing Elastomer. ACS Nano, 2020, 14, 9066-9072.	7.3	90

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37	Advent of alkali metal doping: a roadmap for the evolution of perovskite solar cells. <i>Chemical Society Reviews</i> , 2021, 50, 2696-2736.	18.7	90
38	Gold nanoparticle/ZnO nanorod hybrids for enhanced reactive oxygen species generation and photodynamic therapy. <i>Nano Research</i> , 2015, 8, 2004-2014.	5.8	85
39	Cactus-like hierarchical nanorod-nanosheet mixed dimensional photoanode for efficient and stable water splitting. <i>Nano Energy</i> , 2017, 35, 189-198.	8.2	76
40	A three-dimensional reticulate CNT-aerogel for a high mechanical flexibility fiber supercapacitor. <i>Nanoscale</i> , 2018, 10, 9360-9368.	2.8	71
41	ZnO nanostructures in enzyme biosensors. <i>Science China Materials</i> , 2015, 58, 60-76.	3.5	70
42	Self-Healing Originated van der Waals Homojunctions with Strong Interlayer Coupling for High-Performance Photodiodes. <i>ACS Nano</i> , 2019, 13, 3280-3291.	7.3	69
43	Synergistic Effect of Surface Plasmonic particles and Surface Passivation layer on ZnO Nanorods Array for Improved Photoelectrochemical Water Splitting. <i>Scientific Reports</i> , 2016, 6, 29907.	1.6	68
44	Phase reconfiguration of multivalent nickel sulfides in hydrogen evolution. <i>Energy and Environmental Science</i> , 2022, 15, 633-644.	15.6	68
45	Uniformly assembled vanadium doped ZnO microflowers/ bacterial cellulose hybrid paper for flexible piezoelectric nanogenerators and self-powered sensors. <i>Nano Energy</i> , 2018, 52, 501-509.	8.2	67
46	Nonenzymatic Glucose Sensor Based on In Situ Reduction of Ni/NiO-Graphene Nanocomposite. <i>Sensors</i> , 2016, 16, 1791.	2.1	66
47	Piezotronic effect on interfacial charge modulation in mixed-dimensional Van der Waals heterostructure for ultrasensitive flexible photodetectors. <i>Nano Energy</i> , 2019, 58, 85-93.	8.2	66
48	Highly sensitive uric acid biosensor based on individual zinc oxide micro/nanowires. <i>Mikrochimica Acta</i> , 2013, 180, 759-766.	2.5	65
49	Fingerprint-inspired electronic skin based on triboelectric nanogenerator for fine texture recognition. <i>Nano Energy</i> , 2021, 85, 106001.	8.2	65
50	Hidden Vacancy Benefit in Monolayer 2D Semiconductors. <i>Advanced Materials</i> , 2021, 33, e2007051.	11.1	65
51	Probing photoelectrical transport in lead halide perovskites with van der Waals contacts. <i>Nature Nanotechnology</i> , 2020, 15, 768-775.	15.6	63
52	Emerging Conductive Atomic Force Microscopy for Metal Halide Perovskite Materials and Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 1903922.	10.2	63
53	In Situ Transmission Electron Microscopy Investigation on Fatigue Behavior of Single ZnO Wires under High-Cycle Strain. <i>Nano Letters</i> , 2014, 14, 480-485.	4.5	62
54	Site Management for Highly Crystalline Perovskites. <i>Advanced Materials</i> , 2020, 32, e1904702.	11.1	62

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55	Manipulation of Perovskite Crystallization Kinetics via Lewis Base Additives. <i>Advanced Functional Materials</i> , 2021, 31, 2009425.	7.8	61
56	Self-powered flexible antibacterial tactile sensor based on triboelectric-piezoelectric-pyroelectric multi-effect coupling mechanism. <i>Nano Energy</i> , 2019, 66, 104105.	8.2	58
57	Li ⁺ -clipping for edge S-vacancy MoS ₂ quantum dots as an efficient bifunctional electrocatalyst enabling discharge growth of amorphous Li ₂ O ₂ film. <i>Nano Energy</i> , 2019, 65, 103996.	8.2	56
58	Dual-passivation of ionic defects for highly crystalline perovskite. <i>Nano Energy</i> , 2020, 68, 104320.	8.2	55
59	Ultralight, self-powered and self-adaptive motion sensor based on triboelectric nanogenerator for perceptual layer application in Internet of things. <i>Nano Energy</i> , 2018, 48, 312-319.	8.2	54
60	Self-powered ultrasensitive pulse sensors for noninvasive multi-indicators cardiovascular monitoring. <i>Nano Energy</i> , 2021, 81, 105614.	8.2	52
61	Tumbler-shaped hybrid triboelectric nanogenerators for amphibious self-powered environmental monitoring. <i>Nano Energy</i> , 2020, 76, 104960.	8.2	49
62	Self-powered ultraviolet photodetectors based on selectively grown ZnO nanowire arrays with thermal tuning performance. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 9525.	1.3	48
63	Atomic-thin ZnO Sheet for Visible-Blind Ultraviolet Photodetection. <i>Small</i> , 2020, 16, e2005520.	5.2	45
64	Direct Charge Trapping Multilevel Memory with Graphdiyne/MoS ₂ Van der Waals Heterostructure. <i>Advanced Science</i> , 2021, 8, e2101417.	5.6	45
65	Large-scale patterned ZnO nanorod arrays for efficient photoelectrochemical water splitting. <i>Applied Surface Science</i> , 2015, 339, 122-127.	3.1	44
66	Strain modulation on graphene/ZnO nanowire mixed-dimensional van der Waals heterostructure for high-performance photosensor. <i>Nano Research</i> , 2017, 10, 3476-3485.	5.8	41
67	3D Holey-Graphene Architecture Expedites Ion Transport Kinetics to Push the OER Performance. <i>Advanced Energy Materials</i> , 2020, 10, 2001005.	10.2	41
68	Ion migration in hybrid perovskites: Classification, identification, and manipulation. <i>Nano Today</i> , 2022, 44, 101503.	6.2	41
69	Ligand Engineering for Improved All-Inorganic Perovskite Quantum Dot-MoS ₂ Monolayer Mixed Dimensional van der Waals Phototransistor. <i>Small Methods</i> , 2019, 3, 1900117.	4.6	40
70	Facile synthesis of NiCo ₂ S ₄ nanowire arrays on 3D graphene foam for high-performance electrochemical capacitors application. <i>Journal of Materials Science</i> , 2018, 53, 10292-10301.	1.7	38
71	Gate-Controlled Polarity-Reversible Photodiodes with Ambipolar 2D Semiconductors. <i>Advanced Functional Materials</i> , 2021, 31, 2007559.	7.8	38
72	All-van-der-Waals Barrier-Free Contacts for High-Mobility Transistors. <i>Advanced Materials</i> , 2022, 34, e2109521.	11.1	38

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73	A facile method for the preparation of three-dimensional CNT sponge and a nanoscale engineering design for high performance fiber-shaped asymmetric supercapacitors. <i>Journal of Materials Chemistry A</i> , 2017, 5, 22559-22567.	5.2	37
74	Efficient Yttrium(III) Chloride-Treated TiO ₂ Electron Transfer Layers for Performance-Improved and Hysteresis-Less Perovskite Solar Cells. <i>ChemSusChem</i> , 2018, 11, 171-177.	3.6	36
75	Tough and Degradable Self-Healing Elastomer from Synergistic Soft-Hard Segments Design for Biomechano-Robust Artificial Skin. <i>ACS Nano</i> , 2021, 15, 20656-20665.	7.3	35
76	Design and tailoring of patterned ZnO nanostructures for energy conversion applications. <i>Science China Materials</i> , 2017, 60, 793-810.	3.5	34
77	Architecture Design and Interface Engineering of Self-assembly VS ₄ /rGO Heterostructures for Ultrathin Absorbent. <i>Nano-Micro Letters</i> , 2022, 14, 67.	14.4	33
78	Gold nanoparticles coated zinc oxide nanorods as the matrix for enhanced l-lactate sensing. <i>Colloids and Surfaces B: Biointerfaces</i> , 2015, 126, 476-480.	2.5	32
79	Single-Atom Vacancy Doping in Two-Dimensional Transition Metal Dichalcogenides. <i>Accounts of Materials Research</i> , 2021, 2, 655-668.	5.9	32
80	Interpretation of Rubidium-Based Perovskite Recipes toward Electronic Passivation and Ion-Diffusion Mitigation. <i>Advanced Materials</i> , 2022, 34, e2109998.	11.1	29
81	Single-Stranded DNA Functionalized Single-Walled Carbon Nanotubes for Microbiosensors via Layer-by-Layer Electrostatic Self-Assembly. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 3784-3789.	4.0	28
82	Zinc oxide nanowires-based electrochemical biosensor for L-lactic acid amperometric detection. <i>Journal of Nanoparticle Research</i> , 2014, 16, 1.	0.8	27
83	Ferroelectric polarization-enhanced charge separation in a vanadium-doped ZnO photoelectrochemical system. <i>Inorganic Chemistry Frontiers</i> , 2018, 5, 1533-1539.	3.0	27
84	Grain Boundary Perfection Enabled by Pyridinic Nitrogen Doped Graphdiyne in Hybrid Perovskite. <i>Advanced Functional Materials</i> , 2021, 31, 2104633.	7.8	27
85	Interface Engineering in 1D ZnO-Based Heterostructures for Photoelectrical Devices. <i>Advanced Functional Materials</i> , 2022, 32, 2106887.	7.8	27
86	Molecule-Upgraded van der Waals Contacts for Schottky-Barrier-Free Electronics. <i>Advanced Materials</i> , 2021, 33, e2104935.	11.1	26
87	Facile one-pot synthesis of Mg-doped g-C ₃ N ₄ for photocatalytic reduction of CO ₂ . <i>RSC Advances</i> , 2019, 9, 28894-28901.	1.7	25
88	Tailored TiO ₂ Protection Layer Enabled Efficient and Stable Microdome Structured p-GaAs Photoelectrochemical Cathodes. <i>Advanced Energy Materials</i> , 2020, 10, 1902985.	10.2	25
89	Multicenter Uric Acid Biosensor Based on Tetrapod-Shaped ZnO Nanostructures. <i>Journal of Nanoscience and Nanotechnology</i> , 2012, 12, 513-518.	0.9	24
90	Record-high saturation current in end-bond contacted monolayer MoS ₂ transistors. <i>Nano Research</i> , 2022, 15, 475-481.	5.8	24

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91	Synergistic engineering of dielectric and magnetic losses in M-Co/RGO nanocomposites for use in high-performance microwave absorption. <i>Materials Chemistry Frontiers</i> , 2020, 4, 3013-3021.	3.2	23
92	Nanorod arrays composed of zinc oxide modified with gold nanoparticles and glucose oxidase for enzymatic sensing of glucose. <i>Mikrochimica Acta</i> , 2015, 182, 605-610.	2.5	22
93	Carbon Quantum Dots Decorated C ₃ N ₄ /TiO ₂ Heterostructure Nanorod Arrays for Enhanced Photoelectrochemical Performance. <i>Journal of the Electrochemical Society</i> , 2017, 164, H515-H520.	1.3	22
94	In situ microscopy techniques for characterizing the mechanical properties and deformation behavior of two-dimensional (2D) materials. <i>Materials Today</i> , 2021, 51, 247-272.	8.3	22
95	A van der Waals Ferroelectric Tunnel Junction for Ultrahigh-Temperature Operation Memory. <i>Small Methods</i> , 2022, 6, e2101583.	4.6	22
96	Endogenous Synergistic Enhanced Self-Powered Photodetector via Multi-Effect Coupling Strategy toward High-Efficiency Ultraviolet Communication. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	20
97	Graphdiyne: Bridging SnO ₂ and Perovskite in Planar Solar Cells. <i>Angewandte Chemie</i> , 2020, 132, 11670-11679.	1.6	17
98	Direct synthesis of 1T-phase MoS ₂ nanosheets with abundant sulfur-vacancies through (CH ₃) ₄ N ⁺ cation-intercalation for the hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2021, 9, 13996-14003.	5.2	17
99	Omnibearing Interpretation of External Ions Passivated Ion Migration in Mixed Halide Perovskites. <i>Nano Letters</i> , 2022, 22, 1467-1474.	4.5	17
100	Synergistic-Engineered van der Waals photodiodes with high efficiency. <i>Informa-Materially</i> , 2022, 4, .	8.5	16
101	Ultra-stable ZnO nanobelts in electrochemical environments. <i>Materials Chemistry Frontiers</i> , 2021, 5, 430-437.	3.2	15
102	3D graphene foam/ZnO nanorods array mixed-dimensional heterostructure for photoelectrochemical biosensing. <i>Inorganic Chemistry Frontiers</i> , 2018, 5, 364-369.	3.0	13
103	Broadband electromagnetic wave absorption properties and mechanism of MoS ₂ /rGO nanocomposites. <i>Materials Chemistry Frontiers</i> , 2021, 5, 5063-5070.	3.2	13
104	Investigation on the Mechanism of Nanodamage and Nanofailure for Single ZnO Nanowires under an Electric Field. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 2344-2349.	4.0	12
105	Edge induced band bending in van der Waals heterojunctions: A first principle study. <i>Nano Research</i> , 2020, 13, 701-708.	5.8	12
106	A Universal Strategy for Improving the Energy Transmission Efficiency and Load Power of Triboelectric Nanogenerators. <i>Advanced Energy Materials</i> , 2019, 9, 1901881.	10.2	11
107	Self-powered visualization system by conjunction of photovoltaic effect and contact-electrification. <i>Nano Energy</i> , 2019, 57, 528-534.	8.2	11
108	The coupling effect characterization for van der Waals structures based on transition metal dichalcogenides. <i>Nano Research</i> , 2021, 14, 1734-1751.	5.8	11

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109	Thermo-responsive phase-transition polymer grafted magnetic FePt nanoparticles with tunable critical temperature for controlled drug release. <i>Materials Chemistry Frontiers</i> , 2018, 2, 1609-1617.	3.2	9
110	Fully Organic Self-Powered Electronic Skin with Multifunctional and Highly Robust Sensing Capability. <i>Research</i> , 2021, 2021, 9801832.	2.8	9
111	Nanowelding in Wholeâ€‘Lifetime Bottomâ€‘Up Manufacturing: From Assembly to Service. <i>Small Methods</i> , 2021, 5, e2100654.	4.6	8
112	Information accessibility oriented self-powered and ripple-inspired fingertip interactors with auditory feedback. <i>Nano Energy</i> , 2021, 87, 106117.	8.2	7
113	Photovoltaics: Deciphering the NH ₄ Pb ₃ Intermediate Phase for Simultaneous Improvement on Nucleation and Crystal Growth of Perovskite (<i>Adv. Funct. Mater.</i> 30/2017). <i>Advanced Functional Materials</i> , 2017, 27, .	7.8	6
114	Enhanced field emission properties of graphene-based cathodes fabricated by ultrasonic atomization spray. <i>RSC Advances</i> , 2018, 8, 16207-16213.	1.7	6
115	Effect of photocatalytic reduction of carbon dioxide by Nâ€‘Zr co-doped nano TiO ₂ . <i>Environmental Technology (United Kingdom)</i> , 2017, 38, 2677-2683.	1.2	4
116	Layer-dependent band to band tunneling in WSe ₂ /ReS ₂ van der Waals heterojunction. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 374001.	1.3	4
117	Point defect induced intervalley scattering for the enhancement of interlayer electron transport in bilayer MoS ₂ homojunctions. <i>Nanoscale</i> , 2020, 12, 9859-9865.	2.8	4
118	Interface Engineering for Highâ€‘Performance Photoelectrochemical Cells via Atomic Layer Deposition Technique. <i>Energy Technology</i> , 2021, 9, 2000819.	1.8	4
119	Van Der Waals Heterostructures: Interfacial Charge Behavior Modulation in Perovskite Quantum Dot-Monolayer MoS ₂ 0D-2D Mixed-Dimensional van der Waals Heterostructures (<i>Adv. Funct. Mater.</i>) Tj ETQq1 1 0.784314 rgb /Overlo	7.8	4
120	FABRICATION AND PERFORMANCE STUDY ON INDIVIDUAL ZNO NANOWIRES BASED BIOELECTRODE. , 2012, , .		0
121	Optoelectronics: All-Inorganic Perovskite Quantum Dot-Monolayer MoS ₂ Mixed-Dimensional van der Waals Heterostructure for Ultrasensitive Photodetector (<i>Adv. Sci.</i> 12/2018). <i>Advanced Science</i> , 2018, 5, 1870078.	5.6	0
122	Perovskite Crystallization: Aâ€‘Site Management for Highly Crystalline Perovskites (<i>Adv. Mater.</i> 4/2020). <i>Advanced Materials</i> , 2020, 32, 2070031.	11.1	0
123	Interface Engineering for Highâ€‘Performance Photoelectrochemical Cells via Atomic Layer Deposition Technique. <i>Energy Technology</i> , 2021, 9, 2170023.	1.8	0