

Zhuo Kang

List of Publications by Citations

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121
papers

5,263
citations

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h-index

69
g-index

124
ext. papers

6,759
ext. citations

14.4
avg, IF

6.07
L-index

#	Paper	IF	Citations
121	Single-Atom Vacancy Defect to Trigger High-Efficiency Hydrogen Evolution of MoS. <i>Journal of the American Chemical Society</i> , 2020 , 142, 4298-4308	16.4	287
120	Enhanced photoelectrochemical efficiency and stability using a conformal TiO ₂ film on a black silicon photoanode. <i>Nature Energy</i> , 2017 , 2,	62.3	186
119	Toward the Application of High Frequency Electromagnetic Wave Absorption by Carbon Nanostructures. <i>Advanced Science</i> , 2019 , 6, 1801057	13.6	175
118	Band alignment engineering for improved performance and stability of ZnFe ₂ O ₄ modified CdS/ZnO nanostructured photoanode for PEC water splitting. <i>Nano Energy</i> , 2016 , 24, 25-31	17.1	160
117	3D-Branched ZnO/CdS Nanowire Arrays for Solar Water Splitting and the Service Safety Research. <i>Advanced Energy Materials</i> , 2016 , 6, 1501459	21.8	158
116	Ultrasensitive and stretchable resistive strain sensors designed for wearable electronics. <i>Materials Horizons</i> , 2017 , 4, 502-510	14.4	151
115	Electromagnetic Shielding Hybrid Nanogenerator for Health Monitoring and Protection. <i>Advanced Functional Materials</i> , 2018 , 28, 1703801	15.6	139
114	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. <i>Scientific Reports</i> , 2015 , 5, 7882	4.9	131
113	An innovative design of perovskite solar cells with Al ₂ O ₃ inserting at ZnO/perovskite interface for improving the performance and stability. <i>Nano Energy</i> , 2016 , 22, 223-231	17.1	130
112	Poly(4-styrenesulfonate)-induced sulfur vacancy self-healing strategy for monolayer MoS homojunction photodiode. <i>Nature Communications</i> , 2017 , 8, 15881	17.4	129
111	Self-Powered Photoelectrochemical Biosensor Based on CdS/RGO/ZnO Nanowire Array Heterostructure. <i>Small</i> , 2016 , 12, 245-51	11	121
110	Enhanced photoelectrochemical property of ZnO nanorods array synthesized on reduced graphene oxide for self-powered biosensing application. <i>Biosensors and Bioelectronics</i> , 2015 , 64, 499-504	11.8	111
109	All-Inorganic Perovskite Quantum Dot-Monolayer MoS Mixed-Dimensional van der Waals Heterostructure for Ultrasensitive Photodetector. <i>Advanced Science</i> , 2018 , 5, 1801219	13.6	101
108	Recent Advances in Triboelectric Nanogenerator-Based Health Monitoring. <i>Advanced Functional Materials</i> , 2019 , 29, 1808849	15.6	97
107	Interface Engineering for Modulation of Charge Carrier Behavior in ZnO Photoelectrochemical Water Splitting. <i>Advanced Functional Materials</i> , 2019 , 29, 1808032	15.6	95
106	Green hybrid power system based on triboelectric nanogenerator for wearable/portable electronics. <i>Nano Energy</i> , 2019 , 55, 151-163	17.1	94
105	Deciphering the NH ₄ PbI ₃ Intermediate Phase for Simultaneous Improvement on Nucleation and Crystal Growth of Perovskite. <i>Advanced Functional Materials</i> , 2017 , 27, 1701804	15.6	89

104	Design of sandwich-structured ZnO/ZnS/Au photoanode for enhanced efficiency of photoelectrochemical water splitting. <i>Nano Research</i> , 2015 , 8, 2891-2900	10	89
103	Engineering an Earth-Abundant Element-Based Bifunctional Electrocatalyst for Highly Efficient and Durable Overall Water Splitting. <i>Advanced Functional Materials</i> , 2019 , 29, 1807031	15.6	89
102	Photoelectrochemical performance enhancement of ZnO photoanodes from ZnIn ₂ S ₄ nanosheets coating. <i>Nano Energy</i> , 2015 , 14, 392-400	17.1	83
101	Self-powered photoelectrochemical biosensing platform based on Au NPs@ZnO nanorods array. <i>Nano Research</i> , 2016 , 9, 344-352	10	80
100	Enzyme-coated single ZnO nanowire FET biosensor for detection of uric acid. <i>Sensors and Actuators B: Chemical</i> , 2013 , 176, 22-27	8.5	79
99	Optoelectronics: All-Inorganic Perovskite Quantum Dot-Monolayer MoS ₂ Mixed-Dimensional van der Waals Heterostructure for Ultrasensitive Photodetector (Adv. Sci. 12/2018). <i>Advanced Science</i> , 2018 , 5, 1870078	13.6	78
98	Enhanced Efficiency and Stability of Perovskite Solar Cells via Anti-Solvent Treatment in Two-Step Deposition Method. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 7224-7231	9.5	76
97	Graphdiyne: Bridging SnO and Perovskite in Planar Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 11573-11582	16.4	76
96	Hydrophobic Polystyrene Passivation Layer for Simultaneously Improved Efficiency and Stability in Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 18787-18795	9.5	76
95	Interfacial Charge Behavior Modulation in Perovskite Quantum Dot-Monolayer MoS ₂ 0D-2D Mixed-Dimensional van der Waals Heterostructures. <i>Advanced Functional Materials</i> , 2018 , 28, 1802015	15.6	75
94	Gold nanoparticle/ZnO nanorod hybrids for enhanced reactive oxygen species generation and photodynamic therapy. <i>Nano Research</i> , 2015 , 8, 2004-2014	10	68
93	Graphene-Based Mixed-Dimensional van der Waals Heterostructures for Advanced Optoelectronics. <i>Advanced Materials</i> , 2019 , 31, e1806411	24	67
92	Development, applications, and future directions of triboelectric nanogenerators. <i>Nano Research</i> , 2018 , 11, 2951-2969	10	66
91	Cactus-like hierarchical nanorod-nanosheet mixed dimensional photoanode for efficient and stable water splitting. <i>Nano Energy</i> , 2017 , 35, 189-198	17.1	63
90	ZnO nanostructures in enzyme biosensors. <i>Science China Materials</i> , 2015 , 58, 60-76	7.1	58
89	In situ transmission electron microscopy investigation on fatigue behavior of single ZnO wires under high-cycle strain. <i>Nano Letters</i> , 2014 , 14, 480-5	11.5	57
88	Highly sensitive uric acid biosensor based on individual zinc oxide micro/nanowires. <i>Mikrochimica Acta</i> , 2013 , 180, 759-766	5.8	57
87	Self-powered user-interactive electronic skin for programmable touch operation platform. <i>Science Advances</i> , 2020 , 6, eaba4294	14.3	55

86	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	4.9	55
85	Nonenzymatic Glucose Sensor Based on In Situ Reduction of Ni/NiO-Graphene Nanocomposite. <i>Sensors</i> , 2016 , 16,	3.8	54
84	Strain-Engineered van der Waals Interfaces of Mixed-Dimensional Heterostructure Arrays. <i>ACS Nano</i> , 2019 , 13, 9057-9066	16.7	53
83	Kelvin probe force microscopy for perovskite solar cells. <i>Science China Materials</i> , 2019 , 62, 776-789	7.1	52
82	A three-dimensional reticulate CNT-aerogel for a high mechanical flexibility fiber supercapacitor. <i>Nanoscale</i> , 2018 , 10, 9360-9368	7.7	51
81	Highly Robust and Self-Powered Electronic Skin Based on Tough Conductive Self-Healing Elastomer. <i>ACS Nano</i> , 2020 , 14, 9066-9072	16.7	47
80	Defect-Engineered Atomically Thin MoS Homogeneous Electronics for Logic Inverters. <i>Advanced Materials</i> , 2020 , 32, e1906646	24	46
79	Self-powered ultraviolet photodetectors based on selectively grown ZnO nanowire arrays with thermal tuning performance. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 9525-9	3.6	45
78	Self-Healing Originated van der Waals Homo Junctions with Strong Interlayer Coupling for High-Performance Photodiodes. <i>ACS Nano</i> , 2019 , 13, 3280-3291	16.7	43
77	A-Site Management Prompts the Dynamic Reconstructed Active Phase of Perovskite Oxide OER Catalysts. <i>Advanced Energy Materials</i> , 2021 , 11, 2003755	21.8	42
76	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	17.1	41
75	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	17.1	39
74	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	17.1	39
73	Strain modulation on graphene/ZnO nanowire mixed-dimensional van der Waals heterostructure for high-performance photosensor. <i>Nano Research</i> , 2017 , 10, 3476-3485	10	37
72	A-Site Management for Highly Crystalline Perovskites. <i>Advanced Materials</i> , 2020 , 32, e1904702	24	37
71	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	17.1	34
70	Large-scale patterned ZnO nanorod arrays for efficient photoelectrochemical water splitting. <i>Applied Surface Science</i> , 2015 , 339, 122-127	6.7	34
69	Dual-passivation of ionic defects for highly crystalline perovskite. <i>Nano Energy</i> , 2020 , 68, 104320	17.1	34

68	Advent of alkali metal doping: a roadmap for the evolution of perovskite solar cells. <i>Chemical Society Reviews</i> , 2021 , 50, 2696-2736	58.5	34
67	Self-powered flexible antibacterial tactile sensor based on triboelectric-piezoelectric-pyroelectric multi-effect coupling mechanism. <i>Nano Energy</i> , 2019 , 66, 104105	17.1	32
66	Design and tailoring of patterned ZnO nanostructures for energy conversion applications. <i>Science China Materials</i> , 2017 , 60, 793-810	7.1	31
65	Near-ideal van der Waals rectifiers based on all-two-dimensional Schottky junctions. <i>Nature Communications</i> , 2021 , 12, 1522	17.4	31
64	Efficient Yttrium(III) Chloride-Treated TiO Electron Transfer Layers for Performance-Improved and Hysteresis-Less Perovskite Solar Cells. <i>ChemSusChem</i> , 2018 , 11, 171-177	8.3	29
63	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	13	27
62	Emerging Conductive Atomic Force Microscopy for Metal Halide Perovskite Materials and Solar Cells. <i>Advanced Energy Materials</i> , 2020 , 10, 1903922	21.8	27
61	Hidden Vacancy Benefit in Monolayer 2D Semiconductors. <i>Advanced Materials</i> , 2021 , 33, e2007051	24	27
60	Ligand Engineering for Improved All-Inorganic Perovskite Quantum Dot-MoS2 Monolayer Mixed Dimensional van der Waals Phototransistor. <i>Small Methods</i> , 2019 , 3, 1900117	12.8	26
59	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, 3784-9	9.5	26
58	Gold nanoparticles coated zinc oxide nanorods as the matrix for enhanced L-lactate sensing. <i>Colloids and Surfaces B: Biointerfaces</i> , 2015 , 126, 476-80	6	26
57	Fingerprint-inspired electronic skin based on triboelectric nanogenerator for fine texture recognition. <i>Nano Energy</i> , 2021 , 85, 106001	17.1	26
56	Facile synthesis of NiCo2S4 nanowire arrays on 3D graphene foam for high-performance electrochemical capacitors application. <i>Journal of Materials Science</i> , 2018 , 53, 10292-10301	4.3	25
55	Probing photoelectrical transport in lead halide perovskites with van der Waals contacts. <i>Nature Nanotechnology</i> , 2020 , 15, 768-775	28.7	23
54	Self-powered ultrasensitive pulse sensors for noninvasive multi-indicators cardiovascular monitoring. <i>Nano Energy</i> , 2021 , 81, 105614	17.1	23
53	Zinc oxide nanowires-based electrochemical biosensor for L-lactic acid amperometric detection. <i>Journal of Nanoparticle Research</i> , 2014 , 16, 1	2.3	22
52	3D Holey-Graphene Architecture Expedites Ion Transport Kinetics to Push the OER Performance. <i>Advanced Energy Materials</i> , 2020 , 10, 2001005	21.8	22
51	Ferroelectric polarization-enhanced charge separation in a vanadium-doped ZnO photoelectrochemical system. <i>Inorganic Chemistry Frontiers</i> , 2018 , 5, 1533-1539	6.8	21

50	Manipulation of Perovskite Crystallization Kinetics via Lewis Base Additives. <i>Advanced Functional Materials</i> , 2021 , 31, 2009425	15.6	21
49	Single-Atom Engineering to Ignite 2D Transition Metal Dichalcogenide Based Catalysis: Fundamentals, Progress, and Beyond. <i>Chemical Reviews</i> , 2021 ,	68.1	20
48	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	3.9	19
47	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	5.8	19
46	Tumbler-shaped hybrid triboelectric nanogenerators for amphibious self-powered environmental monitoring. <i>Nano Energy</i> , 2020 , 76, 104960	17.1	19
45	Multicenter uric acid biosensor based on tetrapod-shaped ZnO nanostructures. <i>Journal of Nanoscience and Nanotechnology</i> , 2012 , 12, 513-8	1.3	19
44	Atomic-Thin ZnO Sheet for Visible-Blind Ultraviolet Photodetection. <i>Small</i> , 2020 , 16, e2005520	11	19
43	Tailored TiO ₂ Protection Layer Enabled Efficient and Stable Microdome Structured p-GaAs Photoelectrochemical Cathodes. <i>Advanced Energy Materials</i> , 2020 , 10, 1902985	21.8	17
42	Gate-Controlled Polarity-Reversible Photodiodes with Ambipolar 2D Semiconductors. <i>Advanced Functional Materials</i> , 2021 , 31, 2007559	15.6	13
41	Investigation on the mechanism of nanodamage and nanofailure for single ZnO nanowires under an electric field. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 2344-9	9.5	11
40	3D graphene foam/ZnO nanorods array mixed-dimensional heterostructure for photoelectrochemical biosensing. <i>Inorganic Chemistry Frontiers</i> , 2018 , 5, 364-369	6.8	11
39	Facile one-pot synthesis of Mg-doped g-CN for photocatalytic reduction of CO ₂ . <i>RSC Advances</i> , 2019 , 9, 28894-28901	3.7	9
38	Phase reconfiguration of multivalent nickel sulfides in hydrogen evolution. <i>Energy and Environmental Science</i> ,	35.4	9
37	Record-high saturation current in end-bond contacted monolayer MoS ₂ transistors. <i>Nano Research</i> , 2022 , 15, 475	10	9
36	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	7.8	8
35	Ion migration in hybrid perovskites: Classification, identification, and manipulation. <i>Nano Today</i> , 2022 , 44, 101503	17.9	8
34	Self-powered visualization system by conjunction of photovoltaic effect and contact-electrification. <i>Nano Energy</i> , 2019 , 57, 528-534	17.1	7
33	Ultra-stable ZnO nanobelts in electrochemical environments. <i>Materials Chemistry Frontiers</i> , 2021 , 5, 430-437	4.37	7

32	Direct Charge Trapping Multilevel Memory with Graphdiyne/MoS Van der Waals Heterostructure. <i>Advanced Science</i> , 2021 , 8, e2101417	13.6	7
31	Grain Boundary Perfection Enabled by Pyridinic Nitrogen Doped Graphdiyne in Hybrid Perovskite. <i>Advanced Functional Materials</i> , 2021 , 31, 2104633	15.6	6
30	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	7.8	6
29	Single-Atom Vacancy Doping in Two-Dimensional Transition Metal Dichalcogenides. <i>Accounts of Materials Research</i> , 2021 , 2, 655-668	7.5	6
28	A Universal Strategy for Improving the Energy Transmission Efficiency and Load Power of Triboelectric Nanogenerators. <i>Advanced Energy Materials</i> , 2019 , 9, 1901881	21.8	5
27	Edge induced band bending in van der Waals heterojunctions: A first principle study. <i>Nano Research</i> , 2020 , 13, 701-708	10	5
26	Interpretation of Rubidium-based Perovskite Recipes towards Electronic Passivation and Ion Diffusion Mitigation.. <i>Advanced Materials</i> , 2022 , e2109998	24	5
25	Interface Engineering in 1D ZnO-Based Heterostructures for Photoelectrical Devices. <i>Advanced Functional Materials</i> , 2106887	15.6	5
24	Direct synthesis of 1T-phase MoS2 nanosheets with abundant sulfur-vacancies through (CH3)4N+ cation-intercalation for the hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 13996-14005	13	5
23	Molecule-Upgraded van der Waals Contacts for Schottky-Barrier-Free Electronics. <i>Advanced Materials</i> , 2021 , 33, e2104935	24	5
22	Effect of photocatalytic reduction of carbon dioxide by N-Zr co-doped nano TiO. <i>Environmental Technology (United Kingdom)</i> , 2017 , 38, 2677-2683	2.6	4
21	Graphdiyne: Bridging SnO2 and Perovskite in Planar Solar Cells. <i>Angewandte Chemie</i> , 2020 , 132, 11670-11679	13.679	4
20	Enhanced field emission properties of graphene-based cathodes fabricated by ultrasonic atomization spray.. <i>RSC Advances</i> , 2018 , 8, 16207-16213	3.7	4
19	Photovoltaics: Deciphering the NH4PbI3 Intermediate Phase for Simultaneous Improvement on Nucleation and Crystal Growth of Perovskite (Adv. Funct. Mater. 30/2017). <i>Advanced Functional Materials</i> , 2017 , 27,	15.6	4
18	Tough and Degradable Self-Healing Elastomer from Synergistic Soft-Hard Segments Design for Biomechano-Robust Artificial Skin. <i>ACS Nano</i> , 2021 ,	16.7	4
17	Interface Engineering for High-Performance Photoelectrochemical Cells via Atomic Layer Deposition Technique. <i>Energy Technology</i> , 2021 , 9, 2000819	3.5	4
16	All-van-der-Waals Barrier-Free Contacts for High-Mobility Transistors.. <i>Advanced Materials</i> , 2022 , e2109524	24	4
15	Van Der Waals Heterostructures: Interfacial Charge Behavior Modulation in Perovskite Quantum Dot-Monolayer MoS2 0D-2D Mixed-Dimensional van der Waals Heterostructures (Adv. Funct. Mater. 34/2018). <i>Advanced Functional Materials</i> , 2018 , 28, 1870239	15.6	3

14	In situ microscopy techniques for characterizing the mechanical properties and deformation behavior of two-dimensional (2D) materials. <i>Materials Today</i> , 2021 , 51, 247-247	21.8	2
13	Point defect induced intervalley scattering for the enhancement of interlayer electron transport in bilayer MoS homojunctions. <i>Nanoscale</i> , 2020 , 12, 9859-9865	7.7	2
12	The coupling effect characterization for van der Waals structures based on transition metal dichalcogenides. <i>Nano Research</i> , 2021 , 14, 1734-1751	10	2
11	Broadband electromagnetic wave absorption properties and mechanism of MoS ₂ /rGO nanocomposites. <i>Materials Chemistry Frontiers</i> ,	7.8	2
10	Fully Organic Self-Powered Electronic Skin with Multifunctional and Highly Robust Sensing Capability. <i>Research</i> , 2021 , 2021, 9801832	7.8	2
9	Nanowelding in Whole-Lifetime Bottom-Up Manufacturing: From Assembly to Service.. <i>Small Methods</i> , 2021 , 5, e2100654	12.8	2
8	Information accessibility oriented self-powered and ripple-inspired fingertip interactors with auditory feedback. <i>Nano Energy</i> , 2021 , 87, 106117	17.1	2
7	A van der Waals Ferroelectric Tunnel Junction for Ultrahigh-Temperature Operation Memory.. <i>Small Methods</i> , 2022 , e2101583	12.8	2
6	Architecture Design and Interface Engineering of Self-assembly VS/rGO Heterostructures for Ultrathin Absorbent.. <i>Nano-Micro Letters</i> , 2022 , 14, 67	19.5	2
5	Endogenous Synergistic Enhanced Self-Powered Photodetector via Multi-Effect Coupling Strategy toward High-Efficiency Ultraviolet Communication. <i>Advanced Functional Materials</i> , 2202184	15.6	2
4	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	3	1
3	Flexible Triboelectric Nanogenerators 2018 , 383-423		1
2	Perovskite Crystallization: A-Site Management for Highly Crystalline Perovskites (Adv. Mater. 4/2020). <i>Advanced Materials</i> , 2020 , 32, 2070031	24	
1	Interface Engineering for High-Performance Photoelectrochemical Cells via Atomic Layer Deposition Technique. <i>Energy Technology</i> , 2021 , 9, 2170023	3.5	