

Kai Xu

List of Publications by Year in descending order

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times ranked

9184
citing authors

#	ARTICLE	IF	CITATIONS
1	Tunable GaTe-MoS ₂ van der Waals p-n Junctions with Novel Optoelectronic Performance. Nano Letters, 2015, 15, 7558-7566.	4.5	369
2	Component-Controllable WS ₂ (1-x)Se _{2x} Nanotubes for Efficient Hydrogen Evolution Reaction. ACS Nano, 2014, 8, 8468-8476.	7.3	317
3	Van der Waals Epitaxy and Photoresponse of Hexagonal Tellurium Nanoplates on Flexible Mica Sheets. ACS Nano, 2014, 8, 7497-7505.	7.3	259
4	A human pilot trial of ingestible electronic capsules capable of sensing different gases in the gut. Nature Electronics, 2018, 1, 79-87.	13.1	240
5	Synthesis of highly stable graphene oxide membranes on polydopamine functionalized supports for seawater desalination. Chemical Engineering Science, 2016, 146, 159-165.	1.9	186
6	Ultrasensitive Phototransistors Based on Few-Layered HfS ₂ . Advanced Materials, 2015, 27, 7881-7887.	11.1	176
7	Sub-10 nm Nanopattern Architecture for 2D Material Field-Effect Transistors. Nano Letters, 2017, 17, 1065-1070.	4.5	172
8	Role of Ga Vacancy on a Multilayer GaTe Phototransistor. ACS Nano, 2014, 8, 4859-4865.	7.3	162
9	Tungsten Oxide@Polypyrrole Core-Shell Nanowire Arrays as Novel Negative Electrodes for Asymmetric Supercapacitors. Small, 2015, 11, 749-755.	5.2	161
10	Two-Dimensional Non-Layered Materials: Synthesis, Properties and Applications. Advanced Functional Materials, 2017, 27, 1603254.	7.8	161
11	Synthesis, properties and applications of 2D layered M ^{III} X ^{VI} (M = Ga, In; X = S, Se). J. Phys. Chem. C, 2014, 118, 1425-1431.	2.8	142
12	van der Waals Epitaxial Ultrathin Two-Dimensional Nonlayered Semiconductor for Highly Efficient Flexible Optoelectronic Devices. Nano Letters, 2015, 15, 1183-1189.	4.5	127
13	Highly sensitive and fast phototransistor based on large size CVD-grown SnS ₂ nanosheets. Nanoscale, 2015, 7, 14093-14099.	2.8	126
14	High-performance flexible photodetectors based on GaTe nanosheets. Nanoscale, 2015, 7, 7252-7258.	2.8	126
15	Designing the shape evolution of SnSe ₂ nanosheets and their optoelectronic properties. Nanoscale, 2015, 7, 17375-17380.	2.8	121
16	Atomic-layer triangular WSe ₂ sheets: synthesis and layer-dependent photoluminescence property. Nanotechnology, 2013, 24, 465705.	1.3	120
17	Topological Surface Transport Properties of Single-Crystalline SnTe Nanowire. Nano Letters, 2013, 13, 5344-5349.	4.5	112
18	CoS ₂ Se ₂ (1-x) nanowire array: an efficient ternary electrocatalyst for the hydrogen evolution reaction. Nanoscale, 2016, 8, 4699-4704.	2.8	112

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19	Enhanced Electrochemical H ₂ Evolution by Few-Layered Metallic WS ₂ (1 ^x)Se ₂ (1 ^x) Nanoribbons. <i>Advanced Functional Materials</i> , 2015, 25, 6077-6083.	7.8	111
20	Engineering two-dimensional metal oxides and chalcogenides for enhanced electro- and photocatalysis. <i>Science Bulletin</i> , 2021, 66, 1228-1252.	4.3	103
21	Synthesis, properties and applications of 2D non-graphene materials. <i>Nanotechnology</i> , 2015, 26, 292001.	1.3	101
22	Tunable Optical Properties of 2D Materials and Their Applications. <i>Advanced Optical Materials</i> , 2021, 9, 2001313.	3.6	100
23	Integrated High-Performance Infrared Phototransistor Arrays Composed of Nonlayered PbS-MoS ₂ Heterostructures with Edge Contacts. <i>Nano Letters</i> , 2016, 16, 6437-6444.	4.5	98
24	High-Crystalline 2D Layered PbI ₂ with Ultrasoft Surface: Liquid-Phase Synthesis and Application of High-Speed Photon Detection. <i>Advanced Electronic Materials</i> , 2016, 2, 1600291.	2.6	98
25	Configuration-Dependent Electrically Tunable Van der Waals Heterostructures Based on MoTe ₂ /MoS ₂ . <i>Advanced Functional Materials</i> , 2016, 26, 5499-5506.	7.8	95
26	Ultrahigh sensitive MoTe ₂ phototransistors driven by carrier tunneling. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	95
27	Epitaxial 2D PbS Nanoplates Arrays with Highly Efficient Infrared Response. <i>Advanced Materials</i> , 2016, 28, 8051-8057.	11.1	93
28	Hexagonal metal oxide monolayers derived from the metal-gas interface. <i>Nature Materials</i> , 2021, 20, 1073-1078.	13.3	88
29	Machine Learning-Enabled Smart Sensor Systems. <i>Advanced Intelligent Systems</i> , 2020, 2, 2000063.	3.3	83
30	An efficient ternary CoP ₂ Se ₂ (1 ^x) nanowire array for overall water splitting. <i>Nanoscale</i> , 2017, 9, 3995-4001.	2.8	72
31	Atomically Thin Ga ₂ S ₃ from Skin of Liquid Metals for Electrical, Optical, and Sensing Applications. <i>ACS Applied Nano Materials</i> , 2019, 2, 4665-4672.	2.4	72
32	Progress on Electronic and Optoelectronic Devices of 2D Layered Semiconducting Materials. <i>Small</i> , 2017, 13, 1604298.	5.2	65
33	Synthesis of highly stable UiO-66-NH ₂ membranes with high ions rejection for seawater desalination. <i>Microporous and Mesoporous Materials</i> , 2017, 252, 207-213.	2.2	63
34	Engineering the Electronic Structure of 2D WS ₂ Nanosheets Using Co Incorporation as Co _x W _(1-x) S ₂ for Conspicuously Enhanced Hydrogen Generation. <i>Small</i> , 2016, 12, 3802-3809.	5.2	60
35	Ultrafast and ultrasensitive phototransistors based on few-layered HfSe ₂ . <i>Applied Physics Letters</i> , 2016, 109, .	1.5	60
36	Efficient Catalysis of Hydrogen Evolution Reaction from WS ₂ (1 ^x)P ₂ (1 ^x) Nanoribbons. <i>Small</i> , 2017, 13, 1603706.	5.2	60

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37	2D Plasmonic Tungsten Oxide Enabled Ultrasensitive Fiber Optics Gas Sensor. <i>Advanced Optical Materials</i> , 2019, 7, 1901383.	3.6	57
38	Toward High-Performance Top-Gate Ultrathin HfS ₂ Field-Effect Transistors by Interface Engineering. <i>Small</i> , 2016, 12, 3106-3111.	5.2	55
39	High-Performance Phototransistor of Epitaxial PbS Nanoplate-Graphene Heterostructure with Edge Contact. <i>Advanced Materials</i> , 2016, 28, 6497-6503.	11.1	51
40	Strong electrically tunable MoTe ₂ /graphene van der Waals heterostructures for high-performance electronic and optoelectronic devices. <i>Applied Physics Letters</i> , 2016, 109, .	1.5	51
41	Electrostatically tunable lateral MoTe ₂ -pn junction for use in high-performance optoelectronics. <i>Nanoscale</i> , 2016, 8, 13245-13250.	2.8	49
42	Multifunctional tunneling devices based on graphene/h-BN/MoSe ₂ van der Waals heterostructures. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	49
43	Optical control of ferroelectric switching and multifunctional devices based on van der Waals ferroelectric semiconductors. <i>Nanoscale</i> , 2020, 12, 23488-23496.	2.8	49
44	Recent progress in intrinsic and stimulated room-temperature gas sensors enabled by low-dimensional materials. <i>Journal of Materials Chemistry C</i> , 2021, 9, 3026-3051.	2.7	48
45	Recent advances in the fabrication of 2D metal oxides. <i>IScience</i> , 2022, 25, 103598.	1.9	45
46	Sulfur vacancy activated field effect transistors based on ReS ₂ nanosheets. <i>Nanoscale</i> , 2015, 7, 15757-15762.	2.8	44
47	Exciton-Driven Chemical Sensors Based on Excitation-Dependent Photoluminescent Two-Dimensional SnS. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 42462-42468.	4.0	42
48	BN-Enabled Epitaxy of Pb _{1-x} Sn _x Se Nanoplates on SiO ₂ /Si for High-Performance Mid-Infrared Detection. <i>Small</i> , 2015, 11, 5388-5394.	5.2	41
49	Deciphering the Role of Quaternary N in O ₂ Reduction over Controlled N-Doped Carbon Catalysts. <i>Chemistry of Materials</i> , 2020, 32, 1384-1392.	3.2	41
50	Recent advances of atomically thin 2D heterostructures in sensing applications. <i>Nano Today</i> , 2021, 40, 101287.	6.2	41
51	Construction of 3D V ₂ O ₅ /hydrogenated-WO ₃ nanotrees on tungsten foil for high-performance pseudocapacitors. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 12214.	1.3	40
52	Oriented Growth of Pb _{1-x} Sn _x Te Nanowire Arrays for Integration of Flexible Infrared Detectors. <i>Advanced Materials</i> , 2016, 28, 3596-3601.	11.1	39
53	Rational Design of Ultralarge Pb _{1-x} Sn _x Te Nanoplates for Exploring Crystalline Symmetry-Protected Topological Transport. <i>Advanced Materials</i> , 2016, 28, 617-623.	11.1	38
54	Free-standing ultra-thin Janus indium oxysulfide for ultrasensitive visible-light-driven optoelectronic chemical sensing. <i>Nano Today</i> , 2021, 37, 101096.	6.2	38

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55	Empowering 2D nanoelectronics via ferroelectricity. Applied Physics Letters, 2020, 117, .	1.5	34
56	Dendritic growth of monolayer ternary $WS_2(1-x)Se_{2x}$ flakes for enhanced hydrogen evolution reaction. Nanoscale, 2017, 9, 5641-5647.	2.8	31
57	Exploring New Metal Electrodes for Ferroelectric Aluminum-Doped Hafnium Oxide. IEEE Transactions on Electron Devices, 2019, 66, 2359-2364.	1.6	31
58	Au plasmonics in a WS_2 -Au-CuInS ₂ photocatalyst for significantly enhanced hydrogen generation. Applied Physics Letters, 2015, 107, .	1.5	29
59	Printable Single-Unit-Cell-Thick Transparent Zinc-Doped Indium Oxides with Efficient Electron Transport Properties. ACS Nano, 2021, 15, 4045-4053.	7.3	29
60	Highly sensitive photodetectors based on hybrid 2D-0D SnS ₂ -copper indium sulfide quantum dots. Applied Physics Letters, 2016, 108, .	1.5	28
61	Strong Temperature Effect on the Ferroelectric Properties of $CuInP_2S_6$ and Its Heterostructures. ACS Applied Materials & Interfaces, 2020, 12, 51820-51826.	4.0	28
62	Ultraclean and large-area monolayer hexagonal boron nitride on Cu foil using chemical vapor deposition. Nanotechnology, 2015, 26, 275601.	1.3	27
63	A room temperature all-optical sensor based on two-dimensional SnS ₂ for highly sensitive and reversible NO ₂ sensing. Journal of Hazardous Materials, 2022, 426, 127813.	6.5	25
64	Weak Antilocalization Effect of Topological Crystalline Insulator $Pb_{1-x}Sn_xTe$ Nanowires with Tunable Composition and Distinct {100} Facets. Nano Letters, 2015, 15, 2485-2490.	4.5	24
65	Efficient CoO nanowire array photocatalysts for H ₂ generation. Applied Physics Letters, 2014, 105, .	1.5	22
66	Ferroelectric-induced carrier modulation for ambipolar transition metal dichalcogenide transistors. Applied Physics Letters, 2017, 110, .	1.5	22
67	A High-Energy-Density Asymmetric Microsupercapacitor for Integrated Energy Systems. Advanced Electronic Materials, 2015, 1, 1400053.	2.6	21
68	Immobilisation of microperoxidase-11 into layered MoO ₃ for applications of enzymatic conversion. Applied Materials Today, 2019, 16, 185-192.	2.3	21
69	Plasmonic metal-organic framework nanocomposites enabled by degenerately doped molybdenum oxides. Journal of Colloid and Interface Science, 2021, 588, 305-314.	5.0	21
70	2D Palladium Sulphate for Visible-Light-Driven Optoelectronic Reversible Gas Sensing at Room Temperature. Small Science, 2022, 2, .	5.8	21
71	Material Synthesis and Device Aspects of Monolayer Tungsten Diselenide. Scientific Reports, 2018, 8, 5221.	1.6	18
72	Construction of $CuInS_2/Ag$ sensitized ZnO nanowire arrays for efficient hydrogen generation. RSC Advances, 2015, 5, 81723-81727.	1.7	16

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73	Reversible Room Temperature H ₂ Gas Sensing Based on Self-Assembled Cobalt Oxysulfide. <i>Sensors</i> , 2022, 22, 303.	2.1	15
74	Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly. <i>Advanced Materials</i> , 2020, 32, e2003439.	11.1	14
75	Highly accurate and label-free discrimination of single cancer cell using a plasmonic oxide-based nanoprobe. <i>Biosensors and Bioelectronics</i> , 2022, 198, 113814.	5.3	14
76	Surface plasmon resonance enhanced light absorption of Au decorated composition-tuned ZnO/Zn _x Cd _{1-x} Se _y Te _{1-y} core/shell nanowires for efficient H ₂ production. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	13
77	Resonant Tunneling and Negative Differential Resistance in Black Phosphorus Vertical Heterostructures. <i>Advanced Electronic Materials</i> , 2020, 6, 2000318.	2.6	13
78	Topological Crystalline Insulator Pb _{1-x} Sn _x Se Nanowires with {100} Facets. <i>Small</i> , 2015, 11, 2019-2025.	5.2	12
79	A high-performance visible-light-driven all-optical switch enabled by ultra-thin gallium sulfide. <i>Journal of Materials Chemistry C</i> , 2021, 9, 3115-3121.	2.7	12
80	Short channel field-effect transistors from ultrathin GaTe nanosheets. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	11
81	Esaki Diodes Based on 2-D/3-D Heterojunctions. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 4155-4159.	1.6	11
82	Heterogeneous Electronic and Photonic Devices Based on Monolayer Ternary Telluride Core/Shell Structures. <i>Advanced Materials</i> , 2020, 32, 2002548.	11.1	9
83	Synthesis of transition metal dichalcogenides and their heterostructures. <i>Materials Research Express</i> , 2018, 5, 095904.	0.8	7
84	Angstrom-scale-porous plasmonic molybdenum oxide for ultrasensitive optical chemical sensing. <i>Sensors and Actuators B: Chemical</i> , 2021, 349, 130740.	4.0	7
85	Van der Waals metallic alloy contacts for multifunctional devices. <i>2D Materials</i> , 2020, 7, 025035.	2.0	6
86	2D Materials: High-Crystalline 2D Layered PbI ₂ with Ultrasmooth Surface: Liquid-Phase Synthesis and Application of High-Speed Photon Detection (<i>Adv. Electron. Mater.</i> 11/2016). <i>Advanced Electronic Materials</i> , 2016, 2, .	2.6	3
87	Molybdenum Disulfide: Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly (<i>Adv. Mater.</i> 43/2020). <i>Advanced Materials</i> , 2020, 32, 2070324.	11.1	1
88	Atomic Thin Telluride Multiheterostructures: Toward Spatial Modulation of Bandgaps. <i>Nanoscale</i> , 2021, 13, 19587-19592.	2.8	1
89	Nanoscale Devices Based on Two-dimensional Materials and Ferroelectric Materials. , 2018, , .		0
90	Ferroelectric Aluminum-Doped Hafnium Oxide for Memory Applications. , 2018, , .		0

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91	Visible Light Enabled Janus Indium Oxysulfide Nanoflakes for Ultrasensitive Chemical Sensing. , 2020, , .		0
92	Spatially composition-graded monolayer tungsten selenium telluride. Applied Physics Letters, 2022, 120, 231903.	1.5	0