Kai Xu

List of Publications by Year
in descending order

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92 papers	6,121 citations	57758 44 h-index	69250 77 g-index
92 all docs	92 docs citations	92 times ranked	9184 citing authors

#	Article	IF	Citations
1	A room temperature all-optical sensor based on two-dimensional SnS2 for highly sensitive and reversible NO2 sensing. Journal of Hazardous Materials, 2022, 426, 127813.	12.4	25
2	Highly accurate and label-free discrimination of single cancer cell using a plasmonic oxide-based nanoprobe. Biosensors and Bioelectronics, 2022, 198, 113814.	10.1	14
3	Recent advances in the fabrication of 2D metal oxides. IScience, 2022, 25, 103598.	4.1	45
4	2D Palladium Sulphate for Visibleâ€Lightâ€Driven Optoelectronic Reversible Gas Sensing at Room Temperature. Small Science, 2022, 2, .	9.9	21
5	Reversible Room Temperature H2 Gas Sensing Based on Self-Assembled Cobalt Oxysulfide. Sensors, 2022, 22, 303.	3.8	15
6	Spatially composition-graded monolayer tungsten selenium telluride. Applied Physics Letters, 2022, 120, 231903.	3.3	0
7	Tunable Optical Properties of 2D Materials and Their Applications. Advanced Optical Materials, 2021, 9, 2001313.	7.3	100
8	Printable Single-Unit-Cell-Thick Transparent Zinc-Doped Indium Oxides with Efficient Electron Transport Properties. ACS Nano, 2021, 15, 4045-4053.	14.6	29
9	Hexagonal metal oxide monolayers derived from the metalâ€“gas interface. Nature Materials, 2021, 20, 1073-1078.	27.5	88
10	A high-performance visible-light-driven all-optical switch enabled by ultra-thin gallium sulfide. Journal of Materials Chemistry C, 2021, 9, 3115-3121.	5.5	12
11	Plasmonic metal-organic framework nanocomposites enabled by degenerately doped molybdenum oxides. Journal of Colloid and Interface Science, 2021, 588, 305-314.	9.4	21
12	Free-standing ultra-thin Janus indium oxysulfide for ultrasensitive visible-light-driven optoelectronic chemical sensing. Nano Today, 2021, 37, 101096.	11.9	38
13	Engineering two-dimensional metal oxides and chalcogenides for enhanced electro- and photocatalysis. Science Bulletin, 2021, 66, 1228-1252.	9.0	103
14	Recent advances of atomically thin 2D heterostructures in sensing applications. Nano Today, 2021, 40, 101287.	11.9	41
15	Angstrom-scale-porous plasmonic molybdenum oxide for ultrasensitive optical chemical sensing. Sensors and Actuators B: Chemical, 2021, 349, 130740.	7.8	7
16	Recent progress in intrinsic and stimulated room-temperature gas sensors enabled by low-dimensional materials. Journal of Materials Chemistry C, 2021, 9, 3026-3051.	5.5	48
17	Atomic Thin Telluride Multiheterostructures: Toward Spatial Modulation of Bandgaps. Nanoscale, 2021, 13, 19587-19592.	5.6	1
18	Heterogeneous Electronic and Photonic Devices Based on Monolayer Ternary Telluride Core/Shell Structures. Advanced Materials, 2020, 32, 2002548.	21.0	9

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19	Resonant Tunneling and Negative Differential Resistance in Black Phosphorus Vertical Heterostructures. Advanced Electronic Materials, 2020, 6, 2000318.	5.1	13
20	Optical control of ferroelectric switching and multifunctional devices based on van der Waals ferroelectric semiconductors. Nanoscale, 2020, 12, 23488-23496.	5.6	49
21	Molybdenum Disulfide: Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly (Adv. Mater. 43/2020). Advanced Materials, 2020, 32, 2070324.	21.0	1
22	Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly. Advanced Materials, 2020, 32, e2003439.	21.0	14
23	Empowering 2D nanoelectronics via ferroelectricity. Applied Physics Letters, 2020, 117, .	3.3	34
24	Machine Learningâ€Enabled Smart Sensor Systems. Advanced Intelligent Systems, 2020, 2, 2000063.	6.1	83
25	Strong Temperature Effect on the Ferroelectric Properties of CuInP₂S₆ and Its Heterostructures. ACS Applied Materials & Interfaces, 2020, 12, 51820-51826.	8.0	28
26	Van der Waals metallic alloy contacts for multifunctional devices. 2D Materials, 2020, 7, 025035.	4.4	6
27	Deciphering the Role of Quaternary N in O₂ Reduction over Controlled N-Doped Carbon Catalysts. Chemistry of Materials, 2020, 32, 1384-1392.	6.7	41
28	Visible Light Enabled Janus Indium Oxysulfide Nanoflakes for Ultrasensitive Chemical Sensing. , 2020, , .		0
29	Atomically Thin Ga₂S₃ from Skin of Liquid Metals for Electrical, Optical, and Sensing Applications. ACS Applied Nano Materials, 2019, 2, 4665-4672.	5.0	72
30	Exciton-Driven Chemical Sensors Based on Excitation-Dependent Photoluminescent Two-Dimensional SnS. ACS Applied Materials & Interfaces, 2019, 11, 42462-42468.	8.0	42
31	2D Plasmonic Tungsten Oxide Enabled Ultrasensitive Fiber Optics Gas Sensor. Advanced Optical Materials, 2019, 7, 1901383.	7.3	57
32	Immobilisation of microperoxidase-11 into layered MoO3 for applications of enzymatic conversion. Applied Materials Today, 2019, 16, 185-192.	4.3	21
33	Exploring New Metal Electrodes for Ferroelectric Aluminum-Doped Hafnium Oxide. IEEE Transactions on Electron Devices, 2019, 66, 2359-2364.	3.0	31
34	A human pilot trial of ingestible electronic capsules capable of sensing different gases in the gut. Nature Electronics, 2018, 1, 79-87.	26.0	240
35	Material Synthesis and Device Aspects of Monolayer Tungsten Diselenide. Scientific Reports, 2018, 8, 5221.	3.3	18
36	Nanoscale Devices Based on Two-dimensional Materials and Ferroelectric Materials. , 2018, , .		0

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37	Ferroelectric Aluminum-Doped Hafnium Oxide for Memory Applications. , 2018, , .		0
38	Esaki Diodes Based on 2-D/3-D Heterojunctions. IEEE Transactions on Electron Devices, 2018, 65, 4155-4159.	3.0	11
39	Synthesis of transition metal dichalcogenides and their heterostructures. Materials Research Express, 2018, 5, 095904.	1.6	7
40	Sub-10 nm Nanopattern Architecture for 2D Material Field-Effect Transistors. Nano Letters, 2017, 17, 1065-1070.	9.1	172
41	An efficient ternary CoP_{2x}Se_{2(1â^'x)}nanowire array for overall water splitting. Nanoscale, 2017, 9, 3995-4001.	5.6	72
42	Efficient Catalysis of Hydrogen Evolution Reaction from WS_{2(1â^'}_x₎P₂_x Nanoribbons. Small, 2017, 13, 1603706.	10.0	60
43	Multifunctional tunneling devices based on graphene/h-BN/MoSe2 van der Waals heterostructures. Applied Physics Letters, 2017, 110, .	3.3	49
44	Progress on Electronic and Optoelectronic Devices of 2D Layered Semiconducting Materials. Small, 2017, 13, 1604298.	10.0	65
45	Ferroelectric-induced carrier modulation for ambipolar transition metal dichalcogenide transistors. Applied Physics Letters, 2017, 110, .	3.3	22
46	Dendritic growth of monolayer ternary WS_{2(1â^'x)}Se_{2x} flakes for enhanced hydrogen evolution reaction. Nanoscale, 2017, 9, 5641-5647.	5.6	31
47	Synthesis of highly stable UiO-66-NH2 membranes with high ions rejection for seawater desalination. Microporous and Mesoporous Materials, 2017, 252, 207-213.	4.4	63
48	Twoâ€Đimensional Nonâ€Ł ayered Materials: Synthesis, Properties and Applications. Advanced Functional Materials, 2017, 27, 1603254.	14.9	161
49	Configurationâ€Đependent Electrically Tunable Van der Waals Heterostructures Based on MoTe₂/MoS₂. Advanced Functional Materials, 2016, 26, 5499-5506.	14.9	95
50	Engineering the Electronic Structure of 2D WS₂Nanosheets Using Co Incorporation as Co_xW₍₁₋_x₎S₂for Conspicuously Enhanced Hydrogen Generation. Small, 2016, 12, 3802-3809.	10.0	60
51	Highâ€Performance Phototransistor of Epitaxial PbS Nanoplateâ€Graphene Heterostructure with Edge Contact. Advanced Materials, 2016, 28, 6497-6503.	21.0	51
52	Highly sensitive photodetectors based on hybrid 2D-0D SnS2-copper indium sulfide quantum dots. Applied Physics Letters, 2016, 108, .	3.3	28
53	Ultrahigh sensitive MoTe2 phototransistors driven by carrier tunneling. Applied Physics Letters, 2016, 108, .	3.3	95
54	Strong electrically tunable MoTe2/graphene van der Waals heterostructures for high-performance electronic and optoelectronic devices. Applied Physics Letters, 2016, 109, .	3.3	51

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55	Ultrafast and ultrasensitive phototransistors based on few-layered HfSe2. Applied Physics Letters, 2016, 109, .	3.3	60
56	Integrated High-Performance Infrared Phototransistor Arrays Composed of Nonlayered PbSâ€“MoS₂ Heterostructures with Edge Contacts. Nano Letters, 2016, 16, 6437-6444.	9.1	98
57	Synthesis, properties and applications of 2D layered M^{III}X^{VI}(M = Ga, In; X = S,) Tj ETQq1 1 0.784314 rgBT /Ov	5.6	142
58	Highâ€Crystalline 2D Layered PbI₂ with Ultrasmooth Surface: Liquidâ€Phase Synthesis and Application of Highâ€Speed Photon Detection. Advanced Electronic Materials, 2016, 2, 1600291.	5.1	98
59	Epitaxial 2D PbS Nanoplates Arrays with Highly Efficient Infrared Response. Advanced Materials, 2016, 28, 8051-8057.	21.0	93
60	2D Materials: High-Crystalline 2D Layered PbI2 with Ultrasmooth Surface: Liquid-Phase Synthesis and Application of High-Speed Photon Detection (Adv. Electron. Mater. 11/2016). Advanced Electronic Materials, 2016, 2, .	5.1	3
61	Toward Highâ€Performance Topâ€Gate Ultrathin HfS₂ Fieldâ€Effect Transistors by Interface Engineering. Small, 2016, 12, 3106-3111.	10.0	55
62	Rational Design of Ultralarge Pb_{1â^'x}Sn_xTe Nanoplates for Exploring Crystalline Symmetryâ€Protected Topological Transport. Advanced Materials, 2016, 28, 617-623.	21.0	38
63	Oriented Growth of Pb_{1â^'}_xSn_xTe Nanowire Arrays for Integration of Flexible Infrared Detectors. Advanced Materials, 2016, 28, 3596-3601.	21.0	39
64	Electrostatically tunable lateral MoTe₂pâ€“n junction for use in high-performance optoelectronics. Nanoscale, 2016, 8, 13245-13250.	5.6	49
65	CoS_{2x}Se_{2(1â^'x)}nanowire array: an efficient ternary electrocatalyst for the hydrogen evolution reaction. Nanoscale, 2016, 8, 4699-4704.	5.6	112
66	Synthesis of highly stable graphene oxide membranes on polydopamine functionalized supports for seawater desalination. Chemical Engineering Science, 2016, 146, 159-165.	3.8	186
67	Au plasmonics in a WS2-Au-CuInS2 photocatalyst for significantly enhanced hydrogen generation. Applied Physics Letters, 2015, 107, .	3.3	29
68	Short channel field-effect transistors from ultrathin GaTe nanosheets. Applied Physics Letters, 2015, 107, .	3.3	11
69	BNâ€Enabled Epitaxy of Pb_{1â€“x}Sn_xSe Nanoplates on SiO₂/Si for Highâ€Performance Midâ€Infrared Detection. Small, 2015, 11, 5388-5394.	10.0	41
70	Enhanced Electrochemical H₂ Evolution by Fewâ€Layered Metallic WS_{2(1â^'x)}Se_{2x} Nanoribbons. Advanced Functional Materials, 2015, 25, 6077-6083.	14.9	111
71	Ultrasensitive Phototransistors Based on Fewâ€Layered HfS₂. Advanced Materials, 2015, 27, 7881-7887.	21.0	176
72	A Highâ€Energyâ€Density Asymmetric Microsupercapacitor for Integrated Energy Systems. Advanced Electronic Materials, 2015, 1, 1400053.	5.1	21

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73	van der Waals Epitaxial Ultrathin Two-Dimensional Nonlayered Semiconductor for Highly Efficient Flexible Optoelectronic Devices. Nano Letters, 2015, 15, 1183-1189.	9.1	127
74	Highly sensitive and fast phototransistor based on large size CVD-grown SnS₂nanosheets. Nanoscale, 2015, 7, 14093-14099.	5.6	126
75	Surface plasmon resonance enhanced light absorption of Au decorated composition-tuned ZnO/ZnxCd1â^'xSeyTe1â^'y core/shell nanowires for efficient H2 production. Applied Physics Letters, 2015, 106, .	3.3	13
76	Ultraclean and large-area monolayer hexagonal boron nitride on Cu foil using chemical vapor deposition. Nanotechnology, 2015, 26, 275601.	2.6	27
77	Synthesis, properties and applications of 2D non-graphene materials. Nanotechnology, 2015, 26, 292001.	2.6	101
78	High-performance flexible photodetectors based on GaTe nanosheets. Nanoscale, 2015, 7, 7252-7258.	5.6	126
79	Weak Antilocalization Effect of Topological Crystalline Insulator Pb_{1â€“x}Sn_xTe Nanowires with Tunable Composition and Distinct {100} Facets. Nano Letters, 2015, 15, 2485-2490.	9.1	24
80	Designing the shape evolution of SnSe₂nanosheets and their optoelectronic properties. Nanoscale, 2015, 7, 17375-17380.	5.6	121
81	Tunable GaTe-MoS₂ van der Waals pâ€“n Junctions with Novel Optoelectronic Performance. Nano Letters, 2015, 15, 7558-7566.	9.1	369
82	Sulfur vacancy activated field effect transistors based on ReS₂nanosheets. Nanoscale, 2015, 7, 15757-15762.	5.6	44
83	Construction of CuInS₂/Ag sensitized ZnO nanowire arrays for efficient hydrogen generation. RSC Advances, 2015, 5, 81723-81727.	3.6	16
84	Topological Crystalline Insulator Pb_{1-x}Sn_xSe Nanowires with {100} Facets. Small, 2015, 11, 2019-2025.	10.0	12
85	Tungsten Oxide@Polypyrrole Core-Shell Nanowire Arrays as Novel Negative Electrodes for Asymmetric Supercapacitors. Small, 2015, 11, 749-755.	10.0	161
86	Efficient CoO nanowire array photocatalysts for H2 generation. Applied Physics Letters, 2014, 105, .	3.3	22
87	Construction of 3D V2O5/hydrogenated-WO3 nanotrees on tungsten foil for high-performance pseudocapacitors. Physical Chemistry Chemical Physics, 2014, 16, 12214.	2.8	40
88	Component-Controllable WS_{2(1â€“x)}Se_{2x} Nanotubes for Efficient Hydrogen Evolution Reaction. ACS Nano, 2014, 8, 8468-8476.	14.6	317
89	Van der Waals Epitaxy and Photoresponse of Hexagonal Tellurium Nanoplates on Flexible Mica Sheets. ACS Nano, 2014, 8, 7497-7505.	14.6	259
90	Role of Ga Vacancy on a Multilayer GaTe Phototransistor. ACS Nano, 2014, 8, 4859-4865.	14.6	162

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91	Atomic-layer triangular WSe₂sheets: synthesis and layer-dependent photoluminescence property. Nanotechnology, 2013, 24, 465705.	2.6	120
92	Topological Surface Transport Properties of Single-Crystalline SnTe Nanowire. Nano Letters, 2013, 13, 5344-5349.	9.1	112