Kai Xu

List of Publications by Year
in descending order

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Version: 2024-02-01

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	Tunable GaTe-MoS₂ van der Waals pâ€“n Junctions with Novel Optoelectronic Performance. Nano Letters, 2015, 15, 7558-7566.	9.1	369
2	Component-Controllable WS_{2(1â€“x)}Se_{2x} Nanotubes for Efficient Hydrogen Evolution Reaction. ACS Nano, 2014, 8, 8468-8476.	14.6	317
3	Van der Waals Epitaxy and Photoresponse of Hexagonal Tellurium Nanoplates on Flexible Mica Sheets. ACS Nano, 2014, 8, 7497-7505.	14.6	259
4	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
5	Synthesis of highly stable graphene oxide membranes on polydopamine functionalized supports for seawater desalination. Chemical Engineering Science, 2016, 146, 159-165.	3.8	186
6	Ultrasensitive Phototransistors Based on Fewâ€Layered HfS₂. Advanced Materials, 2015, 27, 7881-7887.	21.0	176
7	Sub-10 nm Nanopattern Architecture for 2D Material Field-Effect Transistors. Nano Letters, 2017, 17, 1065-1070.	9.1	172
8	Role of Ga Vacancy on a Multilayer GaTe Phototransistor. ACS Nano, 2014, 8, 4859-4865.	14.6	162
9	Tungsten Oxide@Polypyrrole Core-Shell Nanowire Arrays as Novel Negative Electrodes for Asymmetric Supercapacitors. Small, 2015, 11, 749-755.	10.0	161
10	Twoâ€Dimensional Nonâ€Layered Materials: Synthesis, Properties and Applications. Advanced Functional Materials, 2017, 27, 1603254.	14.9	161
11	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
12	van der Waals Epitaxial Ultrathin Two-Dimensional Nonlayered Semiconductor for Highly Efficient Flexible Optoelectronic Devices. Nano Letters, 2015, 15, 1183-1189.	9.1	127
13	Highly sensitive and fast phototransistor based on large size CVD-grown SnS₂nanosheets. Nanoscale, 2015, 7, 14093-14099.	5.6	126
14	High-performance flexible photodetectors based on GaTe nanosheets. Nanoscale, 2015, 7, 7252-7258.	5.6	126
15	Designing the shape evolution of SnSe₂nanosheets and their optoelectronic properties. Nanoscale, 2015, 7, 17375-17380.	5.6	121
16	Atomic-layer triangular WSe₂sheets: synthesis and layer-dependent photoluminescence property. Nanotechnology, 2013, 24, 465705.	2.6	120
17	Topological Surface Transport Properties of Single-Crystalline SnTe Nanowire. Nano Letters, 2013, 13, 5344-5349.	9.1	112
18	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

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19	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
20	Engineering two-dimensional metal oxides and chalcogenides for enhanced electro- and photocatalysis. Science Bulletin, 2021, 66, 1228-1252.	9.0	103
21	Synthesis, properties and applications of 2D non-graphene materials. Nanotechnology, 2015, 26, 292001.	2.6	101
22	Tunable Optical Properties of 2D Materials and Their Applications. Advanced Optical Materials, 2021, 9, 2001313.	7.3	100
23	Integrated High-Performance Infrared Phototransistor Arrays Composed of Nonlayered PbSâ€“MoS₂ Heterostructures with Edge Contacts. Nano Letters, 2016, 16, 6437-6444.	9.1	98
24	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
25	Configurationâ€Dependent Electrically Tunable Van der Waals Heterostructures Based on MoTe₂/MoS₂. Advanced Functional Materials, 2016, 26, 5499-5506.	14.9	95
26	Ultrahigh sensitive MoTe2 phototransistors driven by carrier tunneling. Applied Physics Letters, 2016, 108, .	3.3	95
27	Epitaxial 2D PbS Nanoplates Arrays with Highly Efficient Infrared Response. Advanced Materials, 2016, 28, 8051-8057.	21.0	93
28	Hexagonal metal oxide monolayers derived from the metalâ€“gas interface. Nature Materials, 2021, 20, 1073-1078.	27.5	88
29	Machine Learningâ€Enabled Smart Sensor Systems. Advanced Intelligent Systems, 2020, 2, 2000063.	6.1	83
30	An efficient ternary CoP_{2x}Se_{2(1â^'x)}nanowire array for overall water splitting. Nanoscale, 2017, 9, 3995-4001.	5.6	72
31	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
32	Progress on Electronic and Optoelectronic Devices of 2D Layered Semiconducting Materials. Small, 2017, 13, 1604298.	10.0	65
33	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
34	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
35	Ultrafast and ultrasensitive phototransistors based on few-layered HfSe2. Applied Physics Letters, 2016, 109, .	3.3	60
36	Efficient Catalysis of Hydrogen Evolution Reaction from WS_{2(1â^'}_x₎P₂_x Nanoribbons. Small, 2017, 13, 1603706.	10.0	60

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37	2D Plasmonic Tungsten Oxide Enabled Ultrasensitive Fiber Optics Gas Sensor. Advanced Optical Materials, 2019, 7, 1901383.	7.3	57
38	Toward Highâ€Performance Topâ€Gate Ultrathin HfS₂ Fieldâ€Effect Transistors by Interface Engineering. Small, 2016, 12, 3106-3111.	10.0	55
39	Highâ€Performance Phototransistor of Epitaxial PbS Nanoplateâ€Graphene Heterostructure with Edge Contact. Advanced Materials, 2016, 28, 6497-6503.	21.0	51
40	Strong electrically tunable MoTe2/graphene van der Waals heterostructures for high-performance electronic and optoelectronic devices. Applied Physics Letters, 2016, 109, .	3.3	51
41	Electrostatically tunable lateral MoTe₂pâ€“n junction for use in high-performance optoelectronics. Nanoscale, 2016, 8, 13245-13250.	5.6	49
42	Multifunctional tunneling devices based on graphene/h-BN/MoSe2 van der Waals heterostructures. Applied Physics Letters, 2017, 110, .	3.3	49
43	Optical control of ferroelectric switching and multifunctional devices based on van der Waals ferroelectric semiconductors. Nanoscale, 2020, 12, 23488-23496.	5.6	49
44	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
45	Recent advances in the fabrication of 2D metal oxides. IScience, 2022, 25, 103598.	4.1	45
46	Sulfur vacancy activated field effect transistors based on ReS₂nanosheets. Nanoscale, 2015, 7, 15757-15762.	5.6	44
47	Exciton-Driven Chemical Sensors Based on Excitation-Dependent Photoluminescent Two-Dimensional SnS. ACS Applied Materials & Interfaces, 2019, 11, 42462-42468.	8.0	42
48	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
49	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
50	Recent advances of atomically thin 2D heterostructures in sensing applications. Nano Today, 2021, 40, 101287.	11.9	41
51	Construction of 3D V2O5/hydrogenated-WO3 nanotrees on tungsten foil for high-performance pseudocapacitors. Physical Chemistry Chemical Physics, 2014, 16, 12214.	2.8	40
52	Oriented Growth of Pb_{1â^’}_xSn_xTe Nanowire Arrays for Integration of Flexible Infrared Detectors. Advanced Materials, 2016, 28, 3596-3601.	21.0	39
53	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
54	Free-standing ultra-thin Janus indium oxysulfide for ultrasensitive visible-light-driven optoelectronic chemical sensing. Nano Today, 2021, 37, 101096.	11.9	38

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55	Empowering 2D nanoelectronics via ferroelectricity. Applied Physics Letters, 2020, 117, .	3.3	34
56	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
57	Exploring New Metal Electrodes for Ferroelectric Aluminum-Doped Hafnium Oxide. IEEE Transactions on Electron Devices, 2019, 66, 2359-2364.	3.0	31
58	Au plasmonics in a WS2-Au-CuInS2 photocatalyst for significantly enhanced hydrogen generation. Applied Physics Letters, 2015, 107, .	3.3	29
59	Printable Single-Unit-Cell-Thick Transparent Zinc-Doped Indium Oxides with Efficient Electron Transport Properties. ACS Nano, 2021, 15, 4045-4053.	14.6	29
60	Highly sensitive photodetectors based on hybrid 2D-0D SnS2-copper indium sulfide quantum dots. Applied Physics Letters, 2016, 108, .	3.3	28
61	Strong Temperature Effect on the Ferroelectric Properties of CuInP₂S₆ and Its Heterostructures. ACS Applied Materials & Interfaces, 2020, 12, 51820-51826.	8.0	28
62	Ultraclean and large-area monolayer hexagonal boron nitride on Cu foil using chemical vapor deposition. Nanotechnology, 2015, 26, 275601.	2.6	27
63	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
64	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
65	Efficient CoO nanowire array photocatalysts for H2 generation. Applied Physics Letters, 2014, 105, .	3.3	22
66	Ferroelectric-induced carrier modulation for ambipolar transition metal dichalcogenide transistors. Applied Physics Letters, 2017, 110, .	3.3	22
67	A Highâ€Energyâ€Density Asymmetric Microsupercapacitor for Integrated Energy Systems. Advanced Electronic Materials, 2015, 1, 1400053.	5.1	21
68	Immobilisation of microperoxidase-11 into layered MoO3 for applications of enzymatic conversion. Applied Materials Today, 2019, 16, 185-192.	4.3	21
69	Plasmonic metal-organic framework nanocomposites enabled by degenerately doped molybdenum oxides. Journal of Colloid and Interface Science, 2021, 588, 305-314.	9.4	21
70	2D Palladium Sulphate for Visibleâ€Lightâ€Driven Optoelectronic Reversible Gas Sensing at Room Temperature. Small Science, 2022, 2, .	9.9	21
71	Material Synthesis and Device Aspects of Monolayer Tungsten Diselenide. Scientific Reports, 2018, 8, 5221.	3.3	18
72	Construction of CuInS₂/Ag sensitized ZnO nanowire arrays for efficient hydrogen generation. RSC Advances, 2015, 5, 81723-81727.	3.6	16

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73	Reversible Room Temperature H2 Gas Sensing Based on Self-Assembled Cobalt Oxysulfide. Sensors, 2022, 22, 303.	3.8	15
74	Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly. Advanced Materials, 2020, 32, e2003439.	21.0	14
75	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
76	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
77	Resonant Tunneling and Negative Differential Resistance in Black Phosphorus Vertical Heterostructures. Advanced Electronic Materials, 2020, 6, 2000318.	5.1	13
78	Topological Crystalline Insulator Pb_{1-x}Sn_xSe Nanowires with {100} Facets. Small, 2015, 11, 2019-2025.	10.0	12
79	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
80	Short channel field-effect transistors from ultrathin GaTe nanosheets. Applied Physics Letters, 2015, 107, .	3.3	11
81	Esaki Diodes Based on 2-D/3-D Heterojunctions. IEEE Transactions on Electron Devices, 2018, 65, 4155-4159.	3.0	11
82	Heterogeneous Electronic and Photonic Devices Based on Monolayer Ternary Telluride Core/Shell Structures. Advanced Materials, 2020, 32, 2002548.	21.0	9
83	Synthesis of transition metal dichalcogenides and their heterostructures. Materials Research Express, 2018, 5, 095904.	1.6	7
84	Angstrom-scale-porous plasmonic molybdenum oxide for ultrasensitive optical chemical sensing. Sensors and Actuators B: Chemical, 2021, 349, 130740.	7.8	7
85	Van der Waals metallic alloy contacts for multifunctional devices. 2D Materials, 2020, 7, 025035.	4.4	6
86	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
87	Molybdenum Disulfide: Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly (Adv. Mater. 43/2020). Advanced Materials, 2020, 32, 2070324.	21.0	1
88	Atomic Thin Telluride Multiheterostructures: Toward Spatial Modulation of Bandgaps. Nanoscale, 2021, 13, 19587-19592.	5.6	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.	3.3	0