Kai Xu

List of Publications by Citations

88 papers	4,467 citations	37 h-index	65 g-index
92 ext. papers	5,305 ext. citations	9.8 avg, IF	5.64 L-index

#	Paper	IF	Citations
88	Tunable GaTe-MoS2 van der Waals p-n Junctions with Novel Optoelectronic Performance. *Nano Letters*, **2015**, 15, 7558-66	11.5	303
87	Component-controllable WS(2(1-x))Se(2x) nanotubes for efficient hydrogen evolution reaction. *ACS Nano*, **2014**, 8, 8468-76	16.7	285
86	Van der Waals epitaxy and photoresponse of hexagonal tellurium nanoplates on flexible mica sheets. *ACS Nano*, **2014**, 8, 7497-505	16.7	198
85	A human pilot trial of ingestible electronic capsules capable of sensing different gases in the gut. *Nature Electronics*, **2018**, 1, 79-87	28.4	171
84	Ultrasensitive Phototransistors Based on Few-Layered HfS2. *Advanced Materials*, **2015**, 27, 7881-7	24	144
83	Synthesis of highly stable graphene oxide membranes on polydopamine functionalized supports for seawater desalination. *Chemical Engineering Science*, **2016**, 146, 159-165	4.4	141
82	Role of Ga vacancy on a multilayer GaTe phototransistor. *ACS Nano*, **2014**, 8, 4859-65	16.7	137
81	Tungsten oxide@polypyrrole core-shell nanowire arrays as novel negative electrodes for asymmetric supercapacitors. *Small*, **2015**, 11, 749-55	11	129
80	Sub-10 nm Nanopattern Architecture for 2D Material Field-Effect Transistors. *Nano Letters*, **2017**, 17, 1065-1070	11.5	126
79	Two-Dimensional Non-Layered Materials: Synthesis, Properties and Applications. *Advanced Functional Materials*, **2017**, 27, 1603254	15.6	124
78	van der Waals epitaxial ultrathin two-dimensional nonlayered semiconductor for highly efficient flexible optoelectronic devices. *Nano Letters*, **2015**, 15, 1183-9	11.5	116
77	Topological surface transport properties of single-crystalline SnTe nanowire. *Nano Letters*, **2013**, 13, 5344-9	11.5	102
76	Synthesis, properties and applications of 2D layered MX (M = Ga, In; X = S, Se, Te) materials. *Nanoscale*, **2016**, 8, 16802-16818	7.7	100
75	Highly sensitive and fast phototransistor based on large size CVD-grown SnS2 nanosheets. *Nanoscale*, **2015**, 7, 14093-9	7.7	99
74	Enhanced Electrochemical H2 Evolution by Few-Layered Metallic WS2(1⊠)Se2x Nanoribbons. *Advanced Functional Materials*, **2015**, 25, 6077-6083	15.6	98
73	High-performance flexible photodetectors based on GaTe nanosheets. *Nanoscale*, **2015**, 7, 7252-8	7.7	97
72	Designing the shape evolution of SnSe2 nanosheets and their optoelectronic properties. *Nanoscale*, **2015**, 7, 17375-80	7.7	96

71	Atomic-layer triangular WSe2 sheets: synthesis and layer-dependent photoluminescence property. *Nanotechnology*, **2013**, 24, 465705	3.4	94
70	CoS(2x)Se(2(1-x)) nanowire array: an efficient ternary electrocatalyst for the hydrogen evolution reaction. *Nanoscale*, **2016**, 8, 4699-704	7.7	89
69	Synthesis, properties and applications of 2D non-graphene materials. *Nanotechnology*, **2015**, 26, 292001	3.4	82
68	High-Crystalline 2D Layered PbI2 with Ultrasmooth Surface: Liquid-Phase Synthesis and Application of High-Speed Photon Detection. *Advanced Electronic Materials*, **2016**, 2, 1600291	6.4	80
67	Integrated High-Performance Infrared Phototransistor Arrays Composed of Nonlayered PbS-MoS Heterostructures with Edge Contacts. *Nano Letters*, **2016**, 16, 6437-6444	11.5	79
66	Ultrahigh sensitive MoTe2 phototransistors driven by carrier tunneling. *Applied Physics Letters*, **2016**, 108, 043503	3.4	78
65	Epitaxial 2D PbS Nanoplates Arrays with Highly Efficient Infrared Response. *Advanced Materials*, **2016**, 28, 8051-8057	24	77
64	Configuration-Dependent Electrically Tunable Van der Waals Heterostructures Based on MoTe2/MoS2. *Advanced Functional Materials*, **2016**, 26, 5499-5506	15.6	68
63	An efficient ternary CoPSe nanowire array for overall water splitting. *Nanoscale*, **2017**, 9, 3995-4001	7.7	63
62	Progress on Electronic and Optoelectronic Devices of 2D Layered Semiconducting Materials. *Small*, **2017**, 13, 1604298	11	55
61	Efficient Catalysis of Hydrogen Evolution Reaction from WS P Nanoribbons. *Small*, **2017**, 13, 1603706	11	50
60	Engineering the Electronic Structure of 2D WS2 Nanosheets Using Co Incorporation as Cox W(1- x) S2 for Conspicuously Enhanced Hydrogen Generation. *Small*, **2016**, 12, 3802-9	11	47
59	Ultrafast and ultrasensitive phototransistors based on few-layered HfSe2. *Applied Physics Letters*, **2016**, 109, 213105	3.4	44
58	Toward High-Performance Top-Gate Ultrathin HfS2 Field-Effect Transistors by Interface Engineering. *Small*, **2016**, 12, 3106-11	11	42
57	High-Performance Phototransistor of Epitaxial PbS Nanoplate-Graphene Heterostructure with Edge Contact. *Advanced Materials*, **2016**, 28, 6497-503	24	40
56	Strong electrically tunable MoTe2/graphene van der Waals heterostructures for high-performance electronic and optoelectronic devices. *Applied Physics Letters*, **2016**, 109, 193111	3.4	39
55	Multifunctional tunneling devices based on graphene/h-BN/MoSe2 van der Waals heterostructures. *Applied Physics Letters*, **2017**, 110, 173507	3.4	38
54	Synthesis of highly stable UiO-66-NH2 membranes with high ions rejection for seawater desalination. *Microporous and Mesoporous Materials*, **2017**, 252, 207-213	5.3	38

53	Machine Learning-Enabled Smart Sensor Systems. *Advanced Intelligent Systems*, **2020**, 2, 2000063	6	38
52	Atomically Thin Ga2S3 from Skin of Liquid Metals for Electrical, Optical, and Sensing Applications. *ACS Applied Nano Materials*, **2019**, 2, 4665-4672	5.6	37
51	2D Plasmonic Tungsten Oxide Enabled Ultrasensitive Fiber Optics Gas Sensor. *Advanced Optical Materials*, **2019**, 7, 1901383	8.1	37
50	Sulfur vacancy activated field effect transistors based on ReS2 nanosheets. *Nanoscale*, **2015**, 7, 15757-62	7.7	36
49	Rational Design of Ultralarge Pb1-x Snx Te Nanoplates for Exploring Crystalline Symmetry-Protected Topological Transport. *Advanced Materials*, **2016**, 28, 617-23	24	35
48	Construction of 3D V2O5/hydrogenated-WO3 nanotrees on tungsten foil for high-performance pseudocapacitors. *Physical Chemistry Chemical Physics*, **2014**, 16, 12214-20	3.6	35
47	Electrostatically tunable lateral MoTe2 p-n junction for use in high-performance optoelectronics. *Nanoscale*, **2016**, 8, 13245-50	7.7	34
46	BN-Enabled Epitaxy of Pb(1-x)Sn(x)Se Nanoplates on SiO2/Si for High-Performance Mid-Infrared Detection. *Small*, **2015**, 11, 5388-94	11	34
45	Hexagonal metal oxide monolayers derived from the metal-gas interface. *Nature Materials*, **2021**, 20, 1073-1078	27	34
44	Engineering two-dimensional metal oxides and chalcogenides for enhanced electro- and photocatalysis. *Science Bulletin*, **2021**, 66, 1228-1252	10.6	33
43	Oriented Growth of Pb1- x Snx Te Nanowire Arrays for Integration of Flexible Infrared Detectors. *Advanced Materials*, **2016**, 28, 3596-601	24	31
42	Dendritic growth of monolayer ternary WSSe flakes for enhanced hydrogen evolution reaction. *Nanoscale*, **2017**, 9, 5641-5647	7.7	27
41	Deciphering the Role of Quaternary N in O2 Reduction over Controlled N-Doped Carbon Catalysts. *Chemistry of Materials*, **2020**, 32, 1384-1392	9.6	25
40	Exciton-Driven Chemical Sensors Based on Excitation-Dependent Photoluminescent Two-Dimensional SnS. *ACS Applied Materials & Interfaces*, **2019**, 11, 42462-42468	9.5	24
39	Tunable Optical Properties of 2D Materials and Their Applications. *Advanced Optical Materials*, **2021**, 9, 2001313	8.1	24
38	Au plasmonics in a WS2-Au-CuInS2 photocatalyst for significantly enhanced hydrogen generation. *Applied Physics Letters*, **2015**, 107, 223902	3.4	23
37	Empowering 2D nanoelectronics via ferroelectricity. *Applied Physics Letters*, **2020**, 117, 080503	3.4	23
36	Ultraclean and large-area monolayer hexagonal boron nitride on Cu foil using chemical vapor deposition. *Nanotechnology*, **2015**, 26, 275601	3.4	22

35	Highly sensitive photodetectors based on hybrid 2D-0D SnS2-copper indium sulfide quantum dots. *Applied Physics Letters*, **2016**, 108, 013101	3.4	22
34	Recent progress in intrinsic and stimulated room-temperature gas sensors enabled by low-dimensional materials. *Journal of Materials Chemistry C*, **2021**, 9, 3026-3051	7.1	22
33	Weak antilocalization effect of topological crystalline insulator Pb(1-x)Sn(x)Te nanowires with tunable composition and distinct {100} facets. *Nano Letters*, **2015**, 15, 2485-90	11.5	18
32	Efficient CoO nanowire array photocatalysts for H2 generation. *Applied Physics Letters*, **2014**, 105, 153903	3.4	18
31	A High-Energy-Density Asymmetric Microsupercapacitor for Integrated Energy Systems. *Advanced Electronic Materials*, **2015**, 1, 1400053	6.4	18
30	Ferroelectric-induced carrier modulation for ambipolar transition metal dichalcogenide transistors. *Applied Physics Letters*, **2017**, 110, 123106	3.4	17
29	Exploring New Metal Electrodes for Ferroelectric Aluminum-Doped Hafnium Oxide. *IEEE Transactions on Electron Devices*, **2019**, 66, 2359-2364	2.9	17
28	Optical control of ferroelectric switching and multifunctional devices based on van der Waals ferroelectric semiconductors. *Nanoscale*, **2020**, 12, 23488-23496	7.7	17
27	Immobilisation of microperoxidase-11 into layered MoO3 for applications of enzymatic conversion. *Applied Materials Today*, **2019**, 16, 185-192	6.6	15
26	Free-standing ultra-thin Janus indium oxysulfide for ultrasensitive visible-light-driven optoelectronic chemical sensing. *Nano Today*, **2021**, 37, 101096	17.9	15
25	Printable Single-Unit-Cell-Thick Transparent Zinc-Doped Indium Oxides with Efficient Electron Transport Properties. *ACS Nano*, **2021**, 15, 4045-4053	16.7	15
24	Recent advances of atomically thin 2D heterostructures in sensing applications. *Nano Today*, **2021**, 40, 101287	17.9	14
23	Surface plasmon resonance enhanced light absorption of Au decorated composition-tuned ZnO/ZnxCd1−xSeyTe1−y core/shell nanowires for efficient H2 production. *Applied Physics Letters*, **2015**, 106, 123904	3.4	13
22	Construction of CuInS2/Ag sensitized ZnO nanowire arrays for efficient hydrogen generation. *RSC Advances*, **2015**, 5, 81723-81727	3.7	13
21	Material Synthesis and Device Aspects of Monolayer Tungsten Diselenide. *Scientific Reports*, **2018**, 8, 5221	4.9	12
20	Topological Crystalline Insulator Pb1-x Snx Se Nanowires with {100} Facets. *Small*, **2015**, 11, 2019-25	11	11
19	Plasmonic metal-organic framework nanocomposites enabled by degenerately doped molybdenum oxides. *Journal of Colloid and Interface Science*, **2021**, 588, 305-314	9.3	10
18	Short channel field-effect transistors from ultrathin GaTe nanosheets. *Applied Physics Letters*, **2015**, 107, 153507	3.4	8

17	Recent advances in the fabrication of 2D metal oxides.. *IScience*, **2022**, 25, 103598	6.1	8
16	Strong Temperature Effect on the Ferroelectric Properties of CuInPS and Its Heterostructures. *ACS Applied Materials & Interfaces*, **2020**, 12, 51820-51826	9.5	7
15	Esaki Diodes Based on 2-D/3-D Heterojunctions. *IEEE Transactions on Electron Devices*, **2018**, 65, 4155-4159	2.9	7
14	Synthesis of transition metal dichalcogenides and their heterostructures. *Materials Research Express*, **2018**, 5, 095904	1.7	6
13	A room temperature all-optical sensor based on two-dimensional SnS for highly sensitive and reversible NO sensing. *Journal of Hazardous Materials*, **2021**, 127813	12.8	6
12	Resonant Tunneling and Negative Differential Resistance in Black Phosphorus Vertical Heterostructures. *Advanced Electronic Materials*, **2020**, 6, 2000318	6.4	6
11	2D Palladium Sulphate for Visible-Light-Driven Optoelectronic Reversible Gas Sensing at Room Temperature. *Small Science*, **2022**, 2, 2100097		5
10	Reversible Room Temperature H Gas Sensing Based on Self-Assembled Cobalt Oxysulfide.. *Sensors*, **2021**, 22,	3.8	5
9	Highly accurate and label-free discrimination of single cancer cell using a plasmonic oxide-based nanoprobe. *Biosensors and Bioelectronics*, **2021**, 113814	11.8	4
8	Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly. *Advanced Materials*, **2020**, 32, e2003439	24	4
7	Angstrom-scale-porous plasmonic molybdenum oxide for ultrasensitive optical chemical sensing. *Sensors and Actuators B: Chemical*, **2021**, 349, 130740	8.5	4
6	Van der Waals metallic alloy contacts for multifunctional devices. *2D Materials*, **2020**, 7, 025035	5.9	3
5	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,	6.4	2
4	Heterogeneous Electronic and Photonic Devices Based on Monolayer Ternary Telluride Core/Shell Structures. *Advanced Materials*, **2020**, 32, e2002548	24	2
3	A high-performance visible-light-driven all-optical switch enabled by ultra-thin gallium sulfide. *Journal of Materials Chemistry C*, **2021**, 9, 3115-3121	7.1	2
2	Atomically thin telluride multiheterostructures: toward spatial modulation of bandgaps. *Nanoscale*, **2021**, 13, 19587-19592	7.7	0
1	Molybdenum Disulfide: Scalable Fabrication of Molybdenum Disulfide Nanostructures and their Assembly (Adv. Mater. 43/2020). *Advanced Materials*, **2020**, 32, 2070324	24	0