Chao Xie

List of Publications by Year
in descending order

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Version: 2024-02-01

78 papers	6,741 citations	66343 42 h-index	71685 76 g-index
79 all docs	79 docs citations	79 times ranked	7753 citing authors

#	Article	IF	Citations
1	Photodetectors Based on Twoâ€Dimensional Layered Materials Beyond Graphene. Advanced Functional Materials, 2017, 27, 1603886.	14.9	534
2	Monolayer Graphene/Germanium Schottky Junction As High-Performance Self-Driven Infrared Light Photodetector. ACS Applied Materials & Interfaces, 2013, 5, 9362-9366.	8.0	347
3	Recent Progress in Solarâ€Blind Deepâ€Ultraviolet Photodetectors Based on Inorganic Ultrawide Bandgap Semiconductors. Advanced Functional Materials, 2019, 29, 1806006.	14.9	334
4	Fast, Selfâ€Driven, Airâ€Stable, and Broadband Photodetector Based on Vertically Aligned PtSe₂/GaAs Heterojunction. Advanced Functional Materials, 2018, 28, 1705970.	14.9	314
5	Controlled Synthesis of 2D Palladium Diselenide for Sensitive Photodetector Applications. Advanced Functional Materials, 2019, 29, 1806878.	14.9	286
6	Ultrasensitive broadband phototransistors based on perovskite/organic-semiconductor vertical heterojunctions. Light: Science and Applications, 2017, 6, e17023-e17023.	16.6	272
7	Monolayer Graphene Film on ZnO Nanorod Array for Highâ€Performance Schottky Junction Ultraviolet Photodetectors. Small, 2013, 9, 2872-2879.	10.0	271
8	Flexible Photodetectors Based on Novel Functional Materials. Small, 2017, 13, 1701822.	10.0	259
9	Coreâ€“Shell Heterojunction of Silicon Nanowire Arrays and Carbon Quantum Dots for Photovoltaic Devices and Self-Driven Photodetectors. ACS Nano, 2014, 8, 4015-4022.	14.6	258
10	Perovskiteâ€Based Phototransistors and Hybrid Photodetectors. Advanced Functional Materials, 2020, 30, 1903907.	14.9	225
11	Ultrathin and flexible perovskite solar cells with graphene transparent electrodes. Nano Energy, 2016, 28, 151-157.	16.0	200
12	Graphene/Semiconductor Hybrid Heterostructures for Optoelectronic Device Applications. Nano Today, 2018, 19, 41-83.	11.9	172
13	Sensitive Deep Ultraviolet Photodetector and Image Sensor Composed of Inorganic Lead-Free Cs₃Cu₂I₅ Perovskite with Wide Bandgap. Journal of Physical Chemistry Letters, 2019, 10, 5343-5350.	4.6	171
14	Ultrafast, Self-Driven, and Air-Stable Photodetectors Based on Multilayer PtSe₂/Perovskite Heterojunctions. Journal of Physical Chemistry Letters, 2018, 9, 1185-1194.	4.6	159
15	Light trapping and surface plasmon enhanced high-performance NIR photodetector. Scientific Reports, 2014, 4, 3914.	3.3	132
16	Surface passivation and band engineering: a way toward high efficiency grapheneâ€“planar Si solar cells. Journal of Materials Chemistry A, 2013, 1, 8567.	10.3	123
17	High-efficiency graphene/Si nanoarray Schottky junction solar cells via surface modification and graphene doping. Journal of Materials Chemistry A, 2013, 1, 6593.	10.3	122
18	Monolayer graphene film/silicon nanowire array Schottky junction solar cells. Applied Physics Letters, 2011, 99, .	3.3	120

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19	Perovskite/Poly(3-hexylthiophene)/Graphene Multiheterojunction Phototransistors with Ultrahigh Gain in Broadband Wavelength Region. ACS Applied Materials & Interfaces, 2017, 9, 1569-1576.	8.0	110
20	High-performance broadband heterojunction photodetectors based on multilayered PtSe₂ directly grown on a Si substrate. Nanoscale, 2018, 10, 15285-15293.	5.6	102
21	Graphene Transparent Conductive Electrodes for Highly Efficient Silicon Nanostructures-Based Hybrid Heterojunction Solar Cells. Journal of Physical Chemistry C, 2013, 117, 11968-11976.	3.1	96
22	PdSe₂ Multilayer on Germanium Nanocones Array with Light Trapping Effect for Sensitive Infrared Photodetector and Image Sensing Application. Advanced Functional Materials, 2019, 29, 1900849.	14.9	90
23	Surface induced negative photoconductivity in p-type ZnSeâ€‰:â€‰Bi nanowires and their nano-optoelectronic applications. Journal of Materials Chemistry, 2011, 21, 6736.	6.7	89
24	High-efficiency, air stable graphene/Si micro-hole array Schottky junction solar cells. Journal of Materials Chemistry A, 2013, 1, 15348.	10.3	86
25	Recent advances in the fabrication of grapheneâ€“ZnO heterojunctions for optoelectronic device applications. Journal of Materials Chemistry C, 2018, 6, 3815-3833.	5.5	85
26	Surface plasmon resonance enhanced highly efficient planar silicon solar cell. Nano Energy, 2014, 9, 112-120.	16.0	83
27	Patterned growth of Î²-Ga2O3 thin films for solar-blind deep-ultraviolet photodetectors array and optical imaging application. Journal of Materials Science and Technology, 2021, 72, 189-196.	10.7	81
28	Aluminium-doped n-type ZnS nanowires as high-performance UV and humidity sensors. Journal of Materials Chemistry, 2012, 22, 6856.	6.7	79
29	One-dimensional CuO nanowire: synthesis, electrical, and optoelectronic devices application. Nanoscale Research Letters, 2014, 9, 637.	5.7	71
30	Schottky solar cells based on graphene nanoribbon/multiple silicon nanowires junctions. Applied Physics Letters, 2012, 100, 193103.	3.3	65
31	High-gain visible-blind UV photodetectors based on chlorine-doped n-type ZnS nanoribbons with tunable optoelectronic properties. Journal of Materials Chemistry, 2011, 21, 12632.	6.7	64
32	Catalystâ€Free Vaporâ€“Solid Deposition Growth of Î²â€Ga₂O₃ Nanowires for DUV Photodetector and Image Sensor Application. Advanced Optical Materials, 2019, 7, 1901257.	7.3	62
33	Ferroelectricâ€Driven Performance Enhancement of Graphene Fieldâ€Effect Transistors Based on Vertical Tunneling Heterostructures. Advanced Materials, 2016, 28, 10048-10054.	21.0	58
34	A high-performance near-infrared light photovoltaic detector based on a multilayered PtSe₂/Ge heterojunction. Journal of Materials Chemistry C, 2019, 7, 5019-5027.	5.5	58
35	Silicon/Perovskite Coreâ€“Shell Heterojunctions with Light-Trapping Effect for Sensitive Self-Driven Near-Infrared Photodetectors. ACS Applied Materials & Interfaces, 2018, 10, 27850-27857.	8.0	55
36	TiO₂ Nanotube Array/Monolayer Graphene Film Schottky Junction Ultraviolet Light Photodetectors. Particle and Particle Systems Characterization, 2013, 30, 630-636.	2.3	53

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37	Grapheneâ€Assisted Growth of Patterned Perovskite Films for Sensitive Light Detector and Optical Image Sensor Application. Small, 2019, 15, e1900730.	10.0	53
38	Inorganic CsBi₃I₁₀ perovskite/silicon heterojunctions for sensitive, self-driven and air-stable NIR photodetectors. Journal of Materials Chemistry C, 2019, 7, 863-870.	5.5	50
39	Tuning the electrical transport properties of n-type CdS nanowiresvia Ga doping and their nano-optoelectronic applications. Physical Chemistry Chemical Physics, 2011, 13, 14663.	2.8	47
40	Amplified Spontaneous Emission from Organicâ€“Inorganic Hybrid Lead Iodide Perovskite Single Crystals under Direct Multiphoton Excitation. Advanced Optical Materials, 2016, 4, 1053-1059.	7.3	47
41	Enhanced performance of perovskite/organic-semiconductor hybrid heterojunction photodetectors with the electron trapping effects. Journal of Materials Chemistry C, 2018, 6, 1338-1342.	5.5	47
42	The Effect of Plasmonic Nanoparticles on the Optoelectronic Characteristics of CdTe Nanowires. Small, 2014, 10, 2645-2652.	10.0	43
43	Asymmetric Contactâ€Induced Selfâ€Driven Perovskiteâ€Microwireâ€Array Photodetectors. Advanced Electronic Materials, 2019, 5, 1900135.	5.1	40
44	Bilayer graphene based surface passivation enhanced nano structured self-powered near-infrared photodetector. Optics Express, 2015, 23, 4839.	3.4	39
45	p-CdTe nanoribbon/n-silicon nanowires array heterojunctions: photovoltaic devices and zero-power photodetectors. CrystEngComm, 2012, 14, 7222.	2.6	38
46	Ultrahigh Mobility of pâ€Type CdS Nanowires: Surface Charge Transfer Doping and Photovoltaic Devices. Advanced Energy Materials, 2013, 3, 579-583.	19.5	37
47	Self-Powered Filterless Narrow-Band pâ€“n Heterojunction Photodetector for Low Background Limited Near-Infrared Image Sensor Application. ACS Applied Materials & Interfaces, 2020, 12, 21845-21853.	8.0	37
48	Defect-induced broadband photodetection of layered Î³-In₂Se₃ nanofilm and its application in near infrared image sensors. Journal of Materials Chemistry C, 2019, 7, 11532-11539.	5.5	36
49	Nano-Schottky barrier diodes based on Sb-doped ZnS nanoribbons with controlled p-type conductivity. Applied Physics Letters, 2011, 98, .	3.3	35
50	Polymeric Carbon Nitride Nanosheets/Graphene Hybrid Phototransistors with High Responsivity. Advanced Optical Materials, 2016, 4, 555-561.	7.3	35
51	A Highly Sensitive Perovskite/Organic Semiconductor Heterojunction Phototransistor and Its Device Optimization Utilizing the Selective Electron Trapping Effect. Advanced Optical Materials, 2019, 7, 1900272.	7.3	35
52	ZnSe nanoribbon/Si nanowire pâ€“n heterojunction arrays and their photovoltaic application with graphene transparent electrodes. Journal of Materials Chemistry, 2012, 22, 22873.	6.7	32
53	A SERS stamp: Multiscale coupling effect of silver nanoparticles and highly ordered nano-micro hierarchical substrates for ultrasensitive explosive detection. Sensors and Actuators B: Chemical, 2020, 321, 128543.	7.8	31
54	Opening the Band Gap of Graphene via Fluorination for High-Performance Dual-Mode Photodetector Application. ACS Applied Materials & Interfaces, 2019, 11, 21702-21710.	8.0	28

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55	Doping dependent crystal structures and optoelectronic properties of n-type CdSe:Ga nanowries. Nanoscale, 2011, 3, 4798.	5.6	27
56	Construction of PtSe₂/Ge heterostructure-based short-wavelength infrared photodetector array for image sensing and optical communication applications. Nanoscale, 2021, 13, 7606-7612.	5.6	27
57	Highly Sensitive Narrowband Si Photodetector With Peak Response at Around 1060 nm. IEEE Transactions on Electron Devices, 2020, 67, 3211-3214.	3.0	26
58	Surface charge transfer induced p-CdS nanoribbon/n-Si heterojunctions as fast-speed self-driven photodetectors. Journal of Materials Chemistry C, 2015, 3, 6307-6313.	5.5	24
59	Fabrication of Addressable Perovskite Film Arrays for High-Performance Photodetection and Real-Time Image Sensing Application. Journal of Physical Chemistry Letters, 2021, 12, 2930-2936.	4.6	23
60	Lasing Characteristics of CH₃NH₃PbCl₃ Singleâ€Crystal Microcavities under Multiphoton Excitation. Advanced Optical Materials, 2018, 6, 1700992.	7.3	22
61	Multilayered PtSe₂/pyramid-Si heterostructure array with light confinement effect for high-performance photodetection, image sensing and light trajectory tracking applications. Journal of Materials Chemistry C, 2021, 9, 2823-2832.	5.5	20
62	High-performance nonvolatile Al/AlO_x/CdTe:Sb nanowire memory device. Nanotechnology, 2013, 24, 355203.	2.6	19
63	Multilayered PdTeâ„‚/GaN Heterostructures for Visible-Blind Deep-Ultraviolet Photodetection. IEEE Electron Device Letters, 2021, 42, 1192-1195.	3.9	18
64	Chlorineâ€Doped ZnSe Nanoribbons with Tunable nâ€Type Conductivity as Highâ€Gain and Flexible Blue/UV Photodetectors. ChemPlusChem, 2012, 77, 470-475.	2.8	15
65	Electrically adjusted deep-ultraviolet/near-infrared single-band/dual-band imaging photodetectors based on Cs₃Cu₂I₅/PdTe₂/Ge multiheterostructures. Journal of Materials Chemistry C, 2021, 9, 14897-14907.	5.5	14
66	Photodetectors: Controlled Synthesis of 2D Palladium Diselenide for Sensitive Photodetector Applications (Adv. Funct. Mater. 1/2019). Advanced Functional Materials, 2019, 29, 1970005.	14.9	13
67	Controlled synthesis of GaSe microbelts for high-gain photodetectors induced by the electron trapping effect. Journal of Materials Chemistry C, 2020, 8, 5375-5379.	5.5	12
68	High-performance light trajectory tracking and image sensing devices based on a Î³-In₂Se₃/GaAs heterostructure. Journal of Materials Chemistry C, 2020, 8, 13762-13769.	5.5	11
69	Ti3C2Tx MXene/Ge 2D/3D van der Waals heterostructures as highly efficient and fast response near-infrared photodetectors. Applied Physics Letters, 2022, 120, .	3.3	11
70	Characterization of structural transitions and lattice dynamics of hybrid organicâ€“inorganic perovskite CH₃NH₃PbI₃*. Chinese Physics B, 2019, 28, 076102.	1.4	10
71	Dual-plasmonic Au/graphene/Au-enhanced ultrafast, broadband, self-driven silicon Schottky photodetector. Nanotechnology, 2018, 29, 505203.	2.6	9
72	High-Performance Blue-Light Photodetectors Based on Single-Crystal ZnSe Nanoribbons with Controlled Gallium Doping. Science of Advanced Materials, 2012, 4, 332-336.	0.7	9

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73	Ultrawideâ€Bandgap Semiconductors: Recent Progress in Solarâ€Blind Deepâ€Ultraviolet Photodetectors Based on Inorganic Ultrawide Bandgap Semiconductors (Adv. Funct. Mater. 9/2019). Advanced Functional Materials, 2019, 29, 1970057.	14.9	8
74	Enhanced Light Trapping in Conformal CuO/Si Microholes Array Heterojunction for Self-Powered Broadband Photodetection. IEEE Electron Device Letters, 2021, 42, 883-886.	3.9	7
75	Distinguishing wavelength using two parallelly stacking graphene/thin Si/graphene heterojunctions. Journal of Materials Chemistry C, 0, , .	5.5	6
76	Photodetectors: Fast, Selfâ€Driven, Airâ€Stable, and Broadband Photodetector Based on Vertically Aligned PtSe₂/GaAs Heterojunction (Adv. Funct. Mater. 16/2018). Advanced Functional Materials, 2018, 28, 1870106.	14.9	5
77	A quasi-2D perovskite antireflection coating to boost the performance of multilayered PdTe₂/Ge heterostructure-based near-infrared photodetectors. Journal of Materials Chemistry C, 2022, 10, 6025-6035.	5.5	5
78	Fabrication of a Î³-In₂Se₃/Si heterostructure phototransistor for heart rate detection. Journal of Materials Chemistry C, 0, , .	5.5	4