Xiaomu Wang

List of Publications by Year
in descending order

54 papers	6,588 citations	147726 31 h-index	214721 47 g-index
55 all docs	55 docs citations	55 times ranked	9577 citing authors

#	Article	IF	Citations
1	Highly anisotropic and robust excitons in monolayer black phosphorus. Nature Nanotechnology, 2015, 10, 517-521.	15.6	1,204
2	High-responsivity graphene/silicon-heterostructure waveguide photodetectors. Nature Photonics, 2013, 7, 888-891.	15.6	731
3	Room temperature high-detectivity mid-infrared photodetectors based on black arsenic phosphorus. Science Advances, 2017, 3, e1700589.	4.7	419
4	Black Arsenicâ€“Phosphorus: Layered Anisotropic Infrared Semiconductors with Highly Tunable Compositions and Properties. Advanced Materials, 2015, 27, 4423-4429.	11.1	378
5	Black Phosphorus Radio-Frequency Transistors. Nano Letters, 2014, 14, 6424-6429.	4.5	307
6	Single-nanowire spectrometers. Science, 2019, 365, 1017-1020.	6.0	291
7	Planar carbon nanotubeâ€“graphene hybrid films for high-performance broadband photodetectors. Nature Communications, 2015, 6, 8589.	5.8	258
8	A self-powered high-performance graphene/silicon ultraviolet photodetector with ultra-shallow junction: breaking the limit of silicon?. Npj 2D Materials and Applications, 2017, 1, .	3.9	211
9	Stacked 2D materials shed light. Nature Materials, 2015, 14, 264-265.	13.3	203
10	Optical properties of black phosphorus. Advances in Optics and Photonics, 2016, 8, 618.	12.1	203
11	A light-stimulated synaptic device based on graphene hybrid phototransistor. 2D Materials, 2017, 4, 035022.	2.0	186
12	Interlayer interactions in anisotropic atomically thin rhenium diselenide. Nano Research, 2015, 8, 3651-3661.	5.8	159
13	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. Nature Nanotechnology, 2019, 14, 217-222.	15.6	153
14	Defect Engineering for Modulating the Trap States in 2D Photoconductors. Advanced Materials, 2018, 30, e1804332.	11.1	146
15	Novel Field-Effect Schottky Barrier Transistors Based on Graphene-MoS2 Heterojunctions. Scientific Reports, 2014, 4, 5951.	1.6	134
16	Graphene Hybrid Structures for Integrated and Flexible Optoelectronics. Advanced Materials, 2020, 32, e1902039.	11.1	127
17	Synthesis of thin-film black phosphorus on a flexible substrate. 2D Materials, 2015, 2, 031002.	2.0	124
18	A spectrally tunable all-graphene-based flexible field-effect light-emitting device. Nature Communications, 2015, 6, 7767.	5.8	113

#	Article	IF	Citations
19	Highâ€Performance Graphene Devices on SiO₂/Si Substrate Modified by Highly Ordered Selfâ€Assembled Monolayers. Advanced Materials, 2011, 23, 2464-2468.	11.1	101
20	Band Gap Opening of Bilayer Graphene by F4-TCNQ Molecular Doping and Externally Applied Electric Field. Journal of Physical Chemistry B, 2010, 114, 11377-11381.	1.2	98
21	Graphene Based Nonâ€Volatile Memory Devices. Advanced Materials, 2014, 26, 5496-5503.	11.1	95
22	A MoSe₂/WSe₂ Heterojunctionâ€Based Photodetector at Telecommunication Wavelengths. Advanced Functional Materials, 2018, 28, 1804388.	7.8	95
23	Quantitative Analysis of Graphene Doping by Organic Molecular Charge Transfer. Journal of Physical Chemistry C, 2011, 115, 7596-7602.	1.5	94
24	Monolithic Full-Stokes Near-Infrared Polarimetry with Chiral Plasmonic Metasurface Integrated Grapheneâ€“Silicon Photodetector. ACS Nano, 2020, 14, 16634-16642.	7.3	94
25	Improving the Performance of Graphene Phototransistors Using a Heterostructure as the Light-Absorbing Layer. Nano Letters, 2017, 17, 6391-6396.	4.5	87
26	Observation of a giant two-dimensional band-piezoelectric effect on biaxial-strained graphene. NPG Asia Materials, 2015, 7, e154-e154.	3.8	58
27	Solventâ€Based Softâ€Patterning of Graphene Lateral Heterostructures for Broadband Highâ€Speed Metalâ€“Semiconductorâ€“Metal Photodetectors. Advanced Materials Technologies, 2017, 2, 1600241.	3.0	53
28	Nanoantennaâ€Sandwiched Graphene with Giant Spectral Tuning in the Visibleâ€toâ€Nearâ€Infrared Region. Advanced Optical Materials, 2014, 2, 162-170.	3.6	39
29	An ultrasensitive molybdenum-based double-heterojunction phototransistor. Nature Communications, 2021, 12, 4094.	5.8	37
30	van der Waals Transition-Metal Oxide for Visâ€“MIR Broadband Photodetection via Intercalation Strategy. ACS Applied Materials & Interfaces, 2019, 11, 15741-15747.	4.0	36
31	Graphene/Metal Contacts: Bistable States and Novel Memory Devices. Advanced Materials, 2012, 24, 2614-2619.	11.1	32
32	Robust Impact-Ionization Field-Effect Transistor Based on Nanoscale Vertical Graphene/Black Phosphorus/Indium Selenide Heterostructures. ACS Nano, 2020, 14, 434-441.	7.3	32
33	Electronic Properties of Graphene Altered by Substrate Surface Chemistry and Externally Applied Electric Field. Journal of Physical Chemistry C, 2012, 116, 6259-6267.	1.5	28
34	Electrically tunable optical properties of few-layer black arsenic phosphorus. Nanotechnology, 2018, 29, 484001.	1.3	28
35	Plasmon Excited Ultrahot Carriers and Negative Differential Photoresponse in a Vertical Graphene van der Waals Heterostructure. Nano Letters, 2019, 19, 3295-3304.	4.5	28
36	Graphene integrated photodetectors and opto-electronic devices â€” a review. Chinese Physics B, 2017, 26, 034203.	0.7	27

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37	Observation of excitonic series in monolayer and few-layer black phosphorus. Physical Review B, 2020, 101, .	1.1	25
38	Macroscopic assembled graphene nanofilms based room temperature ultrafast midâ€infrared photodetectors. InformaÃ•Ã-MateriÃ¡ly, 2022, 4, .	8.5	24
39	Approaching the Collection Limit in Hot Electron Transistors with Ambipolar Hot Carrier Transport. ACS Nano, 2019, 13, 14191-14197.	7.3	21
40	Homo- and Hetero- pâ€“n Junctions Formed on Graphene Steps. ACS Applied Materials & Interfaces, 2014, 6, 3-8.	4.0	20
41	Highly Sensitive and Ultra-Broadband VO₂(B) Photodetector Dominated by Bolometric Effect. Nano Letters, 2022, 22, 485-493.	4.5	19
42	Onâ€Chip Measurement of Photoluminescence with High Sensitivity Monolithic Spectrometer. Advanced Optical Materials, 2020, 8, 2000191.	3.6	18
43	Strategies for high performance and scalable on-chip spectrometers. JPhys Photonics, 2021, 3, 012006.	2.2	15
44	Photoresponsivity of an all-semimetal heterostructure based on graphene and WTe2. Scientific Reports, 2018, 8, 12840.	1.6	14
45	Carrier sheet density constrained anomalous current saturation of graphene field effect transistors: kinks and negative differential resistances. Nanoscale, 2013, 5, 2811.	2.8	11
46	Single-detector black phosphorus monolithic spectrometer with high spectral and temporal resolution. Applied Physics Letters, 2022, 120, .	1.5	4
47	A multi-frequency wireless passive pressure sensor for TPMS applications. , 2009, , .		2
48	Amplifier high linearization method based on offset cancellation technique. , 2009, , .		1
49	Optimal RF IC design based on Fuzzy Genetic Algorithm. , 2009, , .		1
50	Manipulation of Graphene Properties by Interface Engineering. ECS Transactions, 2011, 37, 133-139.	0.3	1
51	Black Phosphorus Optoelectronics. , 2016, , .		1
52	Light-activated artificial synapses based on graphene hybrid phototransistors. , 2016, , .		1
53	P-N Junction Formation in Electron-beam Irradiated Graphene Step. Materials Research Society Symposia Proceedings, 2012, 1407, 224.	0.1	0
54	Photonic synaptic device capable of optical memory and logic operations. , 2017, , .		0