

# Xiaomu Wang

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

49  
papers

4,874  
citations

29  
h-index

55  
g-index

55  
ext. papers

5,765  
ext. citations

13.3  
avg, IF

5.62  
L-index

#	Paper	IF	Citations
49	Highly anisotropic and robust excitons in monolayer black phosphorus. <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 517-21	28.7	999
48	High-responsivity graphene/silicon-heterostructure waveguide photodetectors. <i>Nature Photonics</i> , <b>2013</b> , 7, 888-891	33.9	584
47	Black Arsenic-Phosphorus: Layered Anisotropic Infrared Semiconductors with Highly Tunable Compositions and Properties. <i>Advanced Materials</i> , <b>2015</b> , 27, 4423-4429	24	282
46	Black phosphorus radio-frequency transistors. <i>Nano Letters</i> , <b>2014</b> , 14, 6424-9	11.5	270
45	Room temperature high-detectivity mid-infrared photodetectors based on black arsenic phosphorus. <i>Science Advances</i> , <b>2017</b> , 3, e1700589	14.3	269
44	Planar carbon nanotube-graphene hybrid films for high-performance broadband photodetectors. <i>Nature Communications</i> , <b>2015</b> , 6, 8589	17.4	197
43	A self-powered high-performance graphene/silicon ultraviolet photodetector with ultra-shallow junction: breaking the limit of silicon?. <i>Npj 2D Materials and Applications</i> , <b>2017</b> , 1,	8.8	144
42	Optical properties of black phosphorus. <i>Advances in Optics and Photonics</i> , <b>2016</b> , 8, 618	16.7	143
41	Interlayer interactions in anisotropic atomically thin rhenium diselenide. <i>Nano Research</i> , <b>2015</b> , 8, 3651-3661	16.1	133
40	A light-stimulated synaptic device based on graphene hybrid phototransistor. <i>2D Materials</i> , <b>2017</b> , 4, 035022	9.2	132
39	Single-nanowire spectrometers. <i>Science</i> , <b>2019</b> , 365, 1017-1020	33.3	130
38	Novel field-effect Schottky barrier transistors based on graphene-MoS <sub>2</sub> heterojunctions. <i>Scientific Reports</i> , <b>2014</b> , 4, 5951	4.9	115
37	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. <i>Nature Nanotechnology</i> , <b>2019</b> , 14, 217-222	28.7	99
36	A spectrally tunable all-graphene-based flexible field-effect light-emitting device. <i>Nature Communications</i> , <b>2015</b> , 6, 7767	17.4	97
35	Synthesis of thin-film black phosphorus on a flexible substrate. <i>2D Materials</i> , <b>2015</b> , 2, 031002	5.9	96
34	High-performance graphene devices on SiO <sub>2</sub> /Si substrate modified by highly ordered self-assembled monolayers. <i>Advanced Materials</i> , <b>2011</b> , 23, 2464-8	24	93
33	Band gap opening of bilayer graphene by F4-TCNQ molecular doping and externally applied electric field. <i>Journal of Physical Chemistry B</i> , <b>2010</b> , 114, 11377-81	3.4	93

32	Defect Engineering for Modulating the Trap States in 2D Photoconductors. <i>Advanced Materials</i> , <b>2018</b> , 30, e1804332	24	90
31	Quantitative Analysis of Graphene Doping by Organic Molecular Charge Transfer. <i>Journal of Physical Chemistry C</i> , <b>2011</b> , 115, 7596-7602	3.8	81
30	Graphene based non-volatile memory devices. <i>Advanced Materials</i> , <b>2014</b> , 26, 5496-503	24	77
29	Improving the Performance of Graphene Phototransistors Using a Heterostructure as the Light-Absorbing Layer. <i>Nano Letters</i> , <b>2017</b> , 17, 6391-6396	11.5	61
28	A MoSe <sub>2</sub> /WSe <sub>2</sub> Heterojunction-Based Photodetector at Telecommunication Wavelengths. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1804388	15.6	60
27	Graphene Hybrid Structures for Integrated and Flexible Optoelectronics. <i>Advanced Materials</i> , <b>2020</b> , 32, e1902039	24	53
26	Observation of a giant two-dimensional band-piezoelectric effect on biaxial-strained graphene. <i>NPG Asia Materials</i> , <b>2015</b> , 7, e154-e154	10.3	46
25	Solvent-Based Soft-Patterning of Graphene Lateral Heterostructures for Broadband High-Speed Metal-Semiconductor-Metal Photodetectors. <i>Advanced Materials Technologies</i> , <b>2017</b> , 2, 1600241	6.8	43
24	Nanoantenna-Sandwiched Graphene with Giant Spectral Tuning in the Visible-to-Near-Infrared Region. <i>Advanced Optical Materials</i> , <b>2014</b> , 2, 162-170	8.1	35
23	Graphene/metal contacts: bistable states and novel memory devices. <i>Advanced Materials</i> , <b>2012</b> , 24, 2614-29	24	30
22	Monolithic Full-Stokes Near-Infrared Polarimetry with Chiral Plasmonic Metasurface Integrated Graphene-Silicon Photodetector. <i>ACS Nano</i> , <b>2020</b> ,	16.7	30
21	Electronic Properties of Graphene Altered by Substrate Surface Chemistry and Externally Applied Electric Field. <i>Journal of Physical Chemistry C</i> , <b>2012</b> , 116, 6259-6267	3.8	26
20	van der Waals Transition-Metal Oxide for Vis-MIR Broadband Photodetection via Intercalation Strategy. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 15741-15747	9.5	24
19	Homo- and hetero- p-n junctions formed on graphene steps. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2014</b> , 6, 3-8	9.5	20
18	Graphene integrated photodetectors and opto-electronic devices: a review. <i>Chinese Physics B</i> , <b>2017</b> , 26, 034203	1.2	19
17	Plasmon Excited Ultrahot Carriers and Negative Differential Photoresponse in a Vertical Graphene van der Waals Heterostructure. <i>Nano Letters</i> , <b>2019</b> , 19, 3295-3304	11.5	19
16	Robust Impact-Ionization Field-Effect Transistor Based on Nanoscale Vertical Graphene/Black Phosphorus/Indium Selenide Heterostructures. <i>ACS Nano</i> , <b>2020</b> , 14, 434-441	16.7	15
15	Approaching the Collection Limit in Hot Electron Transistors with Ambipolar Hot Carrier Transport. <i>ACS Nano</i> , <b>2019</b> , 13, 14191-14197	16.7	15

14	Observation of excitonic series in monolayer and few-layer black phosphorus. <i>Physical Review B</i> , <b>2020</b> , 101,	3.3	14
13	Electrically tunable optical properties of few-layer black arsenic phosphorus. <i>Nanotechnology</i> , <b>2018</b> , 29, 484001	3.4	14
12	An ultrasensitive molybdenum-based double-heterojunction phototransistor. <i>Nature Communications</i> , <b>2021</b> , 12, 4094	17.4	13
11	Carrier sheet density constrained anomalous current saturation of graphene field effect transistors: kinks and negative differential resistances. <i>Nanoscale</i> , <b>2013</b> , 5, 2811-7	7.7	11
10	Photoresponsivity of an all-semimetal heterostructure based on graphene and WTe. <i>Scientific Reports</i> , <b>2018</b> , 8, 12840	4.9	10
9	On-Chip Measurement of Photoluminescence with High Sensitivity Monolithic Spectrometer. <i>Advanced Optical Materials</i> , <b>2020</b> , 8, 2000191	8.1	7
8	Highly Sensitive and Ultra-Broadband VO(B) Photodetector Dominated by Bolometric Effect.. <i>Nano Letters</i> , <b>2021</b> ,	11.5	3
7	Strategies for high performance and scalable on-chip spectrometers. <i>JPhys Photonics</i> , <b>2021</b> , 3, 012006	2.5	2
6	2-D Material-Based Photodetectors on Flexible Substrates <b>2019</b> , 117-142		1
5	Optimal RF IC design based on Fuzzy Genetic Algorithm <b>2009</b> ,		1
4	Manipulation of Graphene Properties by Interface Engineering. <i>ECS Transactions</i> , <b>2011</b> , 37, 133-139	1	1
3	A multi-frequency wireless passive pressure sensor for TPMS applications <b>2009</b> ,		1
2	Black Phosphorus Optoelectronics <b>2016</b> ,		1
1	P-N Junction Formation in Electron-beam Irradiated Graphene Step. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1407, 224		