

# Wen-Zhong Bao

## List of Publications by Year in descending order

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163  
papers

30,250  
citations

26567

56  
h-index

8370

147  
g-index

168  
all docs

168  
docs citations

168  
times ranked

32402  
citing authors

#	ARTICLE	IF	CITATIONS
1	Superior Thermal Conductivity of Single-Layer Graphene. Nano Letters, 2008, 8, 902-907.	4.5	11,726
2	Gate-tuning of graphene plasmons revealed by infrared nano-imaging. Nature, 2012, 487, 82-85.	13.7	1,780
3	Extremely high thermal conductivity of graphene: Prospects for thermal management applications in nanoelectronic circuits. Applied Physics Letters, 2008, 92, .	1.5	1,745
4	Dimensional crossover of thermal transport in few-layer graphene. Nature Materials, 2010, 9, 555-558.	13.3	1,198
5	Controlled ripple texturing of suspended graphene and ultrathin graphite membranes. Nature Nanotechnology, 2009, 4, 562-566.	15.6	1,186
6	Temperature Dependence of the Raman Spectra of Graphene and Graphene Multilayers. Nano Letters, 2007, 7, 2645-2649.	4.5	1,057
7	Potassium Ion Batteries with Graphitic Materials. Nano Letters, 2015, 15, 7671-7677.	4.5	805
8	High mobility ambipolar MoS <sub>2</sub> field-effect transistors: Substrate and dielectric effects. Applied Physics Letters, 2013, 102, .	1.5	669
9	Phase-Coherent Transport in Graphene Quantum Billiards. Science, 2007, 317, 1530-1533.	6.0	638
10	Infrared Nanoscopy of Dirac Plasmons at the Graphene/SiO <sub>2</sub> Interface. Nano Letters, 2011, 11, 4701-4705.	4.5	500
11	Stacking-dependent band gap and quantum transport in trilayer graphene. Nature Physics, 2011, 7, 948-952.	6.5	415
12	Anomalous Thermoelectric Transport of Dirac Particles in Graphene. Physical Review Letters, 2009, 102, 166808.	2.9	382
13	Tuning two-dimensional nanomaterials by intercalation: materials, properties and applications. Chemical Society Reviews, 2016, 45, 6742-6765.	18.7	363
14	Graphene-Based Atomic-Scale Switches. Nano Letters, 2008, 8, 3345-3349.	4.5	327
15	Thickness-Dependent Thermal Conductivity of Encased Graphene and Ultrathin Graphite. Nano Letters, 2010, 10, 3909-3913.	4.5	304
16	Thermal contact resistance between graphene and silicon dioxide. Applied Physics Letters, 2009, 95, .	1.5	289
17	Transport spectroscopy of symmetry-broken insulating states in bilayer graphene. Nature Nanotechnology, 2012, 7, 156-160.	15.6	264
18	Electronic doping and scattering by transition metals on graphene. Physical Review B, 2009, 80, .	1.1	245

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19	Spatially resolved spectroscopy of monolayer graphene on $\text{SiO}_2/\text{Si}$ . Physical Review B, 2009, 79, .	11.1	218
20	The effect of substrates on the Raman spectrum of graphene: Graphene- on-sapphire and graphene-on-glass. Applied Physics Letters, 2007, 91, 201904.	1.5	213
21	Approaching the limits of transparency and conductivity in graphitic materials through lithium intercalation. Nature Communications, 2014, 5, 4224.	5.8	213
22	Wrinkling Hierarchy in Constrained Thin Sheets from Suspended Graphene to Curtains. Physical Review Letters, 2011, 106, 224301.	2.9	171
23	Tunable $\text{SnSe}_2/\text{WSe}_2$ Heterostructure Tunneling Field Effect Transistor. Small, 2017, 13, 1701478.	5.2	170
24	Variable temperature Raman microscopy as a nanometrology tool for graphene layers and graphene-based devices. Applied Physics Letters, 2007, 91, .	1.5	163
25	Ultrafast and Nanoscale Plasmonic Phenomena in Exfoliated Graphene Revealed by Infrared Pump-Probe Nanoscopy. Nano Letters, 2014, 14, 894-900.	4.5	158
26	Mapping Local Charge Recombination Heterogeneity by Multidimensional Nanospectroscopic Imaging. Science, 2012, 338, 1317-1321.	6.0	145
27	Effect of cluster formation on graphene mobility. Physical Review B, 2010, 81, .	1.1	143
28	Electrical detection of spin precession in single layer graphene spin valves with transparent contacts. Applied Physics Letters, 2009, 94, .	1.5	141
29	Aryl Functionalization as a Route to Band Gap Engineering in Single Layer Graphene Devices. Nano Letters, 2011, 11, 4047-4051.	4.5	136
30	Three-Dimensional Nanoscale Flexible Memristor Networks with Ultralow Power for Information Transmission and Processing Application. Nano Letters, 2020, 20, 4111-4120.	4.5	134
31	Electron-Hole Asymmetry of Spin Injection and Transport in Single-Layer Graphene. Physical Review Letters, 2009, 102, 137205.	2.9	130
32	Highly transparent paper with tunable haze for green electronics. Energy and Environmental Science, 2014, 7, 3313-3319.	15.6	123
33	Ultra-fast self-assembly and stabilization of reactive nanoparticles in reduced graphene oxide films. Nature Communications, 2016, 7, 12332.	5.8	123
34	Fabrication of graphene p-n-p junctions with contactless top gates. Applied Physics Letters, 2008, 92, .	1.5	122
35	Flexible Ultrathin Single-Crystalline Perovskite Photodetector. Nano Letters, 2020, 20, 7144-7151.	4.5	117
36	Raman nanometrology of graphene: Temperature and substrate effects. Solid State Communications, 2009, 149, 1132-1135.	0.9	115

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37	Atomic Force Microscopy Studies on Molybdenum Disulfide Flakes as Sodium-Ion Anodes. <i>Nano Letters</i> , 2015, 15, 1018-1024.	4.5	113
38	Raman Spectroscopy of Ripple Formation in Suspended Graphene. <i>Nano Letters</i> , 2009, 9, 4172-4176.	4.5	108
39	Evidence for a spontaneous gapped state in ultraclean bilayer graphene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 10802-10805.	3.3	107
40	Integrated In-Sensor Computing Optoelectronic Device for Environment-Adaptable Artificial Retina Perception Application. <i>Nano Letters</i> , 2022, 22, 81-89.	4.5	104
41	Properties of suspended graphene membranes. <i>Materials Today</i> , 2012, 15, 238-245.	8.3	100
42	Metallic few-layered VSe <sub>2</sub> nanosheets: high two-dimensional conductivity for flexible in-plane solid-state supercapacitors. <i>Journal of Materials Chemistry A</i> , 2018, 6, 8299-8306.	5.2	89
43	High-Performance Wafer-Scale MoS <sub>2</sub> Transistors toward Practical Application. <i>Small</i> , 2018, 14, e1803465.	5.2	88
44	In Situ Investigations of Li-MoS <sub>2</sub> with Planar Batteries. <i>Advanced Energy Materials</i> , 2015, 5, 1401742.	10.2	87
45	Controlled Doping of Wafer-Scale PtSe <sub>2</sub> Films for Device Application. <i>Advanced Functional Materials</i> , 2019, 29, 1805614.	7.8	87
46	Lithography-free fabrication of high quality substrate-supported and freestanding graphene devices. <i>Nano Research</i> , 2010, 3, 98-102.	5.8	85
47	Nano-optical imaging of $WS_2$ waveguide modes revealing light-exciton interactions. <i>Physical Review B</i> , 2016, 94, .	1.1	82
48	In Situ Transmission Electron Microscopy Observation of Sodiation-Desodiation in a Long Cycle, High-Capacity Reduced Graphene Oxide Sodium-Ion Battery Anode. <i>Chemistry of Materials</i> , 2016, 28, 6528-6535.	3.2	79
49	Flexible boron nitride-based memristor for in situ digital and analogue neuromorphic computing applications. <i>Materials Horizons</i> , 2021, 8, 538-546.	6.4	73
50	Magnetoconductance Oscillations and Evidence for Fractional Quantum Hall States in Suspended Bilayer and Trilayer Graphene. <i>Physical Review Letters</i> , 2010, 105, 246601.	2.9	71
51	In Situ Observation of Electrostatic and Thermal Manipulation of Suspended Graphene Membranes. <i>Nano Letters</i> , 2012, 12, 5470-5474.	4.5	69
52	A Dual-Gate MoS <sub>2</sub> Photodetector Based on Interface Coupling Effect. <i>Small</i> , 2020, 16, e1904369.	5.2	65
53	Tunneling Plasmonics in Bilayer Graphene. <i>Nano Letters</i> , 2015, 15, 4973-4978.	4.5	64
54	Lightweight, conductive hollow fibers from nature as sustainable electrode materials for microbial energy harvesting. <i>Nano Energy</i> , 2014, 10, 268-276.	8.2	63

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55	High-Performance WSe <sub>2</sub> Photodetector Based on a Laser-Induced p-n Junction. ACS Applied Materials & Interfaces, 2019, 11, 43330-43336.	4.0	61
56	Mapping the Dirac point in gated bilayer graphene. Applied Physics Letters, 2009, 95, .	1.5	60
57	Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper. Advanced Materials, 2016, 28, 4684-4691.	11.1	59
58	Metal-Organic Framework for Transparent Electronics. Advanced Science, 2020, 7, 1903003.	5.6	59
59	WSe <sub>2</sub> /MoS <sub>2</sub> and MoTe <sub>2</sub> /SnSe <sub>2</sub> van der Waals heterostructure transistors with different band alignment. Nanotechnology, 2017, 28, 415201.	1.3	58
60	Electrical transport in high-quality graphene pnp junctions. New Journal of Physics, 2009, 11, 095008.	1.2	55
61	Progress of Large-scale Synthesis and Electronic Device Application of Two-dimensional Transition Metal Dichalcogenides. Small, 2017, 13, 1700098.	5.2	54
62	Thermal conductivity of suspended few-layer graphene by a modified T-bridge method. Applied Physics Letters, 2013, 103, .	1.5	52
63	Flexible 3D memristor array for binary storage and multi-states neuromorphic computing applications. Information Materials, 2021, 3, 212-221.	8.5	52
64	Thin-film barristor: A gate-tunable vertical graphene-pentacene device. Physical Review B, 2013, 88, .	1.1	51
65	Sodium-Ion Intercalated Transparent Conductors with Printed Reduced Graphene Oxide Networks. Nano Letters, 2015, 15, 3763-3769.	4.5	46
66	Charge Trap Memory Based on Hybrid 0D Quantum Dot-2D WSe <sub>2</sub> Structure. Small, 2018, 14, e1800319.	5.2	46
67	An in-memory computing architecture based on two-dimensional semiconductors for multiply-accumulate operations. Nature Communications, 2021, 12, 3347.	5.8	46
68	Growth of atomically smooth MgO films on graphene by molecular beam epitaxy. Applied Physics Letters, 2008, 93, .	1.5	43
69	The positive piezoconductive effect in graphene. Nature Communications, 2015, 6, 8119.	5.8	43
70	Energy-efficient flexible photoelectric device with 2D/0D hybrid structure for bio-inspired artificial heterosynapse application. Nano Energy, 2021, 83, 105815.	8.2	42
71	Wafer-scale functional circuits based on two dimensional semiconductors with fabrication optimized by machine learning. Nature Communications, 2021, 12, 5953.	5.8	42
72	Imaging charge density fluctuations in graphene using Coulomb blockade spectroscopy. Physical Review B, 2011, 83, .	1.1	41



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91	MoS <sub>2</sub> /HfO <sub>2</sub> /Silicon-on-Insulator Dual-Gate Photogating Transistor with Ambipolar Photoresponsivity for High-Resolution Light Wavelength Detection. <i>Advanced Functional Materials</i> , 2019, 29, 1906242.	7.8	22
92	Transport in suspended monolayer and bilayer graphene under strain: A new platform for material studies. <i>Carbon</i> , 2014, 69, 336-341.	5.4	21
93	MoS <sub>2</sub> dual-gate transistors with electrostatically doped contacts. <i>Nano Research</i> , 2019, 12, 2515-2519.	5.8	21
94	MoS <sub>2</sub> /Silicon-on-Insulator Heterojunction Field-Effect-Transistor for High-Performance Photodetection. <i>IEEE Electron Device Letters</i> , 2019, 40, 423-426.	2.2	21
95	Graphene-based quantum Hall effect infrared photodetector operating at liquid Nitrogen temperatures. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	20
96	An artificial neural network chip based on two-dimensional semiconductor. <i>Science Bulletin</i> , 2022, 67, 270-277.	4.3	20
97	Passive Transistor Logic Circuits Based on Wafer-Scale 2D Semiconductors. <i>Advanced Materials</i> , 2022, 34, .	11.1	20
98	2D negative capacitance field-effect transistor with organic ferroelectrics. <i>Nanotechnology</i> , 2018, 29, 244004.	1.3	19
99	Gate Stack Engineering in MoS <sub>2</sub> Field-Effect Transistor for Reduced Channel Doping and Hysteresis Effect. <i>Advanced Electronic Materials</i> , 2021, 7, 2000395.	2.6	19
100	Hybrid coupling enhances photoluminescence of monolayer MoS <sub>2</sub> on plasmonic nanostructures. <i>Optics Letters</i> , 2018, 43, 4128.	1.7	18
101	Quantum transport in double-gated graphene devices. <i>Solid State Communications</i> , 2012, 152, 1301-1305.	0.9	17
102	Self-formed conductive nanofilaments in (Bi, Mn)O for ultralow-power memory devices. <i>Nano Energy</i> , 2015, 13, 283-290.	8.2	17
103	Various and Tunable Transport Properties of WSe <sub>2</sub> Transistor Formed by Metal Contacts. <i>Small</i> , 2017, 13, 1604319.	5.2	17
104	Recent progress in devices and circuits based on wafer-scale transition metal dichalcogenides. <i>Science China Information Sciences</i> , 2019, 62, 1.	2.7	17
105	Large-Area Monolayer MoS <sub>2</sub> Nanosheets on GaN Substrates for Light-Emitting Diodes and Valley-Spin Electronic Devices. <i>ACS Applied Nano Materials</i> , 2021, 4, 12127-12136.	2.4	17
106	Layer-by-Layer AB-Stacked Bilayer Graphene Growth Through an Asymmetric Oxygen Gateway. <i>Chemistry of Materials</i> , 2019, 31, 6105-6109.	3.2	16
107	Extremely high thermal conductivity of graphene: Prospects for thermal management applications in silicon nanoelectronics. , 2008, , .		15
108	Realizing Wafer-Scale and Low-Voltage Operation MoS <sub>2</sub> Transistors via Electrolyte Gating. <i>Advanced Electronic Materials</i> , 2020, 6, 1900838.	2.6	15

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109	Tuning Electrical and Optical Properties of MoSe <sub>2</sub> Transistors via Elemental Doping. <i>Advanced Materials Technologies</i> , 2020, 5, 2000307.	3.0	15
110	Wafer-Scale Demonstration of MoS <sub>2</sub> FET and C <sub>60</sub> FET Arrays Based on Two-Dimensional Semiconductors. <i>Small</i> , 2022, 18, e2107650.	5.2	15
111	Forming free and ultralow-power erase operation in atomically crystal TiO <sub>2</sub> resistive switching. <i>2D Materials</i> , 2017, 4, 025012.	2.0	14
112	A novel synthesis method for large-area MoS <sub>2</sub> film with improved electrical contact. <i>2D Materials</i> , 2017, 4, 025051.	2.0	14
113	Multilayer Si shadow mask processing of wafer-scale MoS <sub>2</sub> devices. <i>2D Materials</i> , 2020, 7, 025019.	2.0	14
114	Integration of MoS <sub>2</sub> with InAlAs/InGaAs Heterojunction for Dual Color Detection in Both Visible and Near-Infrared Bands. <i>Advanced Optical Materials</i> , 2019, 7, 1901039.	3.6	13
115	Interface Engineering of Silicon/Carbon Thin-Film Anodes for High-Rate Lithium-Ion Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 29242-29252.	4.0	11
116	Top gate engineering of field-effect transistors based on wafer-scale two-dimensional semiconductors. <i>Journal of Materials Science and Technology</i> , 2022, 106, 243-248.	5.6	11
117	Large capacitance and fast polarization response of thin electrolyte dielectrics by spin coating for two-dimensional MoS <sub>2</sub> devices. <i>Nano Research</i> , 2018, 11, 3739-3745.	5.8	10
118	Thickness-Dependent Electronic Transport in Ultrathin, Single Crystalline Silicon Nanomembranes. <i>Advanced Electronic Materials</i> , 2019, 5, 1900232.	2.6	10
119	A novel contact engineering method for transistors based on two-dimensional materials. <i>Journal of Materials Science and Technology</i> , 2021, 69, 15-19.	5.6	10
120	Remarkable quality improvement of as-grown monolayer MoS <sub>2</sub> by sulfur vapor pretreatment of SiO <sub>2</sub> /Si substrates. <i>Nanoscale</i> , 2020, 12, 1958-1966.	2.8	9
121	Engineering Top Gate Stack for Wafer-Scale Integrated Circuit Fabrication Based on Two-Dimensional Semiconductors. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 11610-11618.	4.0	9
122	Nonaqueous liquid pool dissolution in three-dimensional heterogeneous subsurface formations. <i>Environmental Geology</i> , 2003, 43, 968-977.	1.2	8
123	Spin transport in graphite and graphene spin valves. <i>Proceedings of SPIE</i> , 2009, , .	0.8	8
124	A study on ionic gated MoS <sub>2</sub> phototransistors. <i>Science China Information Sciences</i> , 2019, 62, 1.	2.7	8
125	Frontiers in Electronic and Optoelectronic Devices Based on 2D Materials. <i>Advanced Electronic Materials</i> , 2021, 7, 2100444.	2.6	8
126	Charge transport and quantum confinement in MoS <sub>2</sub> dual-gated transistors. <i>Journal of Semiconductors</i> , 2020, 41, 072904.	2.0	7



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127	Suspension and measurement of graphene and Bi <sub>2</sub> Se <sub>3</sub> thin crystals. Nanotechnology, 2011, 22, 285305.	1.3	6
128	Analog Integrated Circuits Based on Wafer-Level Two-Dimensional MoS <sub>2</sub> Materials With Physical and SPICE Model. IEEE Access, 2020, 8, 197287-197299.	2.6	6
129	Reversing the Polarity of MoS <sub>2</sub> with PTFE. ACS Applied Materials & Interfaces, 2021, 13, 46117-46124.	4.0	6
130	Spatial Mapping of the Dirac Point in Monolayer and Bilayer Graphene. IEEE Nanotechnology Magazine, 2011, 10, 88-91.	1.1	5
131	Excitation Enhancement of Hot Electrons by Ultrafast Optical Pumping in Heavily p-Doped Graphene Stacks. Physical Review Applied, 2020, 14, .	1.5	5
132	Large-Scale Multilayer MoS <sub>2</sub> Nanosheets Grown by Atomic Layer Deposition for Sensitive Photodetectors. ACS Applied Nano Materials, 2022, 5, 10431-10440.	2.4	5
133	Contact optimisation strategy for wafer-scale field-effect transistors based on two-dimensional semiconductors. Journal of Materials Science and Technology, 2023, 133, 230-237.	5.6	5
134	Raman nanometrology of graphene on arbitrary substrates and at variable temperature. Proceedings of SPIE, 2008, , .	0.8	4
135	The Role of the Height Fluctuation Effect in the Tunable Interfacial Electronic Structure of the Vertically Stacked BP/MoS <sub>2</sub> Heterojunction. Journal of Physical Chemistry C, 2020, 124, 20256-20261.	1.5	4
136	Stacking monolayers at will: A scalable device optimization strategy for two-dimensional semiconductors. Nano Research, 2022, 15, 6620-6627.	5.8	4
137	Scalable production of p-MoTe <sub>2</sub> /n-MoS <sub>2</sub> heterostructure array and its application for self-powered photodetectors and CMOS inverters. 2D Materials, 2022, 9, 035015.	2.0	4
138	Band gap and correlated phenomena in bilayer and trilayer graphene. , 2013, , .		3
139	Nanocarbon Paper: Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper (Adv. Mater. 23/2016). Advanced Materials, 2016, 28, 4566-4566.	11.1	3
140	Phase, Conductivity, and Surface Coordination Environment in Two-Dimensional Electrochemistry. ACS Applied Materials & Interfaces, 2019, 11, 25108-25114.	4.0	3
141	Recent progress in two-dimensional transition metal dichalcogenides: Material synthesis for microelectronics. Chinese Science Bulletin, 2017, 62, 4237-4255.	0.4	3
142	Electrical detection of CF <sub>3</sub> Cl phase transitions on graphene. Applied Physics Letters, 2013, 103, 201606.	1.5	2
143	Novel photodetectors and image sensors based on silicon-on-insulator substrate. , 2019, , .		2
144	Heat Transfer in Encased Graphene. , 2009, , .		1

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145	Transport measurements on ultra-clean dual-gated suspended bilayer graphene. EPJ Web of Conferences, 2012, 23, 00018.	0.1	1
146	Improving Graphene Conductivity through Selective Atomic Layer Deposition. ECS Transactions, 2015, 69, 133-138.	0.3	1
147	Infrared Pump-Probe Spectroscopy of Plasmons in Graphene and Semiconductors. Microscopy and Microanalysis, 2015, 21, 1415-1416.	0.2	1
148	A Novel Fire Control System for Distributed Photovoltaic Station. Energy Procedia, 2018, 150, 94-98.	1.8	1
149	ICPD: an SOI-based photodetector with high responsivity and tunable response spectrum. , 2018, , .		1
150	Manipulating the Electrical Characteristics of Two-Dimensional Semiconductor Transistors by Gate Engineering. , 2021, , .		1
151	Analog and Logic Circuits Fabricated on a Wafer-Scale Two-Dimensional Semiconductor. , 2022, , .		1
152	Thermal Conductivity of Graphene Layers Encased in Oxide. , 2009, , .		0
153	Bias and gate control of graphene spin valves. , 2009, , .		0
154	Graphene-based quantum hall effect infrared photodetectors. , 2012, , .		0
155	Properties of Concrete with High-Volume Limestone Powder under Low Temperature Conditions. Advanced Materials Research, 0, 675, 296-301.	0.3	0
156	A new device architecture based on two dimensional van der Waals heterostructures. , 2017, , .		0
157	Graphene Top-gated Mos2 Phototransistors. , 2019, , .		0
158	SPICE Modeling and Simulation of High-Performance Wafer-Scale MoS2 Transistors. , 2019, , .		0
159	Mos2 transistor gated by PMMA-based electrolyte for sub-1 V operation. , 2019, , .		0
160	Fabrication of p-MoTe2/n-MoS2 heterostructure and its electrical characterization. , 2021, , .		0
161	Infrared Pump-Probe Imaging and Spectroscopy with 10nm Resolution. , 2014, , .		0
162	Thermal reliability study of graphene-based planar RRAM. , 2020, , .		0

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163	Abnormal device performance in transferred multilayer MoS2 field-effect transistors., 2021, , .		0