

Wen-Zhong Bao

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141
papers

24,960
citations

50
h-index

157
g-index

168
ext. papers

27,726
ext. citations

10
avg, IF

6.68
L-index

#	Paper	IF	Citations
141	Superior thermal conductivity of single-layer graphene. <i>Nano Letters</i> , 2008 , 8, 902-7	11.5	9908
140	Extremely high thermal conductivity of graphene: Prospects for thermal management applications in nanoelectronic circuits. <i>Applied Physics Letters</i> , 2008 , 92, 151911	3.4	1469
139	Gate-tuning of graphene plasmons revealed by infrared nano-imaging. <i>Nature</i> , 2012 , 487, 82-5	50.4	1451
138	Controlled ripple texturing of suspended graphene and ultrathin graphite membranes. <i>Nature Nanotechnology</i> , 2009 , 4, 562-6	28.7	1053
137	Dimensional crossover of thermal transport in few-layer graphene. <i>Nature Materials</i> , 2010 , 9, 555-8	27	1028
136	Temperature dependence of the Raman spectra of graphene and graphene multilayers. <i>Nano Letters</i> , 2007 , 7, 2645-9	11.5	909
135	Potassium Ion Batteries with Graphitic Materials. <i>Nano Letters</i> , 2015 , 15, 7671-7	11.5	680
134	High mobility ambipolar MoS ₂ field-effect transistors: Substrate and dielectric effects. <i>Applied Physics Letters</i> , 2013 , 102, 042104	3.4	584
133	Phase-coherent transport in graphene quantum billiards. <i>Science</i> , 2007 , 317, 1530-3	33.3	562
132	Infrared nanoscopy of dirac plasmons at the graphene-SiO ₂ interface. <i>Nano Letters</i> , 2011 , 11, 4701-5	11.5	431
131	Stacking-dependent band gap and quantum transport in trilayer graphene. <i>Nature Physics</i> , 2011 , 7, 948-952	15.2	348
130	Anomalous thermoelectric transport of Dirac particles in graphene. <i>Physical Review Letters</i> , 2009 , 102, 166808	7.4	334
129	Graphene-based atomic-scale switches. <i>Nano Letters</i> , 2008 , 8, 3345-9	11.5	289
128	Thickness-dependent thermal conductivity of encased graphene and ultrathin graphite. <i>Nano Letters</i> , 2010 , 10, 3909-13	11.5	251
127	Thermal contact resistance between graphene and silicon dioxide. <i>Applied Physics Letters</i> , 2009 , 95, 1619-10	3.4	251
126	Tuning two-dimensional nanomaterials by intercalation: materials, properties and applications. <i>Chemical Society Reviews</i> , 2016 , 45, 6742-6765	58.5	243
125	Transport spectroscopy of symmetry-broken insulating states in bilayer graphene. <i>Nature Nanotechnology</i> , 2012 , 7, 156-60	28.7	237

124	Electronic doping and scattering by transition metals on graphene. <i>Physical Review B</i> , 2009 , 80,	3.3	218
123	Spatially resolved spectroscopy of monolayer graphene on SiO ₂ . <i>Physical Review B</i> , 2009 , 79,	3.3	206
122	The effect of substrates on the Raman spectrum of graphene: Graphene- on-sapphire and graphene-on-glass. <i>Applied Physics Letters</i> , 2007 , 91, 201904	3.4	197
121	Approaching the limits of transparency and conductivity in graphitic materials through lithium intercalation. <i>Nature Communications</i> , 2014 , 5, 4224	17.4	166
120	Wrinkling hierarchy in constrained thin sheets from suspended graphene to curtains. <i>Physical Review Letters</i> , 2011 , 106, 224301	7.4	150
119	Variable temperature Raman microscopy as a nanometrology tool for graphene layers and graphene-based devices. <i>Applied Physics Letters</i> , 2007 , 91, 071913	3.4	145
118	Mapping local charge recombination heterogeneity by multidimensional nanospectroscopic imaging. <i>Science</i> , 2012 , 338, 1317-21	33.3	128
117	Aryl functionalization as a route to band gap engineering in single layer graphene devices. <i>Nano Letters</i> , 2011 , 11, 4047-51	11.5	127
116	Electrical detection of spin precession in single layer graphene spin valves with transparent contacts. <i>Applied Physics Letters</i> , 2009 , 94, 222109	3.4	122
115	Ultrafast and nanoscale plasmonic phenomena in exfoliated graphene revealed by infrared pump-probe nanoscopy. <i>Nano Letters</i> , 2014 , 14, 894-900	11.5	121
114	Effect of cluster formation on graphene mobility. <i>Physical Review B</i> , 2010 , 81,	3.3	120
113	Tunable SnSe /WSe Heterostructure Tunneling Field Effect Transistor. <i>Small</i> , 2017 , 13, 1701478	11	114
112	Fabrication of graphene p-n-p junctions with contactless top gates. <i>Applied Physics Letters</i> , 2008 , 92, 203103	3.4	114
111	Electron-hole asymmetry of spin injection and transport in single-layer graphene. <i>Physical Review Letters</i> , 2009 , 102, 137205	7.4	113
110	Raman nanometrology of graphene: Temperature and substrate effects. <i>Solid State Communications</i> , 2009 , 149, 1132-1135	1.6	100
109	Atomic force microscopy studies on molybdenum disulfide flakes as sodium-ion anodes. <i>Nano Letters</i> , 2015 , 15, 1018-24	11.5	99
108	Raman spectroscopy of ripple formation in suspended graphene. <i>Nano Letters</i> , 2009 , 9, 4172-6	11.5	98
107	Highly transparent paper with tunable haze for green electronics. <i>Energy and Environmental Science</i> , 2014 , 7, 3313-3319	35.4	96

106	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, 10802-5	11.5	92
105	Properties of suspended graphene membranes. <i>Materials Today</i> , 2012 , 15, 238-245	21.8	84
104	In Situ Investigations of Li-MoS ₂ with Planar Batteries. <i>Advanced Energy Materials</i> , 2015 , 5, 1401742	21.8	78
103	Ultra-fast self-assembly and stabilization of reactive nanoparticles in reduced graphene oxide films. <i>Nature Communications</i> , 2016 , 7, 12332	17.4	74
102	Lithography-free fabrication of high quality substrate-supported and freestanding graphene devices. <i>Nano Research</i> , 2010 , 3, 98-102	10	74
101	Metallic few-layered VSe ₂ nanosheets: high two-dimensional conductivity for flexible in-plane solid-state supercapacitors. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 8299-8306	13	67
100	Three-Dimensional Nanoscale Flexible Memristor Networks with Ultralow Power for Information Transmission and Processing Application. <i>Nano Letters</i> , 2020 , 20, 4111-4120	11.5	66
99	Magnetoconductance oscillations and evidence for fractional quantum Hall states in suspended bilayer and trilayer graphene. <i>Physical Review Letters</i> , 2010 , 105, 246601	7.4	66
98	In situ observation of electrostatic and thermal manipulation of suspended graphene membranes. <i>Nano Letters</i> , 2012 , 12, 5470-4	11.5	60
97	Controlled Doping of Wafer-Scale PtSe ₂ Films for Device Application. <i>Advanced Functional Materials</i> , 2019 , 29, 1805614	15.6	60
96	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	9.6	59
95	Mapping the Dirac point in gated bilayer graphene. <i>Applied Physics Letters</i> , 2009 , 95, 243502	3.4	58
94	Nano-optical imaging of WSe ₂ waveguide modes revealing light-exciton interactions. <i>Physical Review B</i> , 2016 , 94,	3.3	58
93	Electrical transport in high-quality graphene pn junctions. <i>New Journal of Physics</i> , 2009 , 11, 095008	2.9	52
92	Tunneling Plasmonics in Bilayer Graphene. <i>Nano Letters</i> , 2015 , 15, 4973-8	11.5	50
91	Lightweight, conductive hollow fibers from nature as sustainable electrode materials for microbial energy harvesting. <i>Nano Energy</i> , 2014 , 10, 268-276	17.1	48
90	High-Performance Wafer-Scale MoS Transistors toward Practical Application. <i>Small</i> , 2018 , 14, e1803465	11	48
89	Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper. <i>Advanced Materials</i> , 2016 , 28, 4684-91	24	47

88	Thermal conductivity of suspended few-layer graphene by a modified T-bridge method. <i>Applied Physics Letters</i> , 2013 , 103, 133102	3.4	44
87	Flexible Ultrathin Single-Crystalline Perovskite Photodetector. <i>Nano Letters</i> , 2020 , 20, 7144-7151	11.5	44
86	Sodium-Ion Intercalated Transparent Conductors with Printed Reduced Graphene Oxide Networks. <i>Nano Letters</i> , 2015 , 15, 3763-9	11.5	41
85	Thin-film barristor: A gate-tunable vertical graphene-pentacene device. <i>Physical Review B</i> , 2013 , 88,	3.3	41
84	Imaging charge density fluctuations in graphene using Coulomb blockade spectroscopy. <i>Physical Review B</i> , 2011 , 83,	3.3	40
83	Growth of atomically smooth MgO films on graphene by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2008 , 93, 183107	3.4	40
82	Progress of Large-Scale Synthesis and Electronic Device Application of Two-Dimensional Transition Metal Dichalcogenides. <i>Small</i> , 2017 , 13, 1700098	11	37
81	WSe/MoS and MoTe/SnSe van der Waals heterostructure transistors with different band alignment. <i>Nanotechnology</i> , 2017 , 28, 415201	3.4	37
80	Quantum transport and field-induced insulating states in bilayer graphene pnp junctions. <i>Nano Letters</i> , 2010 , 10, 4000-4	11.5	37
79	Charge-Trap Memory Based on Hybrid 0D Quantum Dot-2D WSe Structure. <i>Small</i> , 2018 , 14, e1800319	11	34
78	High-Performance WSe Photodetector Based on a Laser-Induced p-n Junction. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 43330-43336	9.5	33
77	Visualizing electrical breakdown and ON/OFF states in electrically switchable suspended graphene break junctions. <i>Nano Letters</i> , 2012 , 12, 1772-5	11.5	33
76	The positive piezoconductive effect in graphene. <i>Nature Communications</i> , 2015 , 6, 8119	17.4	32
75	Room-Temperature Fabrication of High-Performance Amorphous In-Ga-Zn-O/AlO Thin-Film Transistors on Ultrasoother and Clear Nanopaper. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 27792-27800 ³²	9.5	32
74	Broken symmetry quantum Hall states in dual-gated ABA trilayer graphene. <i>Nano Letters</i> , 2013 , 13, 1627-31	11.5	31
73	Metal-Organic Framework for Transparent Electronics. <i>Advanced Science</i> , 2020 , 7, 1903003	13.6	30
72	Aqueous gating of van der Waals materials on bilayer nanopaper. <i>ACS Nano</i> , 2014 , 8, 10606-12	16.7	30
71	Spectroscopic raman nanometrology of graphene and graphene multilayers on arbitrary substrates. <i>Journal of Physics: Conference Series</i> , 2008 , 109, 012008	0.3	30

70	A highly sensitive, highly transparent, gel-gated MoS ₂ phototransistor on biodegradable nanopaper. <i>Nanoscale</i> , 2016 , 8, 14237-42	7.7	29
69	Probing charging and localization in the quantum Hall regime by graphene p <i>n</i> p junctions. <i>Physical Review B</i> , 2010 , 81,	3.3	29
68	Independent Band Modulation in 2D van der Waals Heterostructures via a Novel Device Architecture. <i>Advanced Science</i> , 2018 , 5, 1800237	13.6	27
67	A Dual-Gate MoS Photodetector Based on Interface Coupling Effect. <i>Small</i> , 2020 , 16, e1904369	11	27
66	Raman spectroscopy of substrate-induced compression and substrate doping in thermally cycled graphene. <i>Physical Review B</i> , 2012 , 85,	3.3	25
65	Low sub-threshold swing realization with contacts of graphene/h-BN/MoS ₂ heterostructures in MoS ₂ transistors. <i>Applied Physics Letters</i> , 2017 , 111, 193502	3.4	22
64	Flexible boron nitride-based memristor for in situ digital and analogue neuromorphic computing applications. <i>Materials Horizons</i> , 2021 , 8, 538-546	14.4	22
63	Premature switching in graphene Josephson transistors. <i>Solid State Communications</i> , 2009 , 149, 1046-1048	10.4	21
62	Electronic transport properties of Ir-decorated graphene. <i>Scientific Reports</i> , 2015 , 5, 15764	4.9	20
61	Super-Clear Nanopaper from Agro-Industrial Waste for Green Electronics. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600539	6.4	19
60	High Performance Amplifier Element Realization via MoS/GaTe Heterostructures. <i>Advanced Science</i> , 2018 , 5, 1700830	13.6	19
59	Wafer-scale transferred multilayer MoS for high performance field effect transistors. <i>Nanotechnology</i> , 2019 , 30, 174002	3.4	19
58	Transport in suspended monolayer and bilayer graphene under strain: A new platform for material studies. <i>Carbon</i> , 2014 , 69, 336-341	10.4	18
57	Graphene-based quantum Hall effect infrared photodetector operating at liquid Nitrogen temperatures. <i>Applied Physics Letters</i> , 2011 , 99, 013504	3.4	17
56	Quantum transport in double-gated graphene devices. <i>Solid State Communications</i> , 2012 , 152, 1301-1305.	5.6	16
55	Flexible 3D memristor array for binary storage and multi-states neuromorphic computing applications. <i>Information Materials</i> , 2021 , 3, 212-221	23.1	16
54	Integrated In-Sensor Computing Optoelectronic Device for Environment-Adaptable Artificial Retina Perception Application.. <i>Nano Letters</i> , 2021 ,	11.5	16
53	MoS ₂ /Silicon-on-Insulator Heterojunction Field-Effect-Transistor for High-Performance Photodetection. <i>IEEE Electron Device Letters</i> , 2019 , 40, 423-426	4.4	15

52	Self-formed conductive nanofilaments in (Bi, Mn)O for ultralow-power memory devices. <i>Nano Energy</i> , 2015 , 13, 283-290	17.1	14
51	High-Performance Logic and Memory Devices Based on a Dual-Gated MoS ₂ Architecture. <i>ACS Applied Electronic Materials</i> , 2020 , 2, 111-119	4	14
50	An in-memory computing architecture based on two-dimensional semiconductors for multiply-accumulate operations. <i>Nature Communications</i> , 2021 , 12, 3347	17.4	14
49	A novel synthesis method for large-area MoS ₂ film with improved electrical contact. <i>2D Materials</i> , 2017 , 4, 025051	5.9	13
48	Multifunctional MoS Transistors with Electrolyte Gel Gating. <i>Small</i> , 2020 , 16, e2000420	11	13
47	Hybrid coupling enhances photoluminescence of monolayer MoS on plasmonic nanostructures. <i>Optics Letters</i> , 2018 , 43, 4128-4131	3	13
46	Various and Tunable Transport Properties of WSe Transistor Formed by Metal Contacts. <i>Small</i> , 2017 , 13, 1604319	11	12
45	MoS ₂ /HfO ₂ /Silicon-On-Insulator Dual-Photogating Transistor with Ambipolar Photoresponsivity for High-Resolution Light Wavelength Detection. <i>Advanced Functional Materials</i> , 2019 , 29, 1906242	15.6	12
44	Energy-efficient flexible photoelectric device with 2D/0D hybrid structure for bio-inspired artificial heterosynapse application. <i>Nano Energy</i> , 2021 , 83, 105815	17.1	12
43	Recent progress in devices and circuits based on wafer-scale transition metal dichalcogenides. <i>Science China Information Sciences</i> , 2019 , 62, 1	3.4	12
42	Forming free and ultralow-power erase operation in atomically crystal TiO ₂ resistive switching. <i>2D Materials</i> , 2017 , 4, 025012	5.9	11
41	2D negative capacitance field-effect transistor with organic ferroelectrics. <i>Nanotechnology</i> , 2018 , 29, 244004	3.4	11
40	MoS ₂ dual-gate transistors with electrostatically doped contacts. <i>Nano Research</i> , 2019 , 12, 2515-2519	10	11
39	Wafer-scale functional circuits based on two dimensional semiconductors with fabrication optimized by machine learning. <i>Nature Communications</i> , 2021 , 12, 5953	17.4	10
38	Realizing Wafer-Scale and Low-Voltage Operation MoS ₂ Transistors via Electrolyte Gating. <i>Advanced Electronic Materials</i> , 2020 , 6, 1900838	6.4	10
37	Large capacitance and fast polarization response of thin electrolyte dielectrics by spin coating for two-dimensional MoS ₂ devices. <i>Nano Research</i> , 2018 , 11, 3739-3745	10	8
36	Thickness-Dependent Electronic Transport in Ultrathin, Single Crystalline Silicon Nanomembranes. <i>Advanced Electronic Materials</i> , 2019 , 5, 1900232	6.4	7
35	A study on ionic gated MoS ₂ phototransistors. <i>Science China Information Sciences</i> , 2019 , 62, 1	3.4	7

34	Integration of MoS ₂ with InAlAs/InGaAs Heterojunction for Dual Color Detection in Both Visible and Near-Infrared Bands. <i>Advanced Optical Materials</i> , 2019 , 7, 1901039	8.1	7
33	Spin transport in graphite and graphene spin valves 2009 ,		7
32	Nonaqueous liquid pool dissolution in three-dimensional heterogeneous subsurface formations. <i>Environmental Geology</i> , 2003 , 43, 968-977		7
31	Multilayer Si shadow mask processing of wafer-scale MoS ₂ devices. <i>2D Materials</i> , 2020 , 7, 025019	5.9	6
30	Layer-by-Layer AB-Stacked Bilayer Graphene Growth Through an Asymmetric Oxygen Gateway. <i>Chemistry of Materials</i> , 2019 , 31, 6105-6109	9.6	6
29	Extremely high thermal conductivity of graphene: Prospects for thermal management applications in silicon nanoelectronics 2008 ,		6
28	Interface Engineering of Silicon/Carbon Thin-Film Anodes for High-Rate Lithium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 29242-29252	9.5	5
27	Suspension and measurement of graphene and Bi ₂ Se ₃ thin crystals. <i>Nanotechnology</i> , 2011 , 22, 285305	3.4	5
26	Spatial Mapping of the Dirac Point in Monolayer and Bilayer Graphene. <i>IEEE Nanotechnology Magazine</i> , 2011 , 10, 88-91	2.6	5
25	An artificial neural network chip based on two-dimensional semiconductor. <i>Science Bulletin</i> , 2021 ,	10.6	5
24	Remarkable quality improvement of as-grown monolayer MoS by sulfur vapor pretreatment of SiO/Si substrates. <i>Nanoscale</i> , 2020 , 12, 1958-1966	7.7	5
23	Gate Stack Engineering in MoS ₂ Field-Effect Transistor for Reduced Channel Doping and Hysteresis Effect. <i>Advanced Electronic Materials</i> , 2021 , 7, 2000395	6.4	5
22	Tuning Electrical and Optical Properties of MoSe ₂ Transistors via Elemental Doping. <i>Advanced Materials Technologies</i> , 2020 , 5, 2000307	6.8	4
21	Raman nanometrology of graphene on arbitrary substrates and at variable temperature 2008 ,		4
20	Excitation Enhancement of Hot Electrons by Ultrafast Optical Pumping in Heavily p-Doped Graphene Stacks. <i>Physical Review Applied</i> , 2020 , 14,	4.3	4
19	Charge transport and quantum confinement in MoS ₂ dual-gated transistors. <i>Journal of Semiconductors</i> , 2020 , 41, 072904	2.3	4
18	Wafer-Scale Demonstration of MBC-FET and C-FET Arrays Based on Two-Dimensional Semiconductors.. <i>Small</i> , 2022 , e2107650	11	4
17	Phase, Conductivity, and Surface Coordination Environment in Two-Dimensional Electrochemistry. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 25108-25114	9.5	3

16	Band gap and correlated phenomena in bilayer and trilayer graphene 2013 ,		3
15	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	9.1	3
14	Nanocarbon Paper: Flexible, High Temperature, Planar Lighting with Large Scale Printable Nanocarbon Paper (Adv. Mater. 23/2016). <i>Advanced Materials</i> , 2016 , 28, 4566	24	3
13	A novel contact engineering method for transistors based on two-dimensional materials. <i>Journal of Materials Science and Technology</i> , 2021 , 69, 15-19	9.1	3
12	Electrical detection of CF ₃ Cl phase transitions on graphene. <i>Applied Physics Letters</i> , 2013 , 103, 201606	3.4	2
11	Large-Area Monolayer MoS ₂ Nanosheets on GaN Substrates for Light-Emitting Diodes and Valley-Spin Electronic Devices. <i>ACS Applied Nano Materials</i> , 2021 , 4, 12127-12136	5.6	2
10	The Role of the Height Fluctuation Effect in the Tunable Interfacial Electronic Structure of the Vertically Stacked BP/MoS ₂ Heterojunction. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 20256-20261	3.8	2
9	Novel photodetectors and image sensors based on silicon-on-insulator substrate 2019 ,		1
8	Heat Transfer in Encased Graphene 2009 ,		1
7	Analog Integrated Circuits Based on Wafer-Level Two-Dimensional MoS ₂ Materials With Physical and SPICE Model. <i>IEEE Access</i> , 2020 , 8, 197287-197299	3.5	1
6	Frontiers in Electronic and Optoelectronic Devices Based on 2D Materials. <i>Advanced Electronic Materials</i> , 2021 , 7, 2100444	6.4	1
5	Reversing the Polarity of MoS with PTFE. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 46117-46124	9.5	1
4	Infrared Pump-Probe Spectroscopy of Plasmons in Graphene and Semiconductors. <i>Microscopy and Microanalysis</i> , 2015 , 21, 1415-1416	0.5	0
3	A Novel Fire Control System for Distributed Photovoltaic Station. <i>Energy Procedia</i> , 2018 , 150, 94-98	2.3	0
2	Transport measurements on ultra-clean dual-gated suspended bilayer graphene. <i>EPJ Web of Conferences</i> , 2012 , 23, 00018	0.3	
1	Properties of Concrete with High-Volume Limestone Powder under Low Temperature Conditions. <i>Advanced Materials Research</i> , 2013 , 675, 296-301	0.5	