

# Lei Wang

## List of Publications by Citations

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72  
papers

16,085  
citations

35  
h-index

76  
g-index

76  
ext. papers

18,648  
ext. citations

15.4  
avg, IF

6.13  
L-index

#	Paper	IF	Citations
72	Boron nitride substrates for high-quality graphene electronics. <i>Nature Nanotechnology</i> , <b>2010</b> , 5, 722-6	28.7	4874
71	One-dimensional electrical contact to a two-dimensional material. <i>Science</i> , <b>2013</b> , 342, 614-7	33.3	1676
70	Piezoelectricity of single-atomic-layer MoS <sub>2</sub> for energy conversion and piezotronics. <i>Nature</i> , <b>2014</b> , 514, 470-4	50.4	1360
69	Hofstadter's butterfly and the fractal quantum Hall effect in moiré superlattices. <i>Nature</i> , <b>2013</b> , 497, 598-602	50.4	1084
68	Multi-terminal transport measurements of MoS <sub>2</sub> using a van der Waals heterostructure device platform. <i>Nature Nanotechnology</i> , <b>2015</b> , 10, 534-40	28.7	868
67	The role of surface oxygen in the growth of large single-crystal graphene on copper. <i>Science</i> , <b>2013</b> , 342, 720-3	33.3	868
66	Probing layer number and stacking order of few-layer graphene by Raman spectroscopy. <i>Small</i> , <b>2010</b> , 6, 195-200	11	521
65	Multicomponent fractional quantum Hall effect in graphene. <i>Nature Physics</i> , <b>2011</b> , 7, 693-696	16.2	347
64	Chemical vapor deposition-derived graphene with electrical performance of exfoliated graphene. <i>Nano Letters</i> , <b>2012</b> , 12, 2751-6	11.5	321
63	The hot pick-up technique for batch assembly of van der Waals heterostructures. <i>Nature Communications</i> , <b>2016</b> , 7, 11894	17.4	289
62	Fundamental limits to graphene plasmonics. <i>Nature</i> , <b>2018</b> , 557, 530-533	50.4	280
61	Spin and valley quantum Hall ferromagnetism in graphene. <i>Nature Physics</i> , <b>2012</b> , 8, 550-556	16.2	255
60	Ultrafast optical switching of infrared plasmon polaritons in high-mobility graphene. <i>Nature Photonics</i> , <b>2016</b> , 10, 244-247	33.9	252
59	Oxygen-activated growth and bandgap tunability of large single-crystal bilayer graphene. <i>Nature Nanotechnology</i> , <b>2016</b> , 11, 426-31	28.7	227
58	Tailoring the electronic structure in bilayer molybdenum disulfide via interlayer twist. <i>Nano Letters</i> , <b>2014</b> , 14, 3869-75	11.5	213
57	Correlated electronic phases in twisted bilayer transition metal dichalcogenides. <i>Nature Materials</i> , <b>2020</b> , 19, 861-866	27	197
56	Electron optics with p-n junctions in ballistic graphene. <i>Science</i> , <b>2016</b> , 353, 1522-1525	33.3	189

55	Graphene based heterostructures. <i>Solid State Communications</i> , <b>2012</b> , 152, 1275-1282	1.6	158
54	Large-Scale Growth of Two-Dimensional SnS <sub>2</sub> Crystals Driven by Screw Dislocations and Application to Photodetectors. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 4255-4261	15.6	153
53	Piezophototronic Effect in Single-Atomic-Layer MoS for Strain-Gated Flexible Optoelectronics. <i>Advanced Materials</i> , <b>2016</b> , 28, 8463-8468	24	149
52	Effect of surface morphology on friction of graphene on various substrates. <i>Nanoscale</i> , <b>2013</b> , 5, 3063-9	7.7	124
51	Graphene Field-Effect Transistors Based on Boron Nitride Dielectrics. <i>Proceedings of the IEEE</i> , <b>2013</b> , 101, 1609-1619	14.3	114
50	Bilayer graphene. Tunable fractional quantum Hall phases in bilayer graphene. <i>Science</i> , <b>2014</b> , 345, 61-4	33.3	113
49	High-speed electro-optic modulator integrated with graphene-boron nitride heterostructure and photonic crystal nanocavity. <i>Nano Letters</i> , <b>2015</b> , 15, 2001-5	11.5	111
48	Specular interband Andreev reflections at van der Waals interfaces between graphene and NbSe <sub>2</sub> . <i>Nature Physics</i> , <b>2016</b> , 12, 328-332	16.2	108
47	Evidence for a fractional fractal quantum Hall effect in graphene superlattices. <i>Science</i> , <b>2015</b> , 350, 1231-4	33.3	107
46	Tunable excitons in bilayer graphene. <i>Science</i> , <b>2017</b> , 358, 907-910	33.3	89
45	Flexible Graphene Field-Effect Transistors Encapsulated in Hexagonal Boron Nitride. <i>ACS Nano</i> , <b>2015</b> , 9, 8953-9	16.7	87
44	Graphene growth on h-BN by molecular beam epitaxy. <i>Solid State Communications</i> , <b>2012</b> , 152, 975-978	1.6	86
43	Negligible environmental sensitivity of graphene in a hexagonal boron nitride/graphene/h-BN sandwich structure. <i>ACS Nano</i> , <b>2012</b> , 6, 9314-9	16.7	85
42	Ultrafast Graphene Light Emitters. <i>Nano Letters</i> , <b>2018</b> , 18, 934-940	11.5	75
41	Renormalization of the graphene dispersion velocity determined from scanning tunneling spectroscopy. <i>Physical Review Letters</i> , <b>2012</b> , 109, 116802	7.4	73
40	Physical adsorption and charge transfer of molecular Br <sub>2</sub> on graphene. <i>ACS Nano</i> , <b>2014</b> , 8, 2943-50	16.7	54
39	Direct measurement of discrete valley and orbital quantum numbers in bilayer graphene. <i>Nature Communications</i> , <b>2017</b> , 8, 948	17.4	49
38	Measurement of collective dynamical mass of Dirac fermions in graphene. <i>Nature Nanotechnology</i> , <b>2014</b> , 9, 594-9	28.7	45

37	Direct Growth of Graphene on Silicon by Metal-Free Chemical Vapor Deposition. <i>Nano-Micro Letters</i> , <b>2018</b> , 10, 20	19.5	35
36	Properties and applications of new superlattice: twisted bilayer graphene. <i>Materials Today Physics</i> , <b>2019</b> , 9, 100099	8	31
35	Multiple hot-carrier collection in photo-excited graphene Moiré superlattices. <i>Science Advances</i> , <b>2016</b> , 2, e1600002	14.3	28
34	Slow gold adatom diffusion on graphene: effect of silicon dioxide and hexagonal boron nitride substrates. <i>Journal of Physical Chemistry B</i> , <b>2013</b> , 117, 4305-12	3.4	28
33	van der Waals epitaxy and photoresponse of two-dimensional CdSe plates. <i>Nanoscale</i> , <b>2016</b> , 8, 11375-9	7.7	28
32	High-frequency performance of graphene field effect transistors with saturating IV-characteristics <b>2011</b> ,		27
31	Graphene on Self-Assembled InGaN Quantum Dots Enabling Ultrahighly Sensitive Photodetectors. <i>Advanced Optical Materials</i> , <b>2019</b> , 7, 1801792	8.1	22
30	Moiré metrology of energy landscapes in van der Waals heterostructures. <i>Nature Communications</i> , <b>2021</b> , 12, 242	17.4	22
29	Moiréless correlations in ABCA graphene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	21
28	Deterministic and Etching-Free Transfer of Large-Scale 2D Layered Materials for Constructing Interlayer Coupled van der Waals Heterostructures. <i>Advanced Materials Technologies</i> , <b>2018</b> , 3, 1700282	6.8	20
27	Graphene transistor based on tunable Dirac fermion optics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 6575-6579	11.5	19
26	Structure effect on intrinsic piezoelectricity in septuple-atomic-layer MSi <sub>2</sub> N <sub>4</sub> (M=Mo and W). <i>Computational Materials Science</i> , <b>2021</b> , 188, 110223	3.2	19
25	van der Waals epitaxial two-dimensional CdSSe semiconductor alloys with tunable-composition and application to flexible optoelectronics. <i>Nanoscale</i> , <b>2017</b> , 9, 13786-13793	7.7	17
24	Quantum criticality in twisted transition metal dichalcogenides. <i>Nature</i> , <b>2021</b> , 597, 345-349	50.4	17
23	Topological phase transition in the Hofstadter-Hubbard model. <i>Physical Review B</i> , <b>2014</b> , 90,	3.3	16
22	Frictional Magneto-Coulomb Drag in Graphene Double-Layer Heterostructures. <i>Physical Review Letters</i> , <b>2017</b> , 119, 056802	7.4	16
21	Layered boron nitride enabling high-performance AlGa <sub>N</sub> /Ga <sub>N</sub> high electron mobility transistor. <i>Journal of Alloys and Compounds</i> , <b>2020</b> , 829, 154542	5.7	14
20	Magnetic field detection limits for ultraclean graphene Hall sensors. <i>Nature Communications</i> , <b>2020</b> , 11, 4163	17.4	13

19	Self-powered skin electronics for energy harvesting and healthcare monitoring. <i>Materials Today Energy</i> , <b>2021</b> , 21, 100786	7	13
18	Single- and bi-layer graphene grown on sapphire by molecular beam epitaxy. <i>Solid State Communications</i> , <b>2014</b> , 189, 15-20	1.6	12
17	Evolution of Two-Dimensional Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> Alloy-Based Vertical Heterostructures with Various Composition Ranges via Manipulating the Mo/W Precursors. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 28337-28346	3.8	12
16	Tailoring the thermal transport properties of monolayer hexagonal boron nitride by grain size engineering. <i>2D Materials</i> , <b>2020</b> , 7, 015031	5.9	11
15	Exceptionally large migration length of carbon and topographically-facilitated self-limiting molecular beam epitaxial growth of graphene on hexagonal boron nitride. <i>Carbon</i> , <b>2017</b> , 114, 579-584	10.4	10
14	Graphene Plasmonic Tamm States with Ultracompact Footprint. <i>Physical Review Applied</i> , <b>2019</b> , 12,	4.3	7
13	Seeing Hofstadter's butterfly in atomic Fermi gases. <i>Physical Review A</i> , <b>2014</b> , 89,	2.6	7
12	Two-step fabrication of large-scale MoS <sub>2</sub> hollow flakes. <i>CrystEngComm</i> , <b>2018</b> , 20, 5619-5624	3.3	6
11	Three-dimensional nanopores on monolayer graphene for hydrogen storage. <i>Materials Chemistry and Physics</i> , <b>2018</b> , 209, 134-145	4.4	5
10	Unconventional valley-dependent optical selection rules and Landau level mixing in bilayer graphene. <i>Nature Communications</i> , <b>2020</b> , 11, 2941	17.4	3
9	Stimulated piezotronic decontamination using Cu <sub>2</sub> MgSnS <sub>4</sub> modified BaTiO <sub>3</sub> . <i>Materials Today Energy</i> , <b>2021</b> , 21, 100717	7	2
8	Strong in-plane scattering of acoustic graphene plasmons by surface atomic steps. <i>Nature Communications</i> , <b>2022</b> , 13, 983	17.4	1
7	Dissipation-enabled hydrodynamic conductivity in a tunable bandgap semiconductor. <i>Science Advances</i> , <b>2022</b> , 8, eabi8481	14.3	1
6	Accurate Measurement of the Gap of Graphene/h-BN Moiré Superlattice through Photocurrent Spectroscopy. <i>Physical Review Letters</i> , <b>2021</b> , 126, 146402	7.4	0
5	Direct observation of widely tunable mid-infrared emission of graphene foam induced by modulated laser diode light. <i>Carbon</i> , <b>2021</b> , 179, 486-492	10.4	0
4	A monolithically sculpted van der Waals nano-opto-electro-mechanical coupler. <i>Light: Science and Applications</i> , <b>2022</b> , 11, 48	16.7	0
3	Tunable multi-bands in twisted double bilayer graphene. <i>2D Materials</i> , <b>2022</b> , 9, 034001	5.9	0
2	Graphene/BN Heterostructures 219-237		

- 1 A top-down cutting method for construction of high-performance fiber-shaped quasi-solid-state asymmetric supercapacitors. *Materials Today Energy*, **2021**, 21, 100758

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