

# Liangbo Liang

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7754949/publications.pdf>

Version: 2024-02-01

106  
papers

10,071  
citations

66234

42  
h-index

33814

99  
g-index

108  
all docs

108  
docs citations

108  
times ranked

14909  
citing authors

#	ARTICLE	IF	CITATIONS
1	Recent Advances in Two-Dimensional Materials beyond Graphene. ACS Nano, 2015, 9, 11509-11539.	7.3	2,069
2	Graphene nanoribbon heterojunctions. Nature Nanotechnology, 2014, 9, 896-900.	15.6	528
3	PdSe <sub>2</sub> : Pentagonal Two-Dimensional Layers with High Air Stability for Electronics. Journal of the American Chemical Society, 2017, 139, 14090-14097.	6.6	509
4	Electronic Bandgap and Edge Reconstruction in Phosphorene Materials. Nano Letters, 2014, 14, 6400-6406.	4.5	459
5	First-principles Raman spectra of MoS <sub>2</sub> , WS <sub>2</sub> and their heterostructures. Nanoscale, 2014, 6, 5394.	2.8	348
6	Anisotropic Electron-Photon and Electron-Phonon Interactions in Black Phosphorus. Nano Letters, 2016, 16, 2260-2267.	4.5	328
7	Raman Shifts in Electron-Irradiated Monolayer MoS <sub>2</sub> . ACS Nano, 2016, 10, 4134-4142.	7.3	311
8	On-Surface Synthesis and Characterization of 9-Atom Wide Armchair Graphene Nanoribbons. ACS Nano, 2017, 11, 1380-1388.	7.3	270
9	A physical catalyst for the electrolysis of nitrogen to ammonia. Science Advances, 2018, 4, e1700336.	4.7	264
10	High-Selectivity Electrochemical Conversion of CO <sub>2</sub> to Ethanol using a Copper Nanoparticle/N-doped Graphene Electrode. ChemistrySelect, 2016, 1, 6055-6061.	0.7	251
11	Ultrathin nanosheets of CrSiTe <sub>3</sub> : a semiconducting two-dimensional ferromagnetic material. Journal of Materials Chemistry C, 2016, 4, 315-322.	2.7	235
12	Probing the Interlayer Coupling of Twisted Bilayer MoS <sub>2</sub> Using Photoluminescence Spectroscopy. Nano Letters, 2014, 14, 5500-5508.	4.5	228
13	Transition-Metal Substitution Doping in Synthetic Atomically Thin Semiconductors. Advanced Materials, 2016, 28, 9735-9743.	11.1	208
14	Low-Frequency Interlayer Breathing Modes in Few-Layer Black Phosphorus. Nano Letters, 2015, 15, 4080-4088.	4.5	182
15	Low-Frequency Shear and Layer-Breathing Modes in Raman Scattering of Two-Dimensional Materials. ACS Nano, 2017, 11, 11777-11802.	7.3	179
16	Molecular Selectivity of Graphene-Enhanced Raman Scattering. Nano Letters, 2015, 15, 2892-2901.	4.5	177
17	Ultrasensitive gas detection of large-area boron-doped graphene. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14527-14532.	3.3	177
18	Low-Frequency Interlayer Raman Modes to Probe Interface of Twisted Bilayer MoS <sub>2</sub> . Nano Letters, 2016, 16, 1435-1444.	4.5	177

#	ARTICLE	IF	CITATIONS
19	Low-Frequency Raman Fingerprints of Two-Dimensional Metal Dichalcogenide Layer Stacking Configurations. ACS Nano, 2015, 9, 6333-6342.	7.3	151
20	Observation of single-defect memristor in an MoS <sub>2</sub> atomic sheet. Nature Nanotechnology, 2021, 16, 58-62.	15.6	148
21	Low Energy Implantation into Transition-Metal Dichalcogenide Monolayers to Form Janus Structures. ACS Nano, 2020, 14, 3896-3906.	7.3	136
22	Enhanced Raman Scattering on In-Plane Anisotropic Layered Materials. Journal of the American Chemical Society, 2015, 137, 15511-15517.	6.6	122
23	Tailoring Vacancies Far Beyond Intrinsic Levels Changes the Carrier Type and Optical Response in Monolayer MoSe <sub>2</sub> Crystals. Nano Letters, 2016, 16, 5213-5220.	4.5	121
24	Twisted MoSe <sub>2</sub> Bilayers with Variable Local Stacking and Interlayer Coupling Revealed by Low-Frequency Raman Spectroscopy. ACS Nano, 2016, 10, 2736-2744.	7.3	117
25	In-Plane Heterojunctions Enable Multiphasic Two-Dimensional (2D) MoS <sub>2</sub> Nanosheets As Efficient Photocatalysts for Hydrogen Evolution from Water Reduction. ACS Catalysis, 2016, 6, 6723-6729.	5.5	116
26	Controlled Sculpture of Black Phosphorus Nanoribbons. ACS Nano, 2016, 10, 5687-5695.	7.3	111
27	The role of collective motion in the ultrafast charge transfer in van der Waals heterostructures. Nature Communications, 2016, 7, 11504.	5.8	103
28	Quasi one-dimensional band dispersion and surface metallization in long-range ordered polymeric wires. Nature Communications, 2016, 7, 10235.	5.8	91
29	Distinct spin <sup>lattice</sup> and spin <sup>phonon</sup> interactions in monolayer magnetic CrI <sub>3</sub> . Physical Chemistry Chemical Physics, 2018, 20, 23546-23555.	1.3	84
30	Nanoforging Single Layer MoSe <sub>2</sub> Through Defect Engineering with Focused Helium Ion Beams. Scientific Reports, 2016, 6, 30481.	1.6	82
31	Enhanced thermoelectric figure of merit in assembled graphene nanoribbons. Physical Review B, 2012, 86, .	1.1	81
32	Surface-Synthesized Graphene Nanoribbons for Room Temperature Switching Devices: Substrate Transfer and <i>ex Situ</i> Characterization. ACS Applied Nano Materials, 2019, 2, 2184-2192.	2.4	75
33	Emergence of Atypical Properties in Assembled Graphene Nanoribbons. Physical Review Letters, 2011, 107, 135501.	2.9	69
34	Aminopolymer functionalization of boron nitride nanosheets for highly efficient capture of carbon dioxide. Journal of Materials Chemistry A, 2017, 5, 16241-16248.	5.2	67
35	A Library of Atomically Thin 2D Materials Featuring the Conductive <sup>Point</sup> Resistive Switching Phenomenon. Advanced Materials, 2021, 33, e2007792.	11.1	67
36	3D Imaging and Manipulation of Subsurface Selenium Vacancies in $\text{PdSe}_2$ . Physical Review Letters, 2018, 121, 086101.	2.9	66

#	ARTICLE	IF	CITATIONS
37	Seamless Staircase Electrical Contact to Semiconducting Graphene Nanoribbons. Nano Letters, 2017, 17, 6241-6247.	4.5	64
38	Anomalous interlayer vibrations in strongly coupled layered PdSe <sub>2</sub> . 2D Materials, 2018, 5, 035016.	2.0	60
39	Controllable conversion of quasi-freestanding polymer chains to graphene nanoribbons. Nature Communications, 2017, 8, 14815.	5.8	58
40	Exploring the air stability of PdSe <sub>2</sub> via electrical transport measurements and defect calculations. Npj 2D Materials and Applications, 2019, 3, .	3.9	55
41	High Conduction Hopping Behavior Induced in Transition Metal Dichalcogenides by Percolating Defect Networks: Toward Atomically Thin Circuits. Advanced Functional Materials, 2017, 27, 1702829.	7.8	52
42	Electronic structure of assembled graphene nanoribbons: Substrate and many-body effects. Physical Review B, 2012, 86, .	1.1	43
43	Isotope-Engineering the Thermal Conductivity of Two-Dimensional MoS <sub>2</sub> . ACS Nano, 2019, 13, 2481-2489.	7.3	42
44	Interlayer bond polarizability model for stacking-dependent low-frequency Raman scattering in layered materials. Nanoscale, 2017, 9, 15340-15355.	2.8	38
45	On-Surface Synthesis and Characterization of Acene-Based Nanoribbons Incorporating Four-Membered Rings. Chemistry - A European Journal, 2019, 25, 12074-12082.	1.7	38
46	High-temperature magnetostructural transition in van der Waals-layered $\text{WTe}_2$ . Physical Review Materials, 2017, 1, .	1.7	37
47	Atomically Precise Graphene Nanoribbon Heterojunctions for Excitonic Solar Cells. Journal of Physical Chemistry C, 2015, 119, 775-783.	1.5	34
48	Anisotropic Electron-Phonon Interactions in Angle-Resolved Raman Study of Strained Black Phosphorus. ACS Nano, 2018, 12, 12512-12522.	7.3	33
49	Electronic and thermoelectric properties of assembled graphene nanoribbons with elastic strain and structural dislocation. Applied Physics Letters, 2013, 102, .	1.5	31
50	Atmospheric and Long-term Aging Effects on the Electrical Properties of Variable Thickness WSe <sub>2</sub> Transistors. ACS Applied Materials & Interfaces, 2018, 10, 36540-36548.	4.0	31
51	Defects in Highly Anisotropic Transition-Metal Dichalcogenide PdSe <sub>2</sub> . Journal of Physical Chemistry Letters, 2020, 11, 740-746.	2.1	28
52	Anomalous vibrational modes in few layer WTe <sub>2</sub> revealed by polarized Raman scattering and first-principles calculations. 2D Materials, 2017, 4, 035024.	2.0	27
53	Engineering Edge States of Graphene Nanoribbons for Narrow-Band Photoluminescence. ACS Nano, 2020, 14, 5090-5098.	7.3	27
54	Elastic, plastic, and fracture mechanisms in graphene materials. Journal of Physics Condensed Matter, 2015, 27, 373002.	0.7	26

#	ARTICLE	IF	CITATIONS
55	Optimized Substrates and Measurement Approaches for Raman Spectroscopy of Graphene Nanoribbons. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1900343.	0.7	26
56	Polytypism in few-layer gallium selenide. <i>Nanoscale</i> , 2020, 12, 8563-8573.	2.8	26
57	Anisotropic Phonon Response of Few-Layer PdSe <sub>2</sub> under Uniaxial Strain. <i>Advanced Functional Materials</i> , 2020, 30, 2003215.	7.8	26
58	Structural and electronic properties of graphitic nanowiggles. <i>Physical Review B</i> , 2012, 85, .	1.1	24
59	Greatly enhanced and controlled manganese photoluminescence in water-soluble ZnCdS:Mn/ZnS core/shell quantum dots. <i>Chemical Physics Letters</i> , 2010, 488, 73-76.	1.2	23
60	Catalytic Dealkylation of Ethers to Alcohols on Metal Surfaces. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 9881-9885.	7.2	23
61	Efficient manganese luminescence induced by Ce <sup>3+</sup> -Mn <sup>2+</sup> energy transfer in rare earth fluoride and phosphate nanocrystals. <i>Nanoscale Research Letters</i> , 2011, 6, 119.	3.1	21
62	Electronic, vibrational, Raman, and scanning tunneling microscopy signatures of two-dimensional boron nanomaterials. <i>Physical Review B</i> , 2016, 94, .	1.1	21
63	Direct Observation of Symmetry-Dependent Electron-Phonon Coupling in Black Phosphorus. <i>Journal of the American Chemical Society</i> , 2019, 141, 18994-19001.	6.6	21
64	Atomically Precise PdSe <sub>2</sub> Pentagonal Nanoribbons. <i>ACS Nano</i> , 2020, 14, 1951-1957.	7.3	21
65	Switching interlayer magnetic order in bilayer CrI <sub>3</sub> by stacking reversal. <i>Nanoscale</i> , 2021, 13, 16172-16181.	2.8	20
66	Electronic, structural, and substrate effect properties of single-layer covalent organic frameworks. <i>Journal of Chemical Physics</i> , 2015, 142, 184708.	1.2	19
67	Electronic characterization of silicon intercalated chevron graphene nanoribbons on Au(111). <i>Chemical Communications</i> , 2018, 54, 1619-1622.	2.2	19
68	Design of Atomically Precise Nanoscale Negative Differential Resistance Devices. <i>Advanced Theory and Simulations</i> , 2019, 2, 1800172.	1.3	18
69	The magnetic, electronic, and light-induced topological properties in two-dimensional hexagonal FeX <sub>2</sub> (X = Cl, Br, I) monolayers. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	18
70	Direct writing of heterostructures in single atomically precise graphene nanoribbons. <i>Physical Review Materials</i> , 2019, 3, .	0.9	18
71	Fabrication of rare-earth/quantum-dot nanocomposites for color-tunable sensing applications. <i>Journal of Nanoparticle Research</i> , 2011, 13, 525-531.	0.8	16
72	Charge carrier transport and separation in pristine and nitrogen-doped graphene nanowiggle heterostructures. <i>Carbon</i> , 2015, 95, 833-842.	5.4	16

#	ARTICLE	IF	CITATIONS
73	Thickness and Spin Dependence of Raman Modes in Magnetic Layered Fe <sub>3</sub> GeTe <sub>2</sub> . Advanced Electronic Materials, 2021, 7, 2001159.	2.6	16
74	Quasiparticle band gaps of graphene nanowiggles and their magnetism on Au(111). Physical Review B, 2013, 88, .	1.1	15
75	Interfacial Properties and Design of Functional Energy Materials. Accounts of Chemical Research, 2014, 47, 3395-3405.	7.6	14
76	Hydro-deoxygenation of CO on functionalized carbon nanotubes for liquid fuels production. Carbon, 2017, 121, 274-284.	5.4	14
77	Role of the third dimension in searching for Majorana fermions in $\hat{\mu}$ via phonons. Physical Review Research, 2022, 4, .		
78	Stabilized Synthesis of 2D Verbeekite: Monoclinic PdSe <sub>2</sub> Crystals with High Mobility and In-Plane Optical and Electrical Anisotropy. ACS Nano, 2022, 16, 13900-13910.	7.3	14
79	Electronic Raman scattering in the 2D antiferromagnet NiPS <sub>3</sub> . Science Advances, 2022, 8, eabl7707.	4.7	13
80	Phonon modes and Raman signatures of $\hat{\mu}$		

#	ARTICLE	IF	CITATIONS
91	First-principles study of the thermodynamic and vibrational properties of $\text{ReS}_2$ under pressure. <i>Physical Review B</i> , 2019, 100, .		
92	Engineering Interlayer Electron-Phonon Coupling in $\text{WS}_2/\text{BN}$ Heterostructures. <i>Nano Letters</i> , 2022, 22, 2725-2733.	4.5	7
93	Photoluminescence Induced by Substitutional Nitrogen in Single-Layer Tungsten Disulfide. <i>ACS Nano</i> , 2022, 16, 7428-7437.	7.3	7
94	Bimodal Fluorescence and Magnetic Resonance Imaging Using Water-Soluble Hexagonal $\text{NaYF}_4:\text{Ce,Tb,Gd}$ Nanocrystals. <i>Journal of Nanomaterials</i> , 2011, 2011, 1-7.	1.5	6
95	Nanoimaging of the Edge-Dependent Optical Polarization Anisotropy of Black Phosphorus. <i>Nano Letters</i> , 2022, 22, 3180-3186.	4.5	6
96	Mesoscale interplay between phonons and crystal electric field excitations in quantum spin liquid candidate $\text{CsYbSe}_2$ . <i>Journal of Materials Chemistry C</i> , 2022, 10, 4148-4156.	2.7	5
97	Vibrational Properties of a Naturally Occurring Semiconducting van der Waals Heterostructure. <i>Journal of Physical Chemistry C</i> , 2021, 125, 21607-21613.	1.5	4
98	Floquet band engineering and topological phase transitions in $1\text{T}'$ transition metal dichalcogenides. <i>2D Materials</i> , 2022, 9, 025005.	2.0	4
99	Modeling the Kondo effect of a magnetic atom adsorbed on graphene. <i>2D Materials</i> , 2019, 6, 035038.	2.0	3
100	The role of mid-gap phonon modes in thermal transport of transition metal dichalcogenides. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 025306.	0.7	3
101	Magnetostriction of $\text{Ir-RuCl}_3$ Flakes in the Zigzag Phase. <i>Journal of Physical Chemistry C</i> , 2021, 125, 25687-25694.	1.5	2
102	Heterospin Junctions in Zigzag-Edged Graphene Nanoribbons. <i>Applied Sciences (Switzerland)</i> , 2014, 4, 351-365.	1.3	1
103	Laser Synthesis, Processing, and Spectroscopy of Atomically-Thin Two Dimensional Materials. <i>Springer Series in Materials Science</i> , 2018, , 1-37.	0.4	1
104	Sodium Controlled Synthesis of Hexagonal-Phase $\text{NaGdF}_4:\text{Yb,Er}$ Nanocrystals with Enhanced Upconversion Fluorescence for Bioimaging. <i>Nanoscience and Nanotechnology Letters</i> , 2015, 7, 121-126.	0.4	0
105	Optical signatures of defects in low temperature Raman and photoluminescence spectra of 2D crystals (Conference Presentation). , 2017, , .		0
106	(Invited) Charge Carrier Transport and Separation in Pristine and Nitrogen-Doped Graphene Nanowiggle Heterostructures. <i>ECS Meeting Abstracts</i> , 2020, MA2020-01, 736-736.	0.0	0