

Guangyu Zhang

List of Publications by Year in descending order

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129
papers

11,162
citations

43973

48
h-index

30010

103
g-index

135
all docs

135
docs citations

135
times ranked

13958
citing authors

#	ARTICLE	IF	CITATIONS
1	Superconductors, orbital magnets and correlated states in magic-angle bilayer graphene. <i>Nature</i> , 2019, 574, 653-657.	13.7	987
2	Epitaxial growth of single-domain graphene on hexagonal boron nitride. <i>Nature Materials</i> , 2013, 12, 792-797.	13.3	882
3	Covalently bonded single-molecule junctions with stable and reversible photoswitched conductivity. <i>Science</i> , 2016, 352, 1443-1445.	6.0	697
4	Wafer-Scale Growth and Transfer of Highly-Oriented Monolayer MoS ₂ Continuous Films. <i>ACS Nano</i> , 2017, 11, 12001-12007.	7.3	397
5	General synthesis of two-dimensional van der Waals heterostructure arrays. <i>Nature</i> , 2020, 579, 368-374.	13.7	393
6	Correlated states in twisted double bilayer graphene. <i>Nature Physics</i> , 2020, 16, 520-525.	6.5	374
7	Argon Plasma Induced Phase Transition in Monolayer MoS ₂ . <i>Journal of the American Chemical Society</i> , 2017, 139, 10216-10219.	6.6	332
8	Ultrafast formation of interlayer hot excitons in atomically thin MoS ₂ /WS ₂ heterostructures. <i>Nature Communications</i> , 2016, 7, 12512.	5.8	313
9	Oxygen-Assisted Chemical Vapor Deposition Growth of Large Single-Crystal and High-Quality Monolayer MoS ₂ . <i>Journal of the American Chemical Society</i> , 2015, 137, 15632-15635.	6.6	301
10	Ultra-sensitive strain sensors based on piezoresistive nanographene films. <i>Applied Physics Letters</i> , 2012, 101, 063112.	1.5	270
11	Scalable Growth of High-Quality Polycrystalline MoS ₂ Monolayers on SiO ₂ with Tunable Grain Sizes. <i>ACS Nano</i> , 2014, 8, 6024-6030.	7.3	263
12	Boundary activated hydrogen evolution reaction on monolayer MoS ₂ . <i>Nature Communications</i> , 2019, 10, 1348.	5.8	263
13	Large-scale flexible and transparent electronics based on monolayer molybdenum disulfide field-effect transistors. <i>Nature Electronics</i> , 2020, 3, 711-717.	13.1	255
14	Current-driven magnetization switching in a van der Waals ferromagnet Fe ₃ GeTe ₂ . <i>Science Advances</i> , 2019, 5, eaaw8904.	4.7	239
15	Observation of Strong Interlayer Coupling in MoS ₂ /WS ₂ Heterostructures. <i>Advanced Materials</i> , 2016, 28, 1950-1956.	11.1	225
16	Catalyst-free growth of nanographene films on various substrates. <i>Nano Research</i> , 2011, 4, 315-321.	5.8	220
17	Graphene-Contacted Ultrashort Channel Monolayer MoS ₂ Transistors. <i>Advanced Materials</i> , 2017, 29, 1702522.	11.1	218
18	Gaps induced by inversion symmetry breaking and second-generation Dirac cones in graphene/hexagonal boron nitride. <i>Nature Physics</i> , 2016, 12, 1111-1115.	6.5	179

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19	Dual-coupling-guided epitaxial growth of wafer-scale single-crystal WS ₂ monolayer on vicinal a-plane sapphire. <i>Nature Nanotechnology</i> , 2022, 17, 33-38.	15.6	171
20	Ultrasensitive Monolayer MoS ₂ Field-Effect Transistor Based DNA Sensors for Screening of Down Syndrome. <i>Nano Letters</i> , 2019, 19, 1437-1444.	4.5	165
21	Wafer-Scale Highly Oriented Monolayer MoS ₂ with Large Domain Sizes. <i>Nano Letters</i> , 2020, 20, 7193-7199.	4.5	160
22	Observation of an intrinsic bandgap and Landau level renormalization in graphene/boron-nitride heterostructures. <i>Nature Communications</i> , 2014, 5, 4461.	5.8	148
23	Thermally Induced Graphene Rotation on Hexagonal Boron Nitride. <i>Physical Review Letters</i> , 2016, 116, 126101.	2.9	142
24	Precise control of the interlayer twist angle in large scale MoS ₂ homostructures. <i>Nature Communications</i> , 2020, 11, 2153.	5.8	142
25	Ultra-low friction and edge-pinning effect in large-lattice-mismatch van der Waals heterostructures. <i>Nature Materials</i> , 2022, 21, 47-53.	13.3	110
26	Side-group chemical gating via reversible optical and electric control in a single molecule transistor. <i>Nature Communications</i> , 2019, 10, 1450.	5.8	96
27	Precisely Aligned Monolayer MoS ₂ Epitaxially Grown on h-BN basal Plane. <i>Small</i> , 2017, 13, 1603005.	5.2	91
28	Twist angle-dependent conductivities across MoS ₂ /graphene heterojunctions. <i>Nature Communications</i> , 2018, 9, 4068.	5.8	90
29	Poly(ethylene oxide) Functionalized Graphene Nanoribbons with Excellent Solution Processability. <i>Journal of the American Chemical Society</i> , 2016, 138, 10136-10139.	6.6	83
30	Stereoelectronic Effect-Induced Conductance Switching in Aromatic Chain Single-Molecule Junctions. <i>Nano Letters</i> , 2017, 17, 856-861.	4.5	76
31	Artificial Synapse Based on van der Waals Heterostructures with Tunable Synaptic Functions for Neuromorphic Computing. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 11945-11954.	4.0	75
32	A robust neuromorphic vision sensor with optical control of ferroelectric switching. <i>Nano Energy</i> , 2021, 89, 106439.	8.2	73
33	Large-scale well aligned carbon nitride nanotube films: Low temperature growth and electron field emission. <i>Journal of Applied Physics</i> , 2001, 89, 5939-5943.	1.1	72
34	Lattice Dynamics, Phonon Chirality, and Spin-Phonon Coupling in 2D Itinerant Ferromagnet Fe ₃ GeTe ₂ . <i>Advanced Functional Materials</i> , 2019, 29, 1904734.	7.8	70
35	Introduction of Interfacial Charges to Black Phosphorus for a Family of Planar Devices. <i>Nano Letters</i> , 2016, 16, 6870-6878.	4.5	69
36	Manipulation of domain-wall solitons in bi- and trilayer graphene. <i>Nature Nanotechnology</i> , 2018, 13, 204-208.	15.6	67

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37	Gate-dependent pseudospin mixing in graphene/boron nitride moiré superlattices. <i>Nature Physics</i> , 2014, 10, 743-747.	6.5	64
38	A graphene Zener-Klein transistor cooled by a hyperbolic substrate. <i>Nature Nanotechnology</i> , 2018, 13, 47-52.	15.6	64
39	From Type-II Triply Degenerate Nodal Points and Three-Band Nodal Rings to Type-II Dirac Points in Centrosymmetric Zirconium Oxide. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 5792-5797.	2.1	61
40	Rolling Up a Monolayer MoS ₂ Sheet. <i>Small</i> , 2016, 12, 3770-3774.	5.2	60
41	Switchable friction enabled by nanoscale self-assembly on graphene. <i>Nature Communications</i> , 2016, 7, 10745.	5.8	59
42	Emergence of Interfacial Polarons from Electron-Phonon Coupling in Graphene/h-BN van der Waals Heterostructures. <i>Nano Letters</i> , 2018, 18, 1082-1087.	4.5	55
43	Studies of graphene-based nanoelectromechanical switches. <i>Nano Research</i> , 2012, 5, 82-87.	5.8	54
44	In Situ Oxygen Doping of Monolayer MoS ₂ for Novel Electronics. <i>Small</i> , 2020, 16, e2004276.	5.2	54
45	A Reliable All-2D Materials Artificial Synapse for High Energy-Efficient Neuromorphic Computing. <i>Advanced Functional Materials</i> , 2021, 31, 2011083.	7.8	53
46	Tuning Charge Transport in Aromatic-Ring Single-Molecule Junctions via Ionic-Liquid Gating. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 14026-14031.	7.2	52
47	Self-assembly of carbon nanohelices: Characteristics and field electron emission properties. <i>Applied Physics Letters</i> , 2004, 84, 2646-2648.	1.5	50
48	New Floating Gate Memory with Excellent Retention Characteristics. <i>Advanced Electronic Materials</i> , 2019, 5, 1800726.	2.6	48
49	Gate-tunable large-scale flexible monolayer MoS ₂ devices for photodetectors and optoelectronic synapses. <i>Nano Research</i> , 2022, 15, 5418-5424.	5.8	48
50	Efficient All-Optical Plasmonic Modulators with Atomically Thin Van Der Waals Heterostructures. <i>Advanced Materials</i> , 2020, 32, e1907105.	11.1	44
51	Robust growth of two-dimensional metal dichalcogenides and their alloys by active chalcogen monomer supply. <i>Nature Communications</i> , 2022, 13, 1007.	5.8	42
52	Modulating PL and electronic structures of MoS ₂ /graphene heterostructures via interlayer twisting angle. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	41
53	Layer-by-layer epitaxy of multi-layer MoS ₂ wafers. <i>National Science Review</i> , 2022, 9, .	4.6	41
54	Integrated Flexible and High-Quality Thin Film Transistors Based on Monolayer MoS ₂ . <i>Advanced Electronic Materials</i> , 2016, 2, 1500379.	2.6	40

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55	Enhancing and controlling valley magnetic response in MoS ₂ /WS ₂ heterostructures by all-optical route. <i>Nature Communications</i> , 2019, 10, 4226.	5.8	38
56	Static and Dynamic Piezopotential Modulation in Piezo-Electret Gated MoS ₂ Field-Effect Transistor. <i>ACS Nano</i> , 2019, 13, 582-590.	7.3	38
57	Hofstadter Butterfly and Many-Body Effects in Epitaxial Graphene Superlattice. <i>Nano Letters</i> , 2016, 16, 2387-2392.	4.5	36
58	Vapour-phase graphene epitaxy at low temperatures. <i>Nano Research</i> , 2012, 5, 258-264.	5.8	35
59	Electrical Control of Interband Resonant Nonlinear Optics in Monolayer MoS ₂ . <i>ACS Nano</i> , 2020, 14, 8442-8448.	7.3	34
60	Giant anisotropic photonics in the 1D van der Waals semiconductor fibrous red phosphorus. <i>Nature Communications</i> , 2021, 12, 4822.	5.8	32
61	Patterned Peeling 2D MoS ₂ off the Substrate. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 16546-16550.	4.0	30
62	Strongly enhanced exciton-phonon coupling in two-dimensional WS_2 . <i>Physical Review B</i> , 2018, 97, .	1.1	30
63	Wafer-scale Oxygen-doped MoS ₂ Monolayer. <i>Small Methods</i> , 2021, 5, e2100091.	4.6	30
64	Twist-Angle-Dependent Ultrafast Charge Transfer in MoS ₂ -Graphene van der Waals Heterostructures. <i>Nano Letters</i> , 2021, 21, 8051-8057.	4.5	30
65	Emergence of Tertiary Dirac Points in Graphene Moiré Superlattices. <i>Nano Letters</i> , 2017, 17, 3576-3581.	4.5	28
66	Magnetotransport Properties of Graphene Nanoribbons with Zigzag Edges. <i>Physical Review Letters</i> , 2018, 120, 216601.	2.9	28
67	2D proximate quantum spin liquid state in atomic-thin RuCl_3 . <i>2D Materials</i> , 2019, 6, 015014.	2.0	28
68	Thermally Activated Tunneling Transition in a Photoswitchable Single-Molecule Electrical Junction. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 2849-2854.	2.1	27
69	Robust spin-valley polarization in commensurate MoS_2 /graphene heterostructures. <i>Physical Review B</i> , 2018, 97, .	1.1	27
70	Exchange bias and spin-orbit torque in the Fe ₃ GeTe ₂ -based heterostructures prepared by vacuum exfoliation approach. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	27
71	Graphene: Nanostructure engineering and applications. <i>Frontiers of Physics</i> , 2017, 12, 1.	2.4	26
72	Bandgap broadening at grain boundaries in single-layer MoS ₂ . <i>Nano Research</i> , 2018, 11, 6102-6109.	5.8	26

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73	Atomic Layer Deposition of Al ₂ O ₃ Directly on 2D Materials for High-Performance Electronics. <i>Advanced Materials Interfaces</i> , 2019, 6, 1802055.	1.9	25
74	Ultrashort Vertical-Channel van der Waals Semiconductor Transistors. <i>Advanced Science</i> , 2020, 7, 1902964.	5.6	24
75	Temperature-driven evolution of critical points, interlayer coupling, and layer polarization in bilayer Spin-Torque Ferromagnetic Resonance in MoS ₂ . <i>Nature Communications</i> , 2020, 11, 12345.	1.1	23
76	Weakened interlayer coupling in two-dimensional MoSe ₂ flakes with screw dislocations. <i>Nano Research</i> , 2019, 12, 1900-1905.	5.8	23
77	Ultra-high-resolution scanning microwave impedance microscopy of moiré lattices and superstructures. <i>Science Advances</i> , 2020, 6, .	4.7	23
78	Investigation on interface related charge trap and loss characteristics of high-k based trapping structures by electrostatic force microscopy. <i>Applied Physics Letters</i> , 2011, 99, 223504.	1.5	22
79	Tuning Charge Transport in Aromatic Ring Single-Molecule Junctions via Ionic-Liquid Gating. <i>Angewandte Chemie</i> , 2018, 130, 14222-14227.	1.6	22
80	Simultaneous generation of direct- and indirect-gap photoluminescence in multilayer MoS ₂ bubbles. <i>Physical Review Materials</i> , 2020, 4, .	1.5	20
81	Competitive Growth and Etching of Epitaxial Graphene. <i>Journal of Physical Chemistry C</i> , 2012, 116, 26929-26931.	1.5	20
82	Carbon-based spintronics. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013, 56, 207-221.	2.0	20
83	Fabrication of high-quality all-graphene devices with low contact resistances. <i>Nano Research</i> , 2014, 7, 1449-1456.	5.8	20
84	Vertical Integration of 2D Building Blocks for All-2D Electronics. <i>Advanced Electronic Materials</i> , 2020, 6, 2000550.	2.6	20
85	Isospin competitions and valley polarized correlated insulators in twisted double bilayer graphene. <i>Nature Communications</i> , 2022, 13, .	5.8	20
86	The Effect of Twin Grain Boundary Tuned by Temperature on the Electrical Transport Properties of Monolayer MoS ₂ . <i>Crystals</i> , 2016, 6, 115.	1.0	18
87	Structural superlubricity in 2D van der Waals heterojunctions. <i>Nanotechnology</i> , 2022, 33, 102002.	1.3	18
88	Strong and tunable interlayer coupling of infrared-active phonons to excitons in van der Waals heterostructures. <i>Physical Review B</i> , 2019, 99, .	1.1	17
89	Giant Valley Coherence at Room Temperature in 3R WS ₂ with Broken Inversion Symmetry. <i>Research</i> , 2019, 2019, 6494565.	2.8	17

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91	Imaging gate-tunable Tomonaga-Luttinger liquids in 1H-MoSe ₂ mirror twin boundaries. Nature Materials, 2022, 21, 748-753.	13.3	17
92	Strongly distinct electrical response between circular and valley polarization in bilayer transition metal dichalcogenides. Physical Review B, 2019, 99, .	1.1	16
93	Atomically Precise Engineering of Single-Molecule Stereoelectronic Effect. Angewandte Chemie - International Edition, 2021, 60, 12274-12278.	7.2	16
94	Noise in Graphene Superlattices Grown on Hexagonal Boron Nitride. ACS Nano, 2015, 9, 11382-11388.	7.3	15
95	Electronic structure of exfoliated millimeter-sized monolayer WSe ₂ on silicon wafer. Nano Research, 2019, 12, 3095-3100.	5.8	15
96	Control of Unipolar/Ambipolar Transport in Single-Molecule Transistors through Interface Engineering. Advanced Electronic Materials, 2020, 6, 1901237.	2.6	14
97	Skin-Inspired High-Performance Active-Matrix Circuitry for Multimodal User-Interaction. Advanced Functional Materials, 2021, 31, 2105480.	7.8	14
98	One-Step Growth of Spatially Graded Mo _{1-x} W _x S ₂ Monolayers with a Wide Span in Composition (from $x = 0$ to 1) at a Large Scale. ACS Applied Materials & Interfaces, 2019, 11, 20979-20986.	4.0	12
99	Identification of dominant scattering mechanism in epitaxial graphene on SiC. Applied Physics Letters, 2014, 104, .	1.5	11
100	Robust circular polarization of indirect Q-K transitions in bilayer $W_3R_2S_2$ Monolayers with a Wide Span in Composition (from $x = 0$ to 1) at a Large Scale. ACS Applied Materials & Interfaces, 2019, 10, .	1.1	11
101	Monolayer MoS ₂ epitaxy. Nano Research, 2021, 14, 1598-1608.	5.8	11
102	Spatially indirect intervalley excitons in bilayer W_3Se_2 Monolayers with a Wide Span in Composition (from $x = 0$ to 1) at a Large Scale. Physical Review B, 2022, 105, .	1.1	11
103	Free-Standing Single-Molecule Thick Crystals Consisting of Linear Long-Chain Polymers. Nano Letters, 2017, 17, 1655-1659.	4.5	10
104	Interlayer exciton complexes in bilayer MoS_2 Monolayers with a Wide Span in Composition (from $x = 0$ to 1) at a Large Scale. Physical Review B, 2022, 105, .	1.1	10
105	Band evolution of two-dimensional transition metal dichalcogenides under electric fields. Applied Physics Letters, 2019, 115, 083104.	1.5	9
106	Nonvolatile Memory: New Floating Gate Memory with Excellent Retention Characteristics (Adv.) Tj ETQq0 0 0 rgBT JOverlock 10 Tf 50 1	2.6	8
107	Highly Stretchable MoS ₂ -Based Transistors with Opto-Synaptic Functionalities. Advanced Electronic Materials, 2022, 8, .	2.6	8
108	Anisotropic Charge-Carrier Transport in High-Mobility Donor-Acceptor Conjugated Polymer Semiconductor Films. Chemistry - an Asian Journal, 2016, 11, 2725-2729.	1.7	7

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109	High-order minibands and interband Landau level reconstruction in graphene moiré superlattices. <i>Physical Review B</i> , 2020, 102, .	1.1	7
110	Fabrication and Functioning of Magnetically Gated PET Nanochannels. <i>ChemNanoMat</i> , 2020, 6, 1075-1079.	1.5	7
111	Anomalous anisotropic magnetoresistance effects in graphene. <i>AIP Advances</i> , 2014, 4, 097101.	0.6	6
112	Observation of logarithmic Kohn anomaly in monolayer graphene. <i>Physical Review B</i> , 2020, 102, .	1.1	6
113	Enhanced critical field and anomalous metallic state in two-dimensional centrosymmetric WTe_2 . <i>Physical Review B</i> , 2022, 105, .	1.1	6
114	The interface of epitaxial nanographene on GaN by PECVD. <i>AIP Advances</i> , 2019, 9, 095060.	0.6	5
115	Determining Quasiparticle Bandgap of Two-Dimensional Transition Metal Dichalcogenides by Observation of Hot Carrier Relaxation Dynamics. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 585-591.	2.1	4
116	Real-space detection and manipulation of two-dimensional quantum well states in few-layer MoS_2 . <i>Physical Review B</i> , 2022, 105, .	1.1	4
117	Persistence of Monoclinic Crystal Structure in 3D Second-Order Topological Insulator Candidate Te_2MoTe_3 Thin Flake Without Structural Phase Transition. <i>Advanced Science</i> , 2022, 9, 2101532.	5.6	4
118	Repairable Polymer Solid Electrolyte Gated MoS_2 Field Effect Devices with Large Radiation Tolerance. <i>Advanced Electronic Materials</i> , 2022, 8, 2100619.	2.6	3
119	Experimental evidence of plasmarons and effective fine structure constant in electron-doped graphene/h-BN heterostructure. <i>Npj Quantum Materials</i> , 2021, 6, .	1.8	3
120	Atomic Layer Deposition: Atomic Layer Deposition of Al_2O_3 Directly on 2D Materials for High-Performance Electronics (<i>Adv. Mater. Interfaces</i> 10/2019). <i>Advanced Materials Interfaces</i> , 2019, 6, 1970065.	1.9	2
121	Artificial Synapses: A Reliable All-2D Materials Artificial Synapse for High Energy-Efficient Neuromorphic Computing (<i>Adv. Funct. Mater.</i> 27/2021). <i>Advanced Functional Materials</i> , 2021, 31, 2170197.	7.8	2
122	Rail-to-Rail MoS_2 Inverters. <i>ACS Applied Electronic Materials</i> , 2022, 4, 2636-2640.	2.0	2
123	High turnover and rescue effect of XRCC1 in response to heavy charged particle radiation. <i>Biophysical Journal</i> , 2022, , .	0.2	1
124	Investigation of charge trap and loss characteristics for charge trap memory by electrostatic force microscopy. , 2011, , .		0
125	High Performance MAHAHOS Memory Devices: Charge Trapping and Distribution in Bandgap Engineered Structure. , 2012, , .		0
126	Frontispiz: Tuning Charge Transport in Aromatic-Ring Single-Molecule Junctions via Ionic-Liquid Gating. <i>Angewandte Chemie</i> , 2018, 130, .	1.6	0

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127	Frontispiece: Tuning Charge Transport in Aromatic-Ring Single-Molecule Junctions via Ionic-Liquid Gating. <i>Angewandte Chemie - International Edition</i> , 2018, 57, .	7.2	0
128	Inside Back Cover: Wafer-Scale Oxygen-Doped MoS ₂ Monolayer (Small Methods 6/2021). <i>Small Methods</i> , 2021, 5, 2170026.	4.6	0
129	Hot-Pressed Two-Dimensional Amorphous Metals and Their Electronic Properties. <i>Crystals</i> , 2022, 12, 616.	1.0	0