

Guangyu Zhang

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

118
papers

7,144
citations

39
h-index

83
g-index

135
ext. papers

9,074
ext. citations

11.4
avg, IF

5.73
L-index

#	Paper	IF	Citations
118	Spatially indirect intervalley excitons in bilayer WSe ₂ . <i>Physical Review B</i> , 2022 , 105,	3.3	2
117	Interlayer exciton complexes in bilayer MoS ₂ . <i>Physical Review B</i> , 2022 , 105,	3.3	3
116	Robust growth of two-dimensional metal dichalcogenides and their alloys by active chalcogen monomer supply.. <i>Nature Communications</i> , 2022 , 13, 1007	17.4	3
115	Hot-Pressed Two-Dimensional Amorphous Metals and Their Electronic Properties. <i>Crystals</i> , 2022 , 12, 616	2.3	
114	Dual-coupling-guided epitaxial growth of wafer-scale single-crystal WS monolayer on vicinal a-plane sapphire. <i>Nature Nanotechnology</i> , 2021 ,	28.7	31
113	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	6.4	1
112	A Reliable All-2D Materials Artificial Synapse for High Energy-Efficient Neuromorphic Computing. <i>Advanced Functional Materials</i> , 2021 , 31, 2011083	15.6	20
111	Wafer-Scale Oxygen-Doped MoS Monolayer.. <i>Small Methods</i> , 2021 , 5, e2100091	12.8	6
110	Atomically Precise Engineering of Single-Molecule Stereoelectronic Effect. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 12274-12278	16.4	6
109	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, 262406	3.4	6
108	Inside Back Cover: Wafer-Scale Oxygen-Doped MoS ₂ Monolayer (Small Methods 6/2021). <i>Small Methods</i> , 2021 , 5, 2170026	12.8	
107	Artificial Synapses: A Reliable All-2D Materials Artificial Synapse for High Energy-Efficient Neuromorphic Computing (Adv. Funct. Mater. 27/2021). <i>Advanced Functional Materials</i> , 2021 , 31, 2170197	15.6	1
106	Monolayer MoS ₂ epitaxy. <i>Nano Research</i> , 2021 , 14, 1598-1608	10	4
105	Skin-Inspired High-Performance Active-Matrix Circuitry for Multimodal User-Interaction. <i>Advanced Functional Materials</i> , 2021 , 31, 2105480	15.6	3
104	Giant anisotropic photonics in the 1D van der Waals semiconductor fibrous red phosphorus. <i>Nature Communications</i> , 2021 , 12, 4822	17.4	7
103	Ultra-low friction and edge-pinning effect in large-lattice-mismatch van der Waals heterostructures. <i>Nature Materials</i> , 2021 ,	27	21
102	Twist-Angle-Dependent Ultrafast Charge Transfer in MoS-Graphene van der Waals Heterostructures. <i>Nano Letters</i> , 2021 , 21, 8051-8057	11.5	8

101	A robust neuromorphic vision sensor with optical control of ferroelectric switching. <i>Nano Energy</i> , 2021 , 89, 106439	17.1	16
100	Persistence of Monoclinic Crystal Structure in 3D Second-Order Topological Insulator Candidate 1TSMoTe Thin Flake Without Structural Phase Transition.. <i>Advanced Science</i> , 2021 , e2101532	13.6	1
99	Ultrahigh-resolution scanning microwave impedance microscopy of moiré lattices and superstructures. <i>Science Advances</i> , 2020 , 6,	14.3	11
98	General synthesis of two-dimensional van der Waals heterostructure arrays. <i>Nature</i> , 2020 , 579, 368-374	50.4	195
97	Correlated states in twisted double bilayer graphene. <i>Nature Physics</i> , 2020 , 16, 520-525	16.2	194
96	Electrical Control of Interband Resonant Nonlinear Optics in Monolayer MoS. <i>ACS Nano</i> , 2020 , 14, 8442-8448	8.4	18
95	High-order minibands and interband Landau level reconstruction in graphene moiré superlattices. <i>Physical Review B</i> , 2020 , 102,	3.3	1
94	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	9.5	43
93	Efficient All-Optical Plasmonic Modulators with Atomically Thin Van Der Waals Heterostructures. <i>Advanced Materials</i> , 2020 , 32, e1907105	24	24
92	Precise control of the interlayer twist angle in large scale MoS homostructures. <i>Nature Communications</i> , 2020 , 11, 2153	17.4	55
91	Fabrication and Functioning of Magnetically Gated PET Nanochannels. <i>ChemNanoMat</i> , 2020 , 6, 1075-1079	3.5	3
90	Simultaneous generation of direct- and indirect-gap photoluminescence in multilayer MoS ₂ bubbles. <i>Physical Review Materials</i> , 2020 , 4,	3.2	8
89	Ultrashort Vertical-Channel van der Waals Semiconductor Transistors. <i>Advanced Science</i> , 2020 , 7, 1902964	4.6	10
88	Vertical Integration of 2D Building Blocks for All-2D Electronics. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000550	6.4	10
87	Observation of logarithmic Kohn anomaly in monolayer graphene. <i>Physical Review B</i> , 2020 , 102,	3.3	3
86	In Situ Oxygen Doping of Monolayer MoS for Novel Electronics. <i>Small</i> , 2020 , 16, e2004276	11	21
85	Large-scale flexible and transparent electronics based on monolayer molybdenum disulfide field-effect transistors. <i>Nature Electronics</i> , 2020 , 3, 711-717	28.4	90
84	Wafer-Scale Highly Oriented Monolayer MoS with Large Domain Sizes. <i>Nano Letters</i> , 2020 , 20, 7193-7199	11.5	69

83	Control of Unipolar/Ambipolar Transport in Single-Molecule Transistors through Interface Engineering. <i>Advanced Electronic Materials</i> , 2020 , 6, 1901237	6.4	13
82	Current-driven magnetization switching in a van der Waals ferromagnet FeGeTe. <i>Science Advances</i> , 2019 , 5, eaaw8904	14.3	119
81	Enhancing and controlling valley magnetic response in MoS/WS heterostructures by all-optical route. <i>Nature Communications</i> , 2019 , 10, 4226	17.4	20
80	Weakened interlayer coupling in two-dimensional MoSe ₂ flakes with screw dislocations. <i>Nano Research</i> , 2019 , 12, 1900-1905	10	15
79	Atomic Layer Deposition: Atomic Layer Deposition of Al ₂ O ₃ Directly on 2D Materials for High-Performance Electronics (Adv. Mater. Interfaces 10/2019). <i>Advanced Materials Interfaces</i> , 2019 , 6, 1970065	4.6	1
78	One-Step Growth of Spatially Graded MoW S Monolayers with a Wide Span in Composition (from x = 0 to 1) at a Large Scale. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 20979-20986	9.5	7
77	Strongly distinct electrical response between circular and valley polarization in bilayer transition metal dichalcogenides. <i>Physical Review B</i> , 2019 , 99,	3.3	10
76	Strong and tunable interlayer coupling of infrared-active phonons to excitons in van der Waals heterostructures. <i>Physical Review B</i> , 2019 , 99,	3.3	6
75	Boundary activated hydrogen evolution reaction on monolayer MoS. <i>Nature Communications</i> , 2019 , 10, 1348	17.4	168
74	Atomic Layer Deposition of Al ₂ O ₃ Directly on 2D Materials for High-Performance Electronics. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1802055	4.6	14
73	Nonvolatile Memory: New Floating Gate Memory with Excellent Retention Characteristics (Adv. Electron. Mater. 4/2019). <i>Advanced Electronic Materials</i> , 2019 , 5, 1970018	6.4	3
72	Side-group chemical gating via reversible optical and electric control in a single molecule transistor. <i>Nature Communications</i> , 2019 , 10, 1450	17.4	53
71	Band evolution of two-dimensional transition metal dichalcogenides under electric fields. <i>Applied Physics Letters</i> , 2019 , 115, 083104	3.4	4
70	The interface of epitaxial nanographene on GaN by PECVD. <i>AIP Advances</i> , 2019 , 9, 095060	1.5	3
69	Robust circular polarization of indirect Q-K transitions in bilayer 3RWS ₂ . <i>Physical Review B</i> , 2019 , 100,	3.3	7
68	Electronic structure of exfoliated millimeter-sized monolayer WSe ₂ on silicon wafer. <i>Nano Research</i> , 2019 , 12, 3095-3100	10	9
67	Lattice Dynamics, Phonon Chirality, and SpinPhonon Coupling in 2D Itinerant Ferromagnet Fe ₃ GeTe ₂ . <i>Advanced Functional Materials</i> , 2019 , 29, 1904734	15.6	33
66	Giant Valley Coherence at Room Temperature in 3R WS with Broken Inversion Symmetry. <i>Research</i> , 2019 , 2019, 6494565	7.8	7

65	Ultrasensitive Monolayer MoS Field-Effect Transistor Based DNA Sensors for Screening of Down Syndrome. <i>Nano Letters</i> , 2019 , 19, 1437-1444	11.5	103
64	Superconductors, orbital magnets and correlated states in magic-angle bilayer graphene. <i>Nature</i> , 2019 , 574, 653-657	50.4	490
63	Static and Dynamic Piezopotential Modulation in Piezo-Electret Gated MoS Field-Effect Transistor. <i>ACS Nano</i> , 2019 , 13, 582-590	16.7	26
62	2D proximate quantum spin liquid state in atomic-thin RuCl_3 . <i>2D Materials</i> , 2019 , 6, 015014	5.9	16
61	New Floating Gate Memory with Excellent Retention Characteristics. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800726	6.4	25
60	Temperature-driven evolution of critical points, interlayer coupling, and layer polarization in bilayer MoS ₂ . <i>Physical Review B</i> , 2018 , 97,	3.3	18
59	Manipulation of domain-wall solitons in bi- and trilayer graphene. <i>Nature Nanotechnology</i> , 2018 , 13, 204-209	20.9	44
58	Emergence of Interfacial Polarons from Electron-Phonon Coupling in Graphene/h-BN van der Waals Heterostructures. <i>Nano Letters</i> , 2018 , 18, 1082-1087	11.5	36
57	Robust spin-valley polarization in commensurate MoS ₂ /graphene heterostructures. <i>Physical Review B</i> , 2018 , 97,	3.3	20
56	Bandgap broadening at grain boundaries in single-layer MoS ₂ . <i>Nano Research</i> , 2018 , 11, 6102-6109	10	17
55	A graphene Zener-Klein transistor cooled by a hyperbolic substrate. <i>Nature Nanotechnology</i> , 2018 , 13, 47-52	28.7	43
54	Spin-Torque Ferromagnetic Resonance in W/CoFeB/W/CoFeB/MgO Stacks. <i>Physical Review Applied</i> , 2018 , 10,	4.3	15
53	Tuning Charge Transport in Aromatic-Ring Single-Molecule Junctions via Ionic-Liquid Gating. <i>Angewandte Chemie</i> , 2018 , 130, 14222-14227	3.6	18
52	Twist angle-dependent conductivities across MoS/graphene heterojunctions. <i>Nature Communications</i> , 2018 , 9, 4068	17.4	59
51	Tuning Charge Transport in Aromatic-Ring Single-Molecule Junctions via Ionic-Liquid Gating. <i>Angewandte Chemie - International Edition</i> , 2018 , 57, 14026-14031	16.4	36
50	Magnetotransport Properties of Graphene Nanoribbons with Zigzag Edges. <i>Physical Review Letters</i> , 2018 , 120, 216601	7.4	19
49	Strongly enhanced exciton-phonon coupling in two-dimensional WSe ₂ . <i>Physical Review B</i> , 2018 , 97,	3.3	21
48	Stereoelectronic Effect-Induced Conductance Switching in Aromatic Chain Single-Molecule Junctions. <i>Nano Letters</i> , 2017 , 17, 856-861	11.5	55

47	Graphene: Nanostructure engineering and applications. <i>Frontiers of Physics</i> , 2017 , 12, 1	3.7	18
46	Free-Standing Single-Molecule Thick Crystals Consisting of Linear Long-Chain Polymers. <i>Nano Letters</i> , 2017 , 17, 1655-1659	11.5	7
45	Emergence of Tertiary Dirac Points in Graphene Moiré Superlattices. <i>Nano Letters</i> , 2017 , 17, 3576-3581	11.5	16
44	Thermally Activated Tunneling Transition in a Photoswitchable Single-Molecule Electrical Junction. <i>Journal of Physical Chemistry Letters</i> , 2017 , 8, 2849-2854	6.4	18
43	Precisely Aligned Monolayer MoS Epitaxially Grown on h-BN basal Plane. <i>Small</i> , 2017 , 13, 1603005	11	73
42	Argon Plasma Induced Phase Transition in Monolayer MoS. <i>Journal of the American Chemical Society</i> , 2017 , 139, 10216-10219	16.4	234
41	Graphene-Contacted Ultrashort Channel Monolayer MoS Transistors. <i>Advanced Materials</i> , 2017 , 29, 1702522	24	144
40	Highly Sensitive MoS Humidity Sensors Array for Noncontact Sensation. <i>Advanced Materials</i> , 2017 , 29, 1702076	24	223
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	6.4	49
38	Wafer-Scale Growth and Transfer of Highly-Oriented Monolayer MoS Continuous Films. <i>ACS Nano</i> , 2017 , 11, 12001-12007	16.7	264
37	Modulating PL and electronic structures of MoS ₂ /graphene heterostructures via interlayer twisting angle. <i>Applied Physics Letters</i> , 2017 , 111, 263106	3.4	31
36	Gaps induced by inversion symmetry breaking and second-generation Dirac cones in graphene/hexagonal boron nitride. <i>Nature Physics</i> , 2016 , 12, 1111-1115	16.2	136
35	Thermally Induced Graphene Rotation on Hexagonal Boron Nitride. <i>Physical Review Letters</i> , 2016 , 116, 126101	7.4	103
34	Introduction of Interfacial Charges to Black Phosphorus for a Family of Planar Devices. <i>Nano Letters</i> , 2016 , 16, 6870-6878	11.5	60
33	Ultrafast formation of interlayer hot excitons in atomically thin MoS ₂ /WS ₂ heterostructures. <i>Nature Communications</i> , 2016 , 7, 12512	17.4	240
32	Observation of Strong Interlayer Coupling in MoS ₂ /WS ₂ Heterostructures. <i>Advanced Materials</i> , 2016 , 28, 1950-6	24	172
31	Patterned Peeling 2D MoS ₂ off the Substrate. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 16546-509.5	9.5	28
30	Covalently bonded single-molecule junctions with stable and reversible photoswitched conductivity. <i>Science</i> , 2016 , 352, 1443-5	33.3	529

29	Integrated Flexible and High-Quality Thin Film Transistors Based on Monolayer MoS ₂ . <i>Advanced Electronic Materials</i> , 2016 , 2, 1500379	6.4	37
28	Hofstadter Butterfly and Many-Body Effects in Epitaxial Graphene Superlattice. <i>Nano Letters</i> , 2016 , 16, 2387-92	11.5	25
27	The Effect of Twin Grain Boundary Tuned by Temperature on the Electrical Transport Properties of Monolayer MoS ₂ . <i>Crystals</i> , 2016 , 6, 115	2.3	15
26	Rolling Up a Monolayer MoS ₂ Sheet. <i>Small</i> , 2016 , 12, 3770-4	11	39
25	Anisotropic Charge-Carrier Transport in High-Mobility Donor-Acceptor Conjugated Polymer Semiconductor Films. <i>Chemistry - an Asian Journal</i> , 2016 , 11, 2725-2729	4.5	4
24	Switchable friction enabled by nanoscale self-assembly on graphene. <i>Nature Communications</i> , 2016 , 7, 10745	17.4	40
23	Poly(ethylene oxide) Functionalized Graphene Nanoribbons with Excellent Solution Processability. <i>Journal of the American Chemical Society</i> , 2016 , 138, 10136-9	16.4	63
22	Noise in Graphene Superlattices Grown on Hexagonal Boron Nitride. <i>ACS Nano</i> , 2015 , 9, 11382-8	16.7	13
21	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, 15632-5	16.4	243
20	Scalable growth of high-quality polycrystalline MoS ₂ monolayers on SiO ₂ with tunable grain sizes. <i>ACS Nano</i> , 2014 , 8, 6024-30	16.7	233
19	Observation of an intrinsic bandgap and Landau level renormalization in graphene/boron-nitride heterostructures. <i>Nature Communications</i> , 2014 , 5, 4461	17.4	122
18	Gate-dependent pseudospin mixing in graphene/boron nitride moiré superlattices. <i>Nature Physics</i> , 2014 , 10, 743-747	16.2	53
17	Fabrication of high-quality all-graphene devices with low contact resistances. <i>Nano Research</i> , 2014 , 7, 1449-1456	10	14
16	Identification of dominant scattering mechanism in epitaxial graphene on SiC. <i>Applied Physics Letters</i> , 2014 , 104, 183102	3.4	11
15	Anomalous anisotropic magnetoresistance effects in graphene. <i>AIP Advances</i> , 2014 , 4, 097101	1.5	5
14	Epitaxial growth of single-domain graphene on hexagonal boron nitride. <i>Nature Materials</i> , 2013 , 12, 792-797	17	745
13	Carbon-based spintronics. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013 , 56, 207-221	3.6	14
12	Studies of graphene-based nanoelectromechanical switches. <i>Nano Research</i> , 2012 , 5, 82-87	10	46

11	Ultra-sensitive strain sensors based on piezoresistive nanographene films. <i>Applied Physics Letters</i> , 2012 , 101, 063112	3.4	244
10	Competitive Growth and Etching of Epitaxial Graphene. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 26929-26931	3.4	18
9	Vapour-phase graphene epitaxy at low temperatures. <i>Nano Research</i> , 2012 , 5, 258-264	10	30
8	Catalyst-free growth of nanographene films on various substrates. <i>Nano Research</i> , 2011 , 4, 315-321	10	192
7	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	3.4	18
6	Self-assembly of carbon nanohelices: Characteristics and field electron emission properties. <i>Applied Physics Letters</i> , 2004 , 84, 2646-2648	3.4	49
5	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	2.5	67
4	Repairable Polymer Solid Electrolyte Gated MoS ₂ Field Effect Devices with Large Radiation Tolerance. <i>Advanced Electronic Materials</i> , 2100619	6.4	
3	Gate-tunable large-scale flexible monolayer MoS ₂ devices for photodetectors and optoelectronic synapses. <i>Nano Research</i> , 1	10	6
2	Highly Stretchable MoS ₂ -Based Transistors with Opto-Synaptic Functionalities. <i>Advanced Electronic Materials</i> , 2200238	6.4	1
1	Rail-to-Rail MoS ₂ Inverters. <i>ACS Applied Electronic Materials</i> ,	4	