

Zhenyu Zhang

List of Publications by Year in descending order

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109137

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#	ARTICLE	IF	CITATIONS
1	Negative Differential Friction Predicted in 2D Ferroelectric In ₂ Se ₃ Commensurate Contacts. <i>Advanced Science</i> , 2022, 9, e2103443.	5.6	12
2	Riding on bifurcating Berry curvatures into reentrant quantum anomalous Hall states. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	2.0	1
3	Synergetic Charge Transfer and Spin Selection in CO Oxidation at Neighboring Magnetic Single-Atom Catalyst Sites. <i>Nano Letters</i> , 2022, 22, 3744-3750.	4.5	27
4	Correlation-enhanced electron-phonon coupling for accurate evaluation of the superconducting transition temperature in bulk FeSe. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	2.0	5
5	Emergent optical plasmons at the surface of a doped three-dimensional topological insulator. <i>Physical Review B</i> , 2022, 105, .	1.1	1
6	Coexistence of Robust Edge States and Superconductivity in Few-Layer Stanene. <i>Physical Review Letters</i> , 2022, 128, .	2.9	11
7	Emergent plasmonic excitations in Mexican-hat and bell-shaped bands of hybridized Dirac electrons in graphene/topological insulator heterostructures. <i>Physical Review B</i> , 2022, 105, .	1.1	0
8	Chiral topological superconducting state with Chern number C in Cu_2S . <i>Physical Review B</i> , 2022, 105, .	1.1	6
9	Coexistence of Superconductivity and Nontrivial Band Topology in Monolayered Cobalt Pnictides on SrTiO ₃ . <i>Nano Letters</i> , 2021, 21, 7396-7404.	4.5	3
10	Elimination of Grain Boundaries in Graphene Growth on a Cu-Ni Alloyed Substrate by Chemical Vapor Deposition. <i>Journal of Physical Chemistry C</i> , 2021, 125, 18217-18224.	1.5	2
11	Prediction of a Kinetic Pathway for Fabricating the Narrowest Zigzag Graphene Nanoribbons on Cu(111). <i>Journal of Physical Chemistry C</i> , 2021, 125, 21933-21942.	1.5	1
12	Electronic structure and signature of Tomonaga-Luttinger liquid state in epitaxial CoSb1-x nanoribbons. <i>Npj Quantum Materials</i> , 2021, 6, .	1.8	3
13	Spontaneous surface plasmon polariton decay of band-edge excitons in quantum dots near a metal surface. <i>Physical Review B</i> , 2021, 103, .	1.1	3
14	Equally Spaced Quantum States in van der Waals Epitaxy-Grown Nanoislands. <i>Nano Letters</i> , 2021, 21, 9285-9292.	4.5	1
15	Sustaining charge-neutral or charged supercurrents in excitonic Josephson junctions based on graphene heterostructures. <i>Physical Review B</i> , 2021, 104, .	1.1	2
16	High-temperature superconductivity in monolayer FeSe on SrTiO ₃ and related systems mediated by low energy plasmons. <i>Physical Review B</i> , 2021, 104, .	1.1	3
17	Higher-order topological insulators in two-dimensional Dirac materials. <i>Physical Review Research</i> , 2021, 3, .	1.3	16
18	Epitaxial growth of black phosphorene enabled on black-phosphorene-like group IV-VI substrates. <i>Physical Review B</i> , 2021, 104, .	1.1	3

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19	Dirac fermions in antiferromagnetic FeSn kagome lattices with combined space inversion and time-reversal symmetry. <i>Physical Review B</i> , 2020, 102, .	1.1	52
20	Precise Tuning of Band Structures and Electron Correlations by van der Waals Stacking of One-dimensional W6Te6 Wires. <i>Nano Letters</i> , 2020, 20, 8866-8873.	4.5	14
21	Emergence of Van Hove singularity and topological states in Pb3Bi/Ge(111) Rashba systems. <i>Physical Review B</i> , 2020, 102, .	1.1	10
22	Prediction of monolayered ferromagnetic CrMn_6 as an intrinsic high-temperature quantum anomalous Hall system. <i>Physical Review B</i> , 2020, 102, .	1.1	10
23	Exploring high transition temperature topological superconductivity in $(\text{Li}_{1-x}\text{Co}_x\text{OH})\text{CoSb}$ superlattices. <i>Physical Review B</i> , 2020, 102, .	1.1	0
24	Magnetotransport signatures of Weyl physics and discrete scale invariance in the elemental semiconductor tellurium. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 11337-11343.	3.3	42
25	Prediction of MnSiTe_3 as an intrinsic layered half-metal. <i>Physical Review B</i> , 2020, 101, .	1.1	10
26	Antisite Defect-Enhanced Thermoelectric Performance of Topological Crystalline Insulators. <i>Advanced Functional Materials</i> , 2020, 30, 2003162.	7.8	8
27	Topological phonons in graphene. <i>Physical Review B</i> , 2020, 101, .	1.1	70
28	Exploring High Transition Temperature Superconductivity in a Freestanding or SrTiO_3 -Supported CoSb Monolayer. <i>Physical Review Letters</i> , 2020, 124, 027002.	2.9	14
29	Large-area, periodic, and tunable intrinsic pseudo-magnetic fields in low-angle twisted bilayer graphene. <i>Nature Communications</i> , 2020, 11, 371.	5.8	66
30	Selective flattening of magnon bands in kagome-lattice ferromagnets with Dzyaloshinskii-Moriya interaction. <i>Science China: Physics, Mechanics and Astronomy</i> , 2020, 63, 1.	2.0	3
31	Artificial intelligence for high-throughput discovery of topological insulators: The example of alloyed tetradymites. <i>Physical Review Materials</i> , 2020, 4, .	0.9	25
32	Varying topological properties of two-dimensional honeycomb lattices composed of endohedral fullerenes. <i>Physical Review B</i> , 2019, 100, .	1.1	2
33	Strain in van der Waals epitaxy and evidence for a collective macroscopic effect of a negligibly small perturbation. <i>Physical Review B</i> , 2019, 100, .	1.1	3
34	Percolated Strain Networks and Universal Scaling Properties of Strain Glasses. <i>Physical Review Letters</i> , 2019, 123, 015701.	2.9	18
35	Spin Selection Rule in Single-Site Catalysis of Molecular Oxygen Adsorption on Transition-Metal Phthalocyanines. <i>Journal of Physical Chemistry C</i> , 2019, 123, 28158-28167.	1.5	4
36	Tuning the hydrogen activation reactivity on topological insulator heterostructures. <i>Nano Energy</i> , 2019, 58, 40-46.	8.2	49

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37	Chiral topological superconductivity arising from the interplay of geometric phase and electron correlation. <i>Nature Physics</i> , 2019, 15, 796-802.	6.5	37
38	Spin-Triplet-Mediated Up-Conversion and Crossover Behavior in Single-Molecule Electroluminescence. <i>Physical Review Letters</i> , 2019, 122, 177401.	2.9	55
39	Converting a two-dimensional ferromagnetic insulator into a high-temperature quantum anomalous Hall system by means of an appropriate surface modification. <i>Physical Review B</i> , 2019, 99, .	1.1	23
40	Visible quantum dot light-emitting diodes with simultaneous high brightness and efficiency. <i>Nature Photonics</i> , 2019, 13, 192-197.	15.6	596
41	Enhanced Superconducting State in $\text{FeSe}/\text{SrTiO}_3$ by a Dynamic Interfacial Polaron Mechanism. <i>Physical Review Letters</i> , 2019, 122, 066802.	2.9	221
42	Predictive design of intrinsic half-metallicity in zigzag tungsten dichalcogenide nanoribbons. <i>Physical Review B</i> , 2019, 100, .	1.1	9
43	Sb_2Te_3 as an intrinsic topological insulator due to strong van der Waals interlayer coupling. <i>Physical Review B</i> , 2018, 98, .	1.1	28
44	Atomically flat and thermally stable graphene on Si(111) with preserved intrinsic electronic properties. <i>Nanoscale</i> , 2018, 10, 8377-8384.	2.8	4
45	Coupling of charge, lattice, orbital, and spin degrees of freedom in charge density waves in TaS_2 . <i>Physical Review B</i> , 2018, 97, .	1.1	20
46	Quantum Control of Graphene Plasmon Excitation and Propagation at Heaviside Potential Steps. <i>Nano Letters</i> , 2018, 18, 1373-1378.	4.5	10
47	Kinetic pathways towards mass production of single crystalline stanene on topological insulator substrates. <i>Nanoscale</i> , 2018, 10, 18988-18994.	2.8	8
48	Red phosphorus in its two-dimensional limit: novel clathrates with varying band gaps and superior chemical stabilities. <i>Nanoscale</i> , 2018, 10, 13969-13975.	2.8	7
49	Flatbands and Emergent Ferromagnetic Ordering in Kagome Lattices. <i>Physical Review Letters</i> , 2018, 121, 096401.	2.9	221
50	Quantum Percolation and Magnetic Nanodroplet States in Electronically Phase-Separated Manganite Nanowires. <i>Nano Letters</i> , 2017, 17, 1461-1466.	4.5	9
51	Half Layer By Half Layer Growth of a Blue Phosphorene Monolayer on a GaN(001) Substrate. <i>Physical Review Letters</i> , 2017, 118, 046101.	2.9	149
52	Atomistic mechanisms of van der Waals epitaxy and property optimization of layered materials. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2017, 7, e1300.	6.2	14
53	CO_2 -Assisted Solution-Phase Selective Assembly of 2D WS_2 and WO_3 Heterostructures. <i>ChemNanoMat</i> , 2017, 3, 632-638.	1.5	16
54	A Kinetic Pathway toward High-Density Ordered N Doping of Epitaxial Graphene on Cu(111) Using C_5NCl_5 Precursors. <i>Journal of the American Chemical Society</i> , 2017, 139, 7196-7202.	6.6	16

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55	Fabrication of MoSe ₂ nanoribbons via an unusual morphological phase transition. Nature Communications, 2017, 8, 15135.	5.8	70
56	Competing Gap Opening Mechanisms of Monolayer Graphene and Graphene Nanoribbons on Strong Topological Insulators. Nano Letters, 2017, 17, 4013-4018.	4.5	41
57	Accurate Determination of the Quasiparticle and Scaling Properties Surrounding the Quantum Critical Point of Disordered Three-Dimensional Dirac Semimetals. Physical Review Letters, 2017, 118, 146401.	2.9	19
58	Prediction of intrinsic two-dimensional ferroelectrics in In ₂ Se ₃ and other III ₂ -VI ₃ van der Waals materials. Nature Communications, 2017, 8, 14956.	5.8	830
59	Contrasting Structural Reconstructions, Electronic Properties, and Magnetic Orderings along Different Edges of Zigzag Transition Metal Dichalcogenide Nanoribbons. Nano Letters, 2017, 17, 1097-1101.	4.5	75
60	Optical Manipulation of Rashba Spin-Orbit Coupling at SrTiO ₃ -Based Oxide Interfaces. Nano Letters, 2017, 17, 6534-6539.	4.5	30
61	Substantially Enhancing Quantum Coherence of Electrons in Graphene via Electron-Plasmon Coupling. Physical Review Letters, 2017, 119, 156803.	2.9	6
62	Theoretical Design of Robust Ferromagnetism and Bipolar Semiconductivity in Graphene-Based Nanoroads. Journal of Physical Chemistry C, 2017, 121, 24824-24830.	1.5	5
63	Properties of in-plane graphene/MoS ₂ heterojunctions. 2D Materials, 2017, 4, 045001.	2.0	34
64	Multivalency-Driven Formation of Te-Based Monolayer Materials: A Combined First-Principles and Experimental study. Physical Review Letters, 2017, 119, 106101.	2.9	409
65	Choi et al. Reply. Physical Review Letters, 2017, 118, 209702.	2.9	6
66	A simple and efficient criterion for ready screening of potential topological insulators. Science Bulletin, 2017, 62, 1649-1653.	4.3	10
67	Effects of magnetic dopants in Li		

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73	Dimensionality and Valency Dependent Quantum Growth of Metallic Nanostructures: A Unified Perspective. Nano Letters, 2016, 16, 6628-6635.	4.5	4
74	Interplay between the spin-selection rule and frontier orbital theory in O ₂ activation and CO oxidation by single-atom-sized catalysts on TiO ₂ (110). Physical Chemistry Chemical Physics, 2016, 18, 24872-24879.	1.3	20
75	High-Temperature Quantum Anomalous Hall Effect in Bi_2Te_3 Topological Insulators. Physical Review Letters, 2016, 117, 056804.	2.9	71
76	Contrasting room-temperature hydrogen sensing capabilities of Pt-SnO ₂ and Pt-TiO ₂ composite nanoceramics. Nano Research, 2016, 9, 3528-3535.	5.8	22
77	Dual role of Fe dopants in enhancing stability and charge transfer in $\text{Li}_x\text{Ti}_{1-x}\text{Fe}_x\text{PO}_4$. Physical Review B, 2016, 93, .	1.1	8
78	Quantum stability and magic lengths of metal atom wires. Physical Review B, 2016, 93, .	1.1	8
79	Carbon Tetragons as Definitive Spin Switches in Narrow Zigzag Graphene Nanoribbons. Physical Review Letters, 2016, 116, 026802.	2.9	51
80	Competing magnetic orderings and tunable topological states in two-dimensional hexagonal organometallic lattices. Physical Review B, 2016, 93, .	1.1	43
81	Nonmonotonically Tunable Rashba Spin-Orbit Coupling by Multiple Band Filling Control in SrTiO_3 -based interfacial d -electron gases. Physical Review B, 2015, 92.	1.1	68
82	Intriguing structures and magic sizes of heavy noble metal nanoclusters around size 55 governed by relativistic effect and covalent bonding. Journal of Chemical Physics, 2015, 143, 174302.	1.2	4
83	Carbon Dimers as the Dominant Feeding Species in Epitaxial Growth and Morphological Phase Transition of Graphene on Different Cu Substrates. Physical Review Letters, 2015, 114, 216102.	2.9	73
84	Atomistic mechanisms for bilayer growth of graphene on metal substrates. Physical Review B, 2015, 91, .	1.1	33
85	Optical Control of Fluorescence through Plasmonic Eigenmode Extinction. Scientific Reports, 2015, 5, 9911.	1.6	5
86	Single-valley engineering in graphene superlattices. Physical Review B, 2015, 91, .	1.1	57
87	Linear Scaling of the Exciton Binding Energy versus the Band Gap of Two-Dimensional Materials. Physical Review Letters, 2015, 115, 066403.	2.9	175
88	Reentrant paramagnetism induced by drastic reduction of magnetic couplings at surfaces of superparamagnetic nanoparticles. Physical Review B, 2014, 90, .	1.1	9
89	Persistent Ferromagnetism and Topological Phase Transition at the Interface of a Superconductor and a Topological Insulator. Physical Review Letters, 2014, 113, 266806.	2.9	15
90	Quantum Anomalous Hall Effect in Graphene Proximity Coupled to an Antiferromagnetic Insulator. Physical Review Letters, 2014, 112, 116404.	2.9	361

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91	Controlled Ambipolar Tuning and Electronic Superlattice Fabrication of Graphene via Optical Gating. <i>Advanced Materials</i> , 2014, 26, 3735-3740.	11.1	26
92	Stabilization and Manipulation of Electronically Phase-Separated Ground States in Defective Indium Atom Wires on Silicon. <i>Physical Review Letters</i> , 2014, 113, 196802.	2.9	22
93	Unusual role of epilayer-substrate interactions in determining orientational relations in van der Waals epitaxy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 16670-16675.	3.3	64
94	Giant photovoltaic effects driven by residual polar field within unit-cell-scale LaAlO ₃ films on SrTiO ₃ . <i>Scientific Reports</i> , 2013, 3, 1975.	1.6	44
95	Drastic reduction in the growth temperature of graphene on copper via enhanced London dispersion force. <i>Scientific Reports</i> , 2013, 3, 1925.	1.6	62
96	Diluted ferromagnetic graphene by compensated n-p codoping. <i>Carbon</i> , 2013, 61, 609-615.	5.4	28
97	Tuning the vertical location of helical surface states in topological insulator heterostructures via dual-proximity effects. <i>Scientific Reports</i> , 2013, 3, 1233.	1.6	38
98	Landau damping of quantum plasmons in metal nanostructures. <i>New Journal of Physics</i> , 2013, 15, 023011.	1.2	139
99	Probing the generalized magicity of Ag nanoclusters constructed on Si(111) by atomic manipulation. <i>Physical Review B</i> , 2013, 88, .	1.1	7
100	Suppression of Grain Boundaries in Graphene Growth on Superstructured Mn-Cu(111) Surface. <i>Physical Review Letters</i> , 2012, 109, 265507.	2.9	36
101	Atomistic Mechanisms and Diameter Selection during Nanorod Growth. <i>Journal of Physical Chemistry C</i> , 2011, 115, 31-36.	1.5	13
102	CO Oxidation Facilitated by Robust Surface States on Au-Covered Topological Insulators. <i>Physical Review Letters</i> , 2011, 107, 056804.	2.9	128
103	Self-assembly of molecular wires on H-terminated Si(100) surfaces driven by London dispersion forces. <i>Physical Review B</i> , 2011, 84, .	1.1	10
104	First-principles studies of hydrogen interaction with ultrathin Mg and Mg-based alloy films. <i>Physical Review B</i> , 2011, 83, .	1.1	13
105	Molecular orbital view of the electronic coupling between two metal nanoparticles. <i>Physical Review B</i> , 2010, 82, .	1.1	6
106	First-principles quantum transport theory of the enhanced wind force driving electromigration on Ag(111). <i>Physical Review B</i> , 2010, 81, .	1.1	25
107	Length- and parity-dependent electronic states in one-dimensional carbon atomic chains on C(111). <i>Physical Review B</i> , 2010, 82, .	1.1	2
108	Strong Quantum Size Effects in Pb(111) Thin Films Mediated by Anomalous Friedel Oscillations. <i>Physical Review Letters</i> , 2010, 105, 066101.	2.9	35

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109	First-principles study of quantum size effects in ultrathin Pb-Bi metal alloy films. <i>Physical Review B</i> , 2010, 81, .	1.1	10
110	Contrasting Behavior of Carbon Nucleation in the Initial Stages of Graphene Epitaxial Growth on Stepped Metal Surfaces. <i>Physical Review Letters</i> , 2010, 104, 186101.	2.9	194
111	Topological electromotive force from domain-wall dynamics in a ferromagnet. <i>Physical Review B</i> , 2010, 82, .	1.1	40
112	hcp metal nanoclusters with hexagonal A ² bilayer stacking stabilized by enhanced covalent bonding. <i>Physical Review B</i> , 2010, 82, .	1.1	15
113	Adsorbate-induced restructuring of Pb mesas grown on vicinal Si(111) in the quantum regime. <i>Physical Review B</i> , 2009, 80, .	1.1	8
114	Quantum Size Effects in the Growth, Coarsening, and Properties of Ultra-thin Metal Films and Related Nanostructures. <i>Journal of Low Temperature Physics</i> , 2009, 157, 221-251.	0.6	35
115	Theory of the excitation of the vibrational mode of an adatom-substrate system under a resonant laser field. <i>Physical Review B</i> , 2008, 78, .	1.1	2
116	Generic guiding principle for the prediction of metal-induced reconstructions of compound semiconductor surfaces. <i>Physical Review B</i> , 2008, 78, .	1.1	17
117	Stability of metallic thin films studied with a free electron model. <i>Physical Review B</i> , 2008, 77, .	1.1	40
118	Electron transfer and localization in endohedral metallofullerenes: <i>Ab initio</i> density functional theory calculations. <i>Physical Review B</i> , 2008, 78, .	1.1	23
119	Polygonization and anomalous graphene interlayer spacing of multi-walled carbon nanofibers. <i>Physical Review B</i> , 2007, 75, .	1.1	26
120	Tuning the Quantum Stability and Superconductivity of Ultrathin Metal Alloys. <i>Science</i> , 2007, 316, 1594-1597.	6.0	104
121	Initial interactions between water molecules and Ti-adsorbed carbon nanotubes. <i>Applied Physics Letters</i> , 2007, 91, 161906.	1.5	11
122	Upward self-diffusion of adatoms and small clusters on facets of fcc metal (110) surfaces. <i>Physical Review B</i> , 2007, 76, .	1.1	23
123	Interplay between elastic interactions and kinetic processes in stepped Si (001) homoepitaxy. <i>Physical Review B</i> , 2006, 74, .	1.1	7
124	Quantum size effects in Pb films from first principles: The role of the substrate. <i>Physical Review B</i> , 2006, 74, .	1.1	72