

Zheng Gai

List of Publications by Year in descending order

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142
papers

4,696
citations

94269

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148
all docs

148
docs citations

148
times ranked

7710
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrathin nanosheets of CrSiTe ₃ : a semiconducting two-dimensional ferromagnetic material. <i>Journal of Materials Chemistry C</i> , 2016, 4, 315-322.	2.7	235
2	Room-Temperature Multiferroic Hexagonal LuFeO_3 Films. <i>Physical Review Letters</i> , 2013, 110, 237601.	2.9	195
3	Giant Magnetoresistance in Organic Spin Valves. <i>Physical Review Letters</i> , 2010, 104, 236602.	2.9	181
4	Elastically driven anisotropic percolation in electronic phase-separated manganites. <i>Nature Physics</i> , 2009, 5, 885-888.	6.5	157
5	Growth and magnetism of metallic thin films and multilayers by pulsed-laser deposition. <i>Surface Science Reports</i> , 2004, 52, 163-218.	3.8	136
6	Magnetic iron oxide-fluorescent carbon dots integrated nanoparticles for dual-modal imaging, near-infrared light-responsive drug carrier and photothermal therapy. <i>Biomaterials Science</i> , 2014, 2, 915-923.	2.6	134
7	High-Yield Solvothermal Formation of Magnetic CoPt Alloy Nanowires. <i>Journal of the American Chemical Society</i> , 2003, 125, 7528-7529.	6.6	133
8	Competing antiferromagnetism in a quasi-2D itinerant ferromagnet: Fe ₃ Ge ₂ . <i>2D Materials</i> , 2017, 4, 011005.	2.0	123
9	Atomically thin half-van der Waals metals enabled by confinement heteroepitaxy. <i>Nature Materials</i> , 2020, 19, 637-643.	13.3	114
10	Paramagnetic Properties of Metal-Free Boron-Doped Graphene Quantum Dots and Their Application for Safe Magnetic Resonance Imaging. <i>Advanced Materials</i> , 2017, 29, 1605416.	11.1	112
11	Multi-functional core-shell hybrid nanogels for pH-dependent magnetic manipulation, fluorescent pH-sensing, and drug delivery. <i>Biomaterials</i> , 2011, 32, 9876-9887.	5.7	96
12	Adsorption of glycine on Cu(001) and related step faceting and bunching. <i>Surface Science</i> , 1999, 424, L347-L351.	0.8	92
13	Full Electroresistance Modulation in a Mixed-Phase Metallic Alloy. <i>Physical Review Letters</i> , 2016, 116, 097203.	2.9	88
14	Size- and Shape-Controlled Synthesis and Properties of Magnetic Plasmonic Core-Shell Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2016, 120, 10530-10546.	1.5	86
15	Strain Doping: Reversible Single-Axis Control of a Complex Oxide Lattice via Helium Implantation. <i>Physical Review Letters</i> , 2015, 114, 256801.	2.9	84
16	Two-Dimensional Palladium Diselenide with Strong In-Plane Optical Anisotropy and High Mobility Grown by Chemical Vapor Deposition. <i>Advanced Materials</i> , 2020, 32, e1906238.	11.1	81
17	ZnIrO_6 and LaMnO_6 and LaMnO_6 and LaMnO_6	1.1	80
18	Formation of FePt Nanoparticles Having High Coercivity. <i>Journal of the American Chemical Society</i> , 2006, 128, 14210-14211.	6.6	79

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19	Visualization and manipulation of magnetic domains in the quasi-two-dimensional material F_3GeTe_3 . Physical Review B, 2018, 97, .	1.1	74
20	Dimensionality Controlled Octahedral Symmetry-Mismatch and Functionalities in Epitaxial $LaCoO_3/SrTiO_3$ Heterostructures. Nano Letters, 2015, 15, 4677-4684.	4.5	71
21	3D Imaging and Manipulation of Subsurface Selenium Vacancies in $PdSe_2$. Physical Review Letters, 2018, 121, 086101.	2.9	66
22	Ferromagnetic Stability in Fe Nanodot Assemblies on Cu(111) Induced by Indirect Coupling through the Substrate. Physical Review Letters, 2004, 92, 237201.	2.9	61
23	Self-Assembly of Nanometer-Scale Magnetic Dots with Narrow Size Distributions on an Insulating Substrate. Physical Review Letters, 2002, 89, 235502.	2.9	59
24	Magnetic/NIR-responsive drug carrier, multicolor cell imaging, and enhanced photothermal therapy of gold capped magnetite-fluorescent carbon hybrid nanoparticles. Nanoscale, 2015, 7, 7885-7895.	2.8	56
25	Atomically resolved spectroscopic study of Sr_2IrO_4 : Experiment and theory. Scientific Reports, 2013, 3, 3073.	1.6	55
26	Porous Carbon Protected Magnetite and Silver Hybrid Nanoparticles: Morphological Control, Recyclable Catalysts, and Multicolor Cell Imaging. ACS Applied Materials & Interfaces, 2013, 5, 9446-9453.	4.0	54
27	Multifunctional PEG encapsulated $Fe_3O_4@silver$ hybrid nanoparticles: antibacterial activity, cell imaging and combined photothermo/chemo-therapy. Journal of Materials Chemistry B, 2013, 1, 6225.	2.9	52
28	Direct Synthesis and Size Selection of Ferromagnetic $FePt$ Nanoparticles. Chemistry of Materials, 2007, 19, 2483-2488.	3.2	51
29	Multifunctional 1D Magnetic and Fluorescent Nanoparticle Chains for Enhanced MRI, fluorescent Cell Imaging, And Combined Photothermal/Chemotherapy. ACS Applied Materials & Interfaces, 2014, 6, 15309-15317.	4.0	51
30	Active control of magnetoresistance of organic spin valves using ferroelectricity. Nature Communications, 2014, 5, 4396.	5.8	51
31	Observation of conductance quantization of ballistic metallic point contacts at room temperature. Physical Review B, 1996, 53, 1042-1045.	1.1	50
32	Tunable Metallicity of the La_5O_8 . Physical Review Letters, 2017, 118, 066104.	1.1	48
33	A Facile Solvothermal Synthesis of Octahedral Fe_3O_4 Nanoparticles. Small, 2015, 11, 2649-2653.	5.2	45
34	Magnetic structural change of Sr_2IrO_4 upon Mn doping. Physical Review B, 2012, 86, .	1.1	43
35	Magnetic anisotropy in single-crystal high-entropy perovskite oxide La_5O_8 .		

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37	Atomic structure of the Ge(101) surface. <i>Physical Review B</i> , 1998, 57, R6795-R6798.	1.1	37
38	Self-assembled FePt nanodot arrays with mono-dispersion and -orientation. <i>Applied Physics Letters</i> , 2005, 86, 023107.	1.5	37
39	Dynamics of a first-order electronic phase transition in manganites. <i>Physical Review B</i> , 2011, 83, .	1.1	32
40	Nanostructured Metal/Carbon Composites from Heterobimetallic Block Copolymers with Controlled Magnetic Properties. <i>Chemistry of Materials</i> , 2014, 26, 3185-3190.	3.2	32
41	Electrophoretic-like Gating Used To Control Metal-Insulator Transitions in Electronically Phase Separated Manganite Wires. <i>Nano Letters</i> , 2013, 13, 3749-3754.	4.5	31
42	Macroscopic and nanoscale faceting of germanium surfaces. <i>Physical Review B</i> , 1999, 59, 15230-15239.	1.1	30
43	Structural modulations and magnetic properties of off-stoichiometric Ni-Mn-Ga magnetic shape memory alloys. <i>Physical Review B</i> , 2012, 85, .	1.1	30
44	Realizing gapped surface states in the magnetic topological insulator MnBi . <i>Physical Review B</i> , 2020, 102, .	1.1	30
45	{310} faceting of the Ge(001) $2\sqrt{3}\times\sqrt{3}$ surface induced by indium. <i>Surface Science</i> , 1995, 338, L851-L856.	0.8	28
46	Chemisorption of group-III metals on the (111) surface of group-IV semiconductors: In/Ge(111). <i>Physical Review B</i> , 1996, 53, 1539-1547.	1.1	28
47	Major stable surface of silicon: Si(20 \times 4 \times 23). <i>Physical Review B</i> , 2001, 64, .	1.1	28
48	Chemically induced Jahn-Teller ordering on manganite surfaces. <i>Nature Communications</i> , 2014, 5, 4528.	5.8	28
49	Defects in Highly Anisotropic Transition-Metal Dichalcogenide PdSe ₂ . <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 740-746.	2.1	28
50	Designing Magnetism in High Entropy Oxides. <i>Advanced Science</i> , 2022, 9, e2200391.	5.6	28
51	Surface structure of the (3 $\sqrt{3}\times\sqrt{3}$ -1) and (3 $\sqrt{3}\times\sqrt{3}$ -2) reconstructions of Ge(113). <i>Physical Review B</i> , 1996, 54, 8593-8599.	1.1	27
52	Spin-orbit insulating state close to the cubic limit in $\text{CaMn}_4\text{IrO}_{10}$. <i>Physical Review B</i> , 2014, 89, .	1.1	27
53	Magnetic ground state of the Ising-like antiferromagnet DyScO_3 . <i>Physical Review B</i> , 2017, 96, .	1.1	27
54	Ferromagnetism and Nonmetallic Transport of Thin-Film FeSi . A Stabilized Metastable Material. <i>Physical Review Letters</i> , 2015, 114, 147202.	2.9	26

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55	Atomic structure of the Ge(15 3 23) surface. Physical Review B, 1998, 57, R15060-R15063.	1.1	25
56	Electronic Control over Attachment and Self-Assembly of Alkyne Groups on Gold. ACS Nano, 2012, 6, 9267-9275.	7.3	25
57	Growth diagram and magnetic properties of hexagonal LuFe ₂ O ₄ thin films. Physical Review B, 2012, 85, .	1.1	25
58	Magneto-Dielectric Effects Induced by Optically-Generated Intermolecular Charge-Transfer States in Organic Semiconducting Materials. Scientific Reports, 2013, 3, 2812.	1.6	25
59	Stoichiometric Control over Ferroic Behavior in Ba(Ti _{1-x} Fe _x)O ₃ Nanocrystals. Chemistry of Materials, 2019, 31, 1318-1335.	3.2	25
60	Tuning the Metal-Insulator Transition in Manganite Films through Surface Exchange Coupling with Magnetic Nanodots. Physical Review Letters, 2011, 106, 157207.	2.9	24
61	Epitaxial Growth of Intermetallic MnPt Films on Oxides and Large Exchange Bias. Advanced Materials, 2016, 28, 118-123.	11.1	24
62	Magnetic Texture in Insulating Single Crystal High Entropy Oxide Spinel Films. ACS Applied Materials & Interfaces, 2021, 13, 17971-17977.	4.0	24
63	Monte Carlo simulations of interacting magnetic nanoparticles. Journal of Applied Physics, 2002, 91, 6926.	1.1	23
64	Growth of low-dimensional magnetic nanostructures on an insulator. Applied Physics Letters, 2002, 81, 742-744.	1.5	22
65	Faceting and nanoscale faceting of Ge(hkl) surfaces around (113). Physical Review B, 1998, 58, 4572-4578.	1.1	21
66	Exchange bias effect in Au-Fe ₃ O ₄ dumbbell nanoparticles induced by the charge transfer from gold. Physical Review B, 2015, 92, .	1.1	21
67	Removal of the Magnetic Dead Layer by Geometric Design. Advanced Functional Materials, 2018, 28, 1800922.	7.8	21
68	Magnetization reversal in europium sulfide nanocrystals. Applied Physics Letters, 2006, 89, 222501.	1.5	20
69	Growth diagram of La _{0.7} Sr _{0.3} MnO ₃ thin films using pulsed laser deposition. Journal of Applied Physics, 2013, 113, .	1.1	20
70	Strain driven anisotropic magnetoresistance in antiferromagnetic La _{0.4} Sr _{0.6} MnO ₃ . Applied Physics Letters, 2014, 105, .	1.5	20
71	Interrelation between Structure & Magnetic Properties in La _{0.5} Sr _{0.5} CoO ₃ . Advanced Materials Interfaces, 2014, 1, 1400203.	1.9	20
72	Charge doping effects on magnetic properties of single-crystal		

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73	Oxygen Control of Atomic Structure and Physical Properties of SrRuO ₃ Surfaces. ACS Nano, 2013, 7, 4403-4413.	7.3	19
74	Magnetodielectric Response from Spin-Orbital Interaction Occurring at Interface of Ferromagnetic Co and Organometal Halide Perovskite Layers via Rashba Effect. Advanced Materials, 2017, 29, 1603667.	11.1	19
75	Tuning Magnetic Soliton Phase via Dimensional Confinement in Exfoliated 2D Cr _{1/3} NbS ₂ Thin Flakes. Nano Letters, 2018, 18, 4023-4028.	4.5	19
76	Local crystallography analysis for atomically resolved scanning tunneling microscopy images. Nanotechnology, 2013, 24, 415707.	1.3	18
77	Electronic Stability of Magnetic Fe/Co Superlattices with Monatomic Layer Alternation. Physical Review Letters, 2003, 91, 226106.	2.9	16
78	Adsorption geometry of glycine on Cu(001) determined with low-energy electron diffraction and scanning tunnelling microscopy. Chinese Physics B, 2002, 11, 839-845.	1.3	15
79	Designing Magnetic Anisotropy through Strain Doping. Advanced Science, 2018, 5, 1800356.	5.6	15
80	Application of moiré fringes in investigations of subsurface imperfections – a study of dislocations and strain fields under the reconstructed surface layer of Au(001) by scanning tunneling microscopy. Surface Science, 1996, 365, 96-102.	0.8	14
81	Nanofaceting of unit cells and temperature dependence of the surface reconstruction and morphology of Si and. Surface Science, 2002, 517, 98-114.	0.8	14
82	Implications of Room Temperature Oxidation on Crystal Structure and Exchange Bias Effect in Co/CoO Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 26219-26228.	1.5	14
83	Heptacopper(II) and dicopper(II)-adenine complexes: synthesis, structural characterization, and magnetic properties. Journal of Coordination Chemistry, 2015, 68, 2770-2787.	0.8	14
84	Atomic structure of high-index Ge surfaces consisting of periodic nanoscale facets. Physical Review B, 1997, 56, 12308-12315.	1.1	13
85	Thermal stability and structure of the equilibrium clean Si(103) surface. Physical Review B, 1999, 59, 13003-13008.	1.1	13
86	Heteroepitaxy of germanium on Si(103) and stable surfaces of germanium. Physical Review B, 1999, 59, 13009-13013.	1.1	13
87	Kinetics of Magnetoelastic Twin-Boundary Motion in Ferromagnetic Shape-Memory Alloys. Physical Review Letters, 2014, 112, .	2.9	13
88	Improving superconductivity in BaFe ₂ As ₂ -based crystals by cobalt clustering and electronic uniformity. Scientific Reports, 2017, 7, 949.	1.6	13
89	Revealing the Chemical Bonding in Adatom Arrays via Machine Learning of Hyperspectral Scanning Tunneling Spectroscopy Data. ACS Nano, 2021, 15, 11806-11816.	7.3	13
90	A comparative study of the thermal stability of the (103) surface of group-III-metal/group-IV-semiconductor systems. Surface Science, 1997, 384, 276-282.	0.8	12

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91	Atomic structure of the Si(112) $7\sqrt{3}\times\sqrt{3}$ surface. Physical Review B, 2000, 61, 9928-9931.	1.1	12
92	Synthesis of L10 ferromagnetic CoPt nanopowders using a single-source molecular precursor and water-soluble support. Journal of Materials Chemistry C, 2013, 1, 5976.	2.7	12
93	Effect of Surface Morphology and Magnetic Impurities on the Electronic Structure in Cobalt-Doped BaFe ₂ As ₂ Superconductors. Nano Letters, 2017, 17, 1642-1647.	4.5	12
94	Interlayer magnetism in $\text{Fe}/\text{Fe}_3\text{Mn}$. Physical Review Materials, 2020, 4, .	0.9	12
95	Growth of skyrmionic MnSi nanowires on Si: Critical importance of the SiO ₂ layer. Nano Research, 2014, 7, 1788-1796.	5.8	11
96	Electronic and magnetic properties of epitaxial perovskite SrCrO ₃ (001). Journal of Physics Condensed Matter, 2015, 27, 245605.	0.7	11
97	Observing a previously hidden structural-phase transition onset through heteroepitaxial cap response. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4141-4146.	3.3	11
98	Si(313) $12\sqrt{3}\times\sqrt{3}$: Another metallic stable surface of silicon having a complex reconstructed layer. Physical Review B, 2001, 63, .	1.1	10
99	In Situ Observations and Tuning of Physical and Chemical Phenomena on the Surfaces of Strongly Correlated Oxides. Advanced Functional Materials, 2013, 23, 2477-2489.	7.8	10
100	Atomic structure of the Ge(313) surface. Physical Review B, 1998, 58, R4223-R4226.	1.1	9
101	Spontaneous breaking of nanowires between a STM tip and the Pb(110) surface. Physical Review B, 1998, 58, 2185-2190.	1.1	9
102	Novel alkaline earth copper germanates with ferro and antiferromagnetic S=1/2 chains. Journal of Solid State Chemistry, 2013, 198, 39-44.	1.4	9
103	Dimensionality Effects in FeGe ₂ Nanowires: Enhanced Anisotropic Magnetization and Anomalous Electrical Transport. Scientific Reports, 2017, 7, 7126.	1.6	9
104	$\text{Fe}/\text{Fe}_3\text{Mn}$. Physical Review B, 2019, 100, .	1.1	9
105	Manganese tetraphenylporphyrin bromide and iodide. Studies of structures and magnetic properties. Polyhedron, 2020, 184, 114488.	1.0	9
106	Adatom diffusion on Ge(111) and the corresponding activation energy barrier. Physical Review B, 1996, 53, 13547-13550.	1.1	8
107	Nanoscale magnetic configurations of supported Fe nanoparticle assemblies studied by scanning electron microscopy with spin analysis. Physical Review B, 2009, 80, .	1.1	8
108	Direct in situ measurement of coupled magnetostructural evolution in a ferromagnetic shape memory alloy and its theoretical modeling. Physical Review B, 2015, 92, .	1.1	8

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109	Bayesian Learning of Adatom Interactions from Atomically Resolved Imaging Data. ACS Nano, 2021, 15, 9649-9657.	7.3	8
110	Understanding Heterogeneities in Quantum Materials. Advanced Materials, 2023, 35, e2106909.	11.1	8
111	Frozen Low-Spin Interface in Ultrathin Fe Films on Cu(111). Physical Review Letters, 2005, 95, 027201.	2.9	7
112	Tuning the Ferromagnetic Coupling of Fe Nanodots on Cu(111) via Dimensionality Variation of the Mediating Electrons. Physical Review Letters, 2010, 104, 167202.	2.9	7
113	Highly insulating ferromagnetic cobaltite heterostructures. Current Applied Physics, 2017, 17, 722-726.	1.1	7
114	Room-Temperature Insulating Ferromagnetic (Ni,Co) $1+2 \times \text{Ti}^{1+} \times \text{O}^3$ Thin Films. Annalen Der Physik, 2019, 531, 1900299.	0.9	7
115	Crystal Symmetry Engineering in Epitaxial Perovskite Superlattices. Advanced Functional Materials, 2021, 31, 2106466.	7.8	7
116	Versatile and biomass synthesis of iron-based nanoparticles supported on carbon matrix with high iron content and tunable reactivity. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	6
117	Coverage dependence of magnetic domain structure and magnetic anisotropy in supported Fe nanoparticles on Al ₂ O ₃ /NiAl(100). Journal of Applied Physics, 2010, 108, 034312.	1.1	5
118	Role of nitrogen split interstitial defects in the magnetic properties of Cu-doped GaN. Physical Review B, 2012, 85, ...	1.1	5
119	Structural and magnetic properties in the quantum $S=1$ system BaM_2O_7		

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127	Polarized neutron diffraction at a spallation source for magnetic studies. Journal of Applied Crystallography, 2012, 45, 1024-1029.	1.9	3
128	Structure-property trends in a hollandite multiferroic by Fe doping: structural, magnetic and dielectric characterization of nanocrystalline $\text{BaMn}_{3-x}\text{Fe}_x\text{Ti}_4\text{O}_{14}$. Journal of Materials Chemistry C, 2020, 8, 7916-7927.	2.7	3
129	Nanoscale Superconducting States in the Fe-Based Filamentary Superconductor of Pr-Doped CaFe_2As_2 . Nanomaterials, 2021, 11, 1019.	1.9	3
130	Scanning tunneling microscopy investigation of bainite in steel. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1994, 12, 1793.	1.6	2
131	Migration of subsurface self-interstitial atoms of the Ge(113) surface and the energy barrier. Physical Review B, 1997, 56, 12303-12307.	1.1	2
132	Atomic Structure of the Domain Walls of the Discommensurate Phases in Ge(111)/Ga. Surface Review and Letters, 1998, 05, 175-179.	0.5	2
133	Structural and magnetic properties of MBE-grown GeMnN thin films. Physical Review B, 2012, 85, .	1.1	2
134	Quenching of initial ac susceptibility in single-domain Ni nanobars. Physical Review B, 2012, 85, .	1.1	2
135	Superconductivity with $T_c \approx 7$ K under pressure for Cu- and Au-doped BaFe_2As_2 . Journal of Physics Condensed Matter, 2020, 32, 295602.	0.7	2
136	SCANNING TUNNELING MICROSCOPY INVESTIGATION OF THE Si(103)- (1 Å ⁻¹) ² SURFACE. Surface Review and Letters, 1999, 06, 405-409.	0.5	1
137	Pressure effects on spin-lattice coupling of CdCr_2S_4 . Journal of Alloys and Compounds, 2017, 715, 83-90.	2.8	1
138	Magnetic ordering suppressed phase transformation of a TRIP-HEA during thermal cycling. Applied Physics Letters, 2021, 119, 171906.	1.5	1
139	Growth and Magnetism of Metallic Thin Films and Multilayers by Pulsed-Laser Deposition. ChemInform, 2004, 35, no.	0.1	0
140	Response to "Comment on "Magnetization reversal in europium sulfide nanocrystals" [Appl. Phys. Lett., 91, 026102 (2007)]. Applied Physics Letters, 2008, 92, 026103.	1.5	0
141	Nanopatterning of magnetic domains: Fe coverage of self-assembled alumina nanostructure. Applied Physics Express, 2015, 8, 093002.	1.1	0
142	Lattice disorder effect on magnetic ordering of iron arsenides. Scientific Reports, 2019, 9, 20147.	1.6	0