

# Jian-Hua Zhao

## List of Publications by Year in descending order

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123  
papers

2,907  
citations

172457

29  
h-index

189892

50  
g-index

124  
all docs

124  
docs citations

124  
times ranked

3461  
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhancing the Curie Temperature of Ferromagnetic Semiconductor (Ga,Mn)As to 200 K via Nanostructure Engineering. Nano Letters, 2011, 11, 2584-2589.	9.1	273
2	Electrical generation and control of the valley carriers in a monolayer transition metal dichalcogenide. Nature Nanotechnology, 2016, 11, 598-602.	31.5	259
3	Multifunctional $L_{1-x}Mn_x$ Ga Films with Ultrahigh Coercivity, Giant Perpendicular Magnetocrystalline Anisotropy and Large Magnetic Energy Product. Advanced Materials, 2012, 24, 4547-4551.	21.0	151
4	Low-temperature magnetotransport behaviors of heavily Mn-doped (Ga,Mn)As films with high ferromagnetic transition temperature. Applied Physics Letters, 2009, 95, .	3.3	124
5	Controlled Synthesis of Phase-Pure InAs Nanowires on Si(111) by Diminishing the Diameter to 10 nm. Nano Letters, 2014, 14, 1214-1220.	9.1	110
6	Evidence for Structural Phase Transitions Induced by the Triple Phase Line Shift in Self-Catalyzed GaAs Nanowires. Nano Letters, 2012, 12, 5436-5442.	9.1	82
7	Near Full-Composition-Range High-Quality GaAs <sub>1-x</sub> Sb <sub>x</sub> Nanowires Grown by Molecular-Beam Epitaxy. Nano Letters, 2017, 17, 622-630.	9.1	74
8	Free-Standing Two-Dimensional Single-Crystalline InSb Nanosheets. Nano Letters, 2016, 16, 834-841.	9.1	72
9	Perpendicularly magnetized $L_{1-x}Mn_x$ Al (001) thin films epitaxied on GaAs. Applied Physics Letters, 2013, 102, .	3.3	69
10	Negative photoconductivity of InAs nanowires. Physical Chemistry Chemical Physics, 2016, 18, 818-826.	2.8	68
11	Tailoring magnetism of multifunctional $Mn_x$ Ga films with giant perpendicular anisotropy. Applied Physics Letters, 2013, 102, .	3.3	61
12	Perpendicularly magnetized $Mn_x$ Ga films: promising materials for future spintronic devices, magnetic recording and permanent magnets. Applied Physics A: Materials Science and Processing, 2013, 111, 379-387.	2.3	53
13	Magnetic and Gilbert damping properties of $L_{21}$ -Co <sub>2</sub> FeAl film grown by molecular beam epitaxy. Applied Physics Letters, 2013, 103, .	3.3	47
14	Linear and Nonlinear Two-Terminal Spin-Valve Effect from Chirality-Induced Spin Selectivity. ACS Nano, 2020, 14, 15983-15991.	14.6	47
15	Anomalous Hall effect in epitaxial $L_{1-x}Mn_x$ Ga films with variable chemical ordering. Physical Review B, 2014, 89, .	3.2	43
16	Orbital two-channel Kondo effect in epitaxial ferromagnetic $L_{10}$ -MnAl films. Nature Communications, 2016, 7, 10817.	12.8	42
17	Highly Sensitive InSb Nanosheets Infrared Photodetector Passivated by Ferroelectric Polymer. Advanced Functional Materials, 2020, 30, 2006156.	14.9	41
18	All Zinc-Blende GaAs/(Ga,Mn)As Core-Shell Nanowires with Ferromagnetic Ordering. Nano Letters, 2013, 13, 1572-1577.	9.1	40

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19	Piezo Voltage Controlled Planar Hall Effect Devices. Scientific Reports, 2016, 6, 28458.	3.3	40
20	Crystal Phase- and Orientation-Dependent Electrical Transport Properties of InAs Nanowires. Nano Letters, 2016, 16, 2478-2484.	9.1	38
21	Anomalous Hall effect and spin-orbit torques in MnGa/IrMn films: Modification from strong spin Hall effect of the antiferromagnet. Physical Review B, 2016, 94, .	3.2	35
22	Valley Polarization of Trions and Magnetoresistance in Heterostructures of MoS <sub>2</sub> and Yttrium Iron Garnet. ACS Nano, 2017, 11, 12257-12265.	14.6	35
23	Recent progress in perpendicularly magnetized Mn-based binary alloy films. Chinese Physics B, 2013, 22, 118505.	1.4	34
24	Ferromagnetic Interfacial Interaction and the Proximity Effect in a $\text{Co}/\text{Mn}_2/\text{FeAl}/\text{Mn}$ Tj ETQq0 0 0 rBT /Overl	7.8	33
25	111, 027203. Different temperature scaling of strain-induced magneto-crystalline anisotropy and Gilbert damping in Co <sub>2</sub> FeAl film epitaxied on GaAs. Applied Physics Letters, 2014, 105, 072413.	3.3	31
26	MnGa-based fully perpendicular magnetic tunnel junctions with ultrathin Co <sub>2</sub> MnSi interlayers. Scientific Reports, 2017, 7, 43064.	3.3	31
27	The thickness-dependent dynamic magnetic property of Co <sub>2</sub> FeAl films grown by molecular beam epitaxy. Applied Physics Letters, 2014, 105, .	3.3	30
28	Modulated switching current density and spin-orbit torques in MnGa/Ta films with inserting ferromagnetic layers. Scientific Reports, 2016, 6, 38375.	3.3	30
29	Anomalous resistivity upturn in epitaxial L <sub>21</sub> -Co <sub>2</sub> MnAl films. Scientific Reports, 2017, 7, 42931.	3.3	30
30	Dimension Engineering of High-Quality InAs Nanostructures on a Wafer Scale. Nano Letters, 2019, 19, 1632-1642.	9.1	29
31	Magnetic properties of full-Heusler alloy Co <sub>2</sub> Fe <sub>1-x</sub> Mn <sub>x</sub> Al films grown by molecular-beam epitaxy. Applied Physics Letters, 2010, 97, .	3.3	28
32	Anisotropic Pauli Spin-Blockade Effect and Spin-Orbit Interaction Field in an InAs Nanowire Double Quantum Dot. Nano Letters, 2018, 18, 4741-4747.	9.1	27
33	Suspended InAs nanowire gate-all-around field-effect transistors. Applied Physics Letters, 2014, 105, .	3.3	26
34	Robust Manipulation of Magnetism in Dilute Magnetic Semiconductor (Ga,Mn)As by Organic Molecules. Advanced Materials, 2015, 27, 8043-8050.	21.0	26
35	$\text{Mn}_2/\text{Ga}_2\text{Mn}_2/\text{Mn}$	2.6	26
36	Electrical characteristics of field-effect transistors based on indium arsenide nanowire thinner than 10 nm. Applied Physics Letters, 2014, 105, .	3.3	24

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37	Two-Dimensional Quantum Transport in Free-Standing InSb Nanosheets. Nano Letters, 2019, 19, 561-569.	9.1	24
38	Phase-coherent transport and spin relaxation in InAs nanowires grown by molecule beam epitaxy. Applied Physics Letters, 2015, 106, .	3.3	21
39	Enhancement of the Curie temperature of ferromagnetic semiconductor (Ga,Mn)As. Science China: Physics, Mechanics and Astronomy, 2013, 56, 99-110.	5.1	20
40	Two-step fabrication of self-catalyzed Ga-based semiconductor nanowires on Si by molecular-beam epitaxy. Nanoscale, 2016, 8, 10615-10621.	5.6	20
41	Strong and tunable spin-orbit interaction in a single crystalline InSb nanosheet. Npj 2D Materials and Applications, 2021, 5, .	7.9	20
42	Intrinsically limited critical temperatures of highly doped GaMnAs films. Physical Review B, 2010, 81, .	3.2	19
43	Anomalous Hall effect in $\text{Bi}_2\text{Te}_3$ with controllable orbital two-channel Kondo effect. Physical Review B, 2016, 93, .	3.2	19
44	Enhanced spin-orbit torques in MnAl/Ta films with improving chemical ordering. Applied Physics Letters, 2017, 110, .	3.3	19
45	Coexistence of induced superconductivity and quantum Hall states in InSb nanosheets. Physical Review B, 2019, 99, .	3.2	18
46	Spin Polarization Compensation in Ferrimagnetic $\text{CoPt}$ Bilayers Revealed by Spin Hall Magnetoresistance. Physical Review Applied, 2020, 14, .	3.8	18
47	Temperature dependent magnetic anisotropy of epitaxial $\text{Co}_2\text{FeAl}$ films grown on GaAs. Journal of Applied Physics, 2015, 117, .	2.5	17
48	Voltage manipulation of the magnetization reversal in Fe/n-GaAs/piezoelectric heterostructure. Journal of Magnetism and Magnetic Materials, 2015, 375, 148-152.	2.3	17
49	Measurements of the spin-orbit interaction and Landé g factor in a pure-phase InAs nanowire double quantum dot in the Pauli spin-blockade regime. Applied Physics Letters, 2016, 109, .	3.3	17
50	Coherent Transport in a Linear Triple Quantum Dot Made from a Pure-Phase InAs Nanowire. Nano Letters, 2017, 17, 4158-4164.	9.1	17
51	High-Performance Room-Temperature UV-IR Photodetector Based on the InAs Nanosheet and Its Wavelength- and Intensity-Dependent Negative Photoconductivity. ACS Applied Materials & Interfaces, 2021, 13, 26187-26195.	8.0	17
52	Spin-orbit torque induced magnetization switching in ferrimagnetic Heusler alloy $\text{D}_{22}\text{-Mn}_3\text{Ga}$ with large perpendicular magnetic anisotropy. Applied Physics Letters, 2019, 115, .	3.3	16
53	Visible-IR Wide-Spectrum Photodetector at Room Temperature Based on $\text{p-n}$ Junction-Type GaAs/Sb/InAs Core-Shell Nanowire. ACS Applied Materials & Interfaces, 2019, 11, 38973-38981.	8.0	15
54	The in-plane anisotropic magnetic damping of ultrathin epitaxial $\text{Co}_2\text{FeAl}$ film. AIP Advances, 2015, 5, .	1.3	14

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55	Nanoscale thermal transport across an GaAs/AlGaAs heterostructure interface. Structural Dynamics, 2020, 7, 025101.	2.3	13
56	Suppressing Andreev Bound State Zero Bias Peaks Using a Strongly Dissipative Lead. Physical Review Letters, 2022, 128, 076803.	7.8	13
57	Strain and magnetic anisotropy of as-grown and annealed Fe films on c(4 $\times$ 4) reconstructed GaAs (001) surface. Journal of Applied Physics, 2009, 106, .	2.5	12
58	Strain-induced high ferromagnetic transition temperature of MnAs epilayer grown on GaAs (110). Nanoscale Research Letters, 2011, 6, 125.	5.7	12
59	Improved tunneling magnetoresistance in (Ga,Mn)As/AlO <sub>x</sub> /CoFeB magnetic tunnel junctions. Applied Physics Letters, 2011, 98, 262501.	3.3	12
60	Foreign-catalyst-free growth of InAs/InSb axial heterostructure nanowires on Si (111) by molecular-beam epitaxy. Nanotechnology, 2017, 28, 135704.	2.6	12
61	Gate defined quantum dot realized in a single crystalline InSb nanosheet. Applied Physics Letters, 2019, 114, .	3.3	12
62	Low-temperature resistivity anomaly and weak spin disorder in $C_{2oMn_2}$ MnGa epitaxial thin films. Physical Review B, 2020, 101, .	3.2	12
63	Spontaneous perpendicular exchange bias effect in $L_{1-1}$ -MnGa/FeMn bilayers grown by molecular-beam epitaxy. Applied Physics Letters, 2018, 112, .	3.3	11
64	Control of magnetic anisotropy in epitaxial Co <sub>2</sub> MnAl thin films through piezo-voltage-induced strain. Journal of Applied Physics, 2019, 125, .	2.5	11
65	Observation of orbital two-channel Kondo effect in a ferromagnetic L10-MnGa film. Scientific Reports, 2016, 6, 34549.	3.3	10
66	Molecular Patterning and Directed Self-Assembly of Gold Nanoparticles on GaAs. ACS Applied Materials & Interfaces, 2017, 9, 43363-43369.	8.0	9
67	$L_{10}$ -MnGa based magnetic tunnel junction for high magnetic field sensor. Journal Physics D: Applied Physics, 2017, 50, 285002.	2.8	9
68	Interface-driven unusual anomalous Hall effect in $Mn_xPt_{1-x}$ bilayers. Physical Review B, 2019, 100, .	3.2	9
69	Noncollinear spin state and unusual magnetoresistance in ferrimagnet Co-Gd. Physical Review Materials, 2022, 6, .	2.4	9
70	Magnetic anisotropies of laterally confined structures of epitaxial Fe films on GaAs (001). Applied Physics Letters, 2010, 97, 072503.	3.3	8
71	The magnetic switching process in MBE-grown Co <sub>2</sub> MnAl Heusler alloy film. Solid State Communications, 2013, 163, 33-36.	1.9	8
72	Design and Synthesis of an Artificial Perpendicular Hard Ferrimagnet with High Thermal and Magnetic Field Stabilities. Scientific Reports, 2017, 7, 16990.	3.3	8

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73	A highly tunable quadruple quantum dot in a narrow bandgap semiconductor InAs nanowire. <i>Nanoscale</i> , 2021, 13, 3983-3990.	5.6	8
74	Composition-tuned magneto-optical Kerr effect in $\text{La}_{1-x}\text{O}_{1-x}\text{Mn}_x\text{Ga}$ films with giant perpendicular anisotropy. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 245001.	2.8	7
75	Unveiling the Mechanism for the Split Hysteresis Loop in Epitaxial $\text{Co}_2\text{Fe}_{1-x}\text{Mn}_x\text{Al}$ Full-Heusler Alloy Films. <i>Scientific Reports</i> , 2016, 6, 18615.	3.3	7
76	Tailoring the interfacial exchange coupling of perpendicularly magnetized $\text{Co}_{1-x}\text{Mn}_x\text{Ga}$ bilayers. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 245003.	2.8	7
77	Tunable Perpendicular Magnetic Anisotropy in Off-Stoichiometric Full-Heusler Alloy $\text{Co}_2\text{MnAl}^*$ . <i>Chinese Physics Letters</i> , 2019, 36, 067502.	3.3	7
78	Efficiently Rotating the Magnetization Vector in a Magnetic Semiconductor via Organic Molecules. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 6615-6623.	8.0	7
79	Ultrafast Magnetization Precession in Perpendicularly Magnetized $\text{La}_{1-x}\text{Mn}_x\text{Al}$ Thin Films with $\text{Co}_2\text{MnSi}$ Buffer Layers*. <i>Chinese Physics Letters</i> , 2020, 37, 058501.	3.3	7
80	A double quantum dot defined by top gates in a single crystalline InSb nanosheet*. <i>Chinese Physics B</i> , 2021, 30, 128501.	1.4	7
81	Silver-assisted growth of high-quality $\text{InAs}_x\text{Sb}_{1-x}$ nanowires by molecular-beam epitaxy. <i>Nanotechnology</i> , 2020, 31, 465602.	2.6	7
82	Quantitative determination of the Mn site distribution in ultrathin $\text{Ga}_{0.80}\text{Mn}_{0.20}$ layers with high critical temperatures: A Rutherford backscattering channeling investigation. <i>Physical Review B</i> , 2014, 89, .	3.2	6
83	Hybrid magnetoresistance in Pt-based multilayers: Effect originated from strong interfacial spin-orbit coupling. <i>Scientific Reports</i> , 2016, 6, 20522.	3.3	6
84	GaAsSb/InAs core-shell nanowires grown by molecular-beam epitaxy. <i>Journal of Alloys and Compounds</i> , 2017, 724, 659-665.	5.5	6
85	Ultrafast Structural Dynamics along the $\text{MnAs}$ Phase Transition Path in $\text{MnAs}$ . <i>Physical Review Letters</i> , 2019, 122, 145702.	7.8	6
86	Giant modulation of magnetism in (Ga,Mn)As ultrathin films via electric field. <i>Journal of Semiconductors</i> , 2019, 40, 092501.	3.7	5
87	Magneto-transport properties of the off-stoichiometric $\text{Co}_2\text{MnAl}$ film epitaxially grown on GaAs (001). <i>Journal of Semiconductors</i> , 2019, 40, 052501.	3.7	5
88	Measurements of spin-orbit interaction in epitaxially grown InAs nanosheets. <i>Applied Physics Letters</i> , 2020, 117, 132101.	3.3	5
89	Antiferromagnet-mediated spin-orbit torque induced magnetization switching in perpendicularly magnetized $\text{La}_{1-x}\text{Mn}_x\text{Ga}$ . <i>Applied Physics Letters</i> , 2021, 118, 092401.	3.3	5
90	Enhanced spin-orbit torque efficiency and neuron-like behaviors in ferrimagnet/heavy-metal heterostructure. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	5

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91	Ultrafast enhancement and optical control of magnetization in ferromagnet/semiconductor layered structures via superdiffusive spin transports. <i>Materials Today Physics</i> , 2022, 26, 100723.	6.0	5
92	Structure and Magnetic Properties of (In,Mn)As Based Core-Shell Nanowires Grown on Si(111) by Molecular-Beam Epitaxy. <i>Chinese Physics Letters</i> , 2014, 31, 078103.	3.3	4
93	Probing the thiol-gold planar interface by spin polarized tunneling. <i>Applied Physics Letters</i> , 2014, 104, 152403.	3.3	4
94	Engineering the polar magneto-optical Kerr effect in strongly strained $\text{MnAl}$ films. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 415001.	2.8	4
95	A charge sensor integration to tunable double quantum dots on two neighboring InAs nanowires. <i>Nanoscale</i> , 2021, 13, 1048-1054.	5.6	4
96	Photoinduced Spin Precession in Fe/GaAs(001) Heterostructure with Low Power Excitation. <i>Applied Physics Express</i> , 2013, 6, 073008.	2.4	4
97	Room-temperature spin transport in InAs nanowire lateral spin valve. <i>RSC Advances</i> , 2016, 6, 75736-75740.	3.6	3
98	Experimental evidence for an anisotropic Berry-phase effect on the anomalous Hall effect in MnAs films. <i>Physical Review B</i> , 2018, 97, .	3.2	3
99	Tunneling Anisotropic Magnetoresistance in $\text{MnGa}$ Based Antiferromagnetic Perpendicular Tunnel Junction. <i>Chinese Physics Letters</i> , 2018, 35, 087501.	3.3	3
100	Unusual Anomalous Hall Effect in a $\text{Co}_2\text{MnSi}/\text{MnGa}/\text{Pt}$ Trilayer. <i>Chinese Physics Letters</i> , 2020, 37, 077303.	3.3	3
101	Magnetic characterization of a thin $\text{Co}_2\text{MnSi}/\text{MnGa}$ synthetic antiferromagnetic bilayer prepared by MBE*. <i>Chinese Physics B</i> , 2020, 29, 107501.	1.4	3
102	Large-Composition-Range Pure-Phase Homogeneous InAs <sub>1-x</sub> Sb <sub>x</sub> Nanowires. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 598-605.	4.6	3
103	Fabrication and characterization of InSb nanosheet/hBN/graphite heterostructure devices. <i>Nanotechnology</i> , 2022, 33, 325303.	2.6	3
104	Magnetization dynamics and Gilbert damping in a hybrid Fe/GaAs heterostructure. <i>Solid State Communications</i> , 2014, 192, 31-35.	1.9	2
105	Manipulation of magnetism in perpendicularly magnetized Heusler alloy $\text{Co}_2\text{FeAl}_{0.5}\text{Si}_{0.5}$ by electric-field at room temperature. <i>Journal of Applied Physics</i> , 2016, 120, .	2.5	2
106	Manipulation of morphology and structure of the top of GaAs nanowires grown by molecular-beam epitaxy. <i>Journal of Semiconductors</i> , 2017, 38, 103001.	3.7	2
107	Magnetic properties of (Ga,Mn)As (110) epitaxial films. <i>Europhysics Letters</i> , 2017, 118, 17003.	2.0	2
108	Piezostain modulation of magnetic damping in MBE-grown epitaxial $\text{Co}_2\text{FeAl}/\text{GaAs}$ heterostructure. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 455001.	2.8	2

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109	Semiconductor-metal transition in GaAs nanowires under high pressure. Chinese Physics B, 2019, 28, 076401.	1.4	2
110	From high-quality semiconductor/superconductor nanowires to Majorana zero mode. Wuli Xuebao/Acta Physica Sinica, 2021, 70, 058101.	0.5	2
111	Detection of charge states of an InAs nanowire triple quantum dot with an integrated nanowire charge sensor. Applied Physics Letters, 2020, 117, .	3.3	2
112	Fabrication of (Ga,Mn)As magnetic semiconductor quantum dots on Si substrates by droplet epitaxy. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 393-395.	0.8	1
113	Electrical Transport of Perpendicularly Magnetized L10-MnGa and MnAl Films. Spin, 2017, 07, 1730001.	1.3	1
114	Foreign-catalyst-free GaSb nanowires directly grown on cleaved Si substrates by molecular-beam epitaxy. Nanotechnology, 2020, 31, 155601.	2.6	1
115	Enhancing the light emission of GaAs nanowires by pressure-modulated charge transfer. Nanoscale Advances, 2020, 2, 2558-2563.	4.6	1
116	Electrically tunable spin-orbit interaction in an InAs nanosheet. Nanoscale Advances, 2022, 4, 2642-2648.	4.6	1
117	Threshold MnAs thickness for the formation of ordered $\hat{\pm}\hat{l}^2$ stripes in MnAs/GaAs(001). Journal Physics D: Applied Physics, 2020, 53, 265005.	2.8	0
118	Axiotaxy driven growth of belt-shaped InAs nanowires in molecular beam epitaxy. Nano Research, 2021, 14, 2330.	10.4	0
119	Magnetotransport Behaviors of (Ga,Mn)As-Based Nanostructures and Devices. , 2015, , 1-25.		0
120	Magneto-Transport Behaviors of (Ga,Mn)As Based Nano-structures and Devices. , 2016, , 585-614.		0
121	Highly Efficient Terahertz Emission from InAs Nanostructures. , 2020, , .		0
122	Compositional Dependence of Epitaxial $\text{In}_{1-x}\text{Mn}_x\text{Ga}$ Magnetic Properties as Probed by $^{57}\text{Mn}/\text{Fe}$ and $^{119}\text{In}/\text{Sn}$ Emission Mössbauer Spectroscopy. Physica Status Solidi (B): Basic Research, 0, , .	1.5	0
123	Dual-axis control of magnetic anisotropy in single crystal $\text{Co}_2\text{MnSi}$ thin film through piezo-voltage-induced strain. Nanoscale Advances, 0, , .	4.6	0