

Feng Miao

List of Publications by Year in descending order

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123
papers

29,484
citations

24978

57
h-index

19136

118
g-index

126
all docs

126
docs citations

126
times ranked

31708
citing authors

#	ARTICLE	IF	CITATIONS
1	Superior Thermal Conductivity of Single-Layer Graphene. Nano Letters, 2008, 8, 902-907.	4.5	11,726
2	Extremely high thermal conductivity of graphene: Prospects for thermal management applications in nanoelectronic circuits. Applied Physics Letters, 2008, 92, .	1.5	1,745
3	Controlled ripple texturing of suspended graphene and ultrathin graphite membranes. Nature Nanotechnology, 2009, 4, 562-566.	15.6	1,186
4	Temperature Dependence of the Raman Spectra of Graphene and Graphene Multilayers. Nano Letters, 2007, 7, 2645-2649.	4.5	1,057
5	Strong Photoluminescence Enhancement of MoS ₂ through Defect Engineering and Oxygen Bonding. ACS Nano, 2014, 8, 5738-5745.	7.3	995
6	Hopping transport through defect-induced localized states in molybdenum disulphide. Nature Communications, 2013, 4, 2642.	5.8	935
7	The mechanism of electroforming of metal oxide memristive switches. Nanotechnology, 2009, 20, 215201.	1.3	699
8	Phase-Coherent Transport in Graphene Quantum Billiards. Science, 2007, 317, 1530-1533.	6.0	638
9	High switching endurance in TaOx memristive devices. Applied Physics Letters, 2010, 97, .	1.5	543
10	Robust memristors based on layered two-dimensional materials. Nature Electronics, 2018, 1, 130-136.	13.1	539
11	Integrated digital inverters based on two-dimensional anisotropic ReS ₂ field-effect transistors. Nature Communications, 2015, 6, 6991.	5.8	505
12	Room temperature high-detectivity mid-infrared photodetectors based on black arsenic phosphorus. Science Advances, 2017, 3, e1700589.	4.7	419
13	Anatomy of a Nanoscale Conduction Channel Reveals the Mechanism of a High-Performance Memristor. Advanced Materials, 2011, 23, 5633-5640.	11.1	393
14	Van der Waals epitaxial growth and optoelectronics of large-scale WSe ₂ /SnS ₂ vertical bilayer p-n junctions. Nature Communications, 2017, 8, 1906.	5.8	369
15	Broadband Photovoltaic Detectors Based on an Atomically Thin Heterostructure. Nano Letters, 2016, 16, 2254-2259.	4.5	322
16	Two-dimensional quasi-freestanding molecular crystals for high-performance organic field-effect transistors. Nature Communications, 2014, 5, 5162.	5.8	315
17	Van der Waals Heterostructures for High-Performance Device Applications: Challenges and Opportunities. Advanced Materials, 2020, 32, e1903800.	11.1	304
18	High Responsivity Phototransistors Based on Few-Layer ReS ₂ for Weak Signal Detection. Advanced Functional Materials, 2016, 26, 1938-1944.	7.8	270

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19	Recent Progress on Two-Dimensional Materials. Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 2021, .	2.2	269
20	Spatially resolved spectroscopy of monolayer graphene on SiO_2 . Physical Review B, 2009, 79, .	1.1	218
21	2022 roadmap on neuromorphic computing and engineering. Neuromorphic Computing and Engineering, 2022, 2, 022501.	2.8	217
22	Gate-tunable negative longitudinal magnetoresistance in the predicted type-II Weyl semimetal WTe_2 . Nature Communications, 2016, 7, 13142.	5.8	215
23	The effect of substrates on the Raman spectrum of graphene: Graphene- on-sapphire and graphene-on-glass. Applied Physics Letters, 2007, 91, 201904.	1.5	213
24	Gate-tunable van der Waals heterostructure for reconfigurable neural network vision sensor. Science Advances, 2020, 6, eaba6173.	4.7	202
25	Reconfigurable logic and neuromorphic circuits based on electrically tunable two-dimensional homojunctions. Nature Electronics, 2020, 3, 383-390.	13.1	191
26	State Dynamics and Modeling of Tantalum Oxide Memristors. IEEE Transactions on Electron Devices, 2013, 60, 2194-2202.	1.6	183
27	Engineering nonlinearity into memristors for passive crossbar applications. Applied Physics Letters, 2012, 100, .	1.5	179
28	Electrical Performance and Scalability of Pt Dispersed SiO_2 Nanometallic Resistance Switch. Nano Letters, 2013, 13, 3213-3217.	4.5	175
29	Strain effects on borophene: ideal strength, negative Poisson's ratio and phonon instability. New Journal of Physics, 2016, 18, 073016.	1.2	174
30	Variable temperature Raman microscopy as a nanometrology tool for graphene layers and graphene-based devices. Applied Physics Letters, 2007, 91, .	1.5	163
31	Observation of ballistic avalanche phenomena in nanoscale vertical InSe/BP heterostructures. Nature Nanotechnology, 2019, 14, 217-222.	15.6	153
32	Raman vibrational spectra of bulk to monolayer ReS_2 with lower symmetry. Physical Review B, 2015, 92, .	1.1	140
33	Metal/TiO ₂ interfaces for memristive switches. Applied Physics A: Materials Science and Processing, 2011, 102, 785-789.	1.1	138
34	Broadband convolutional processing using band-alignment-tunable heterostructures. Nature Electronics, 2022, 5, 248-254.	13.1	131
35	Electron-Hole Asymmetry of Spin Injection and Transport in Single-Layer Graphene. Physical Review Letters, 2009, 102, 137205.	2.9	130
36	Negative Photoconductance in van der Waals Heterostructure-Based Floating Gate Phototransistor. ACS Nano, 2018, 12, 9513-9520.	7.3	124

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37	Phase-controllable growth of ultrathin 2D magnetic FeTe crystals. <i>Nature Communications</i> , 2020, 11, 3729.	5.8	120
38	Continuous Electrical Tuning of the Chemical Composition of TaO _x -Based Memristors. <i>ACS Nano</i> , 2012, 6, 2312-2318.	7.3	119
39	Strain-Sensitive Magnetization Reversal of a van der Waals Magnet. <i>Advanced Materials</i> , 2020, 32, e2004533.	11.1	119
40	Raman nanometrology of graphene: Temperature and substrate effects. <i>Solid State Communications</i> , 2009, 149, 1132-1135.	0.9	115
41	Boron nitride as two dimensional dielectric: Reliability and dielectric breakdown. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	98
42	Pressure-Tunable Ambipolar Conduction and Hysteresis in Thin Palladium Diselenide Field Effect Transistors. <i>Advanced Functional Materials</i> , 2019, 29, 1902483.	7.8	98
43	Quantized conductance coincides with state instability and excess noise in tantalum oxide memristors. <i>Nature Communications</i> , 2016, 7, 11142.	5.8	95
44	A label-free and portable graphene FET aptasensor for children blood lead detection. <i>Scientific Reports</i> , 2016, 6, 21711.	1.6	88
45	Carrier Modulation of Ambipolar Few-Layer MoTe ₂ Transistors by MgO Surface Charge Transfer Doping. <i>Advanced Functional Materials</i> , 2018, 28, 1704539.	7.8	88
46	Room-temperature valleytronic transistor. <i>Nature Nanotechnology</i> , 2020, 15, 743-749.	15.6	87
47	Spectromicroscopy of tantalum oxide memristors. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	85
48	2D Layered Materials for Memristive and Neuromorphic Applications. <i>Advanced Electronic Materials</i> , 2020, 6, 1901107.	2.6	85
49	Gate-Induced Interfacial Superconductivity in 1T-SnSe ₂ . <i>Nano Letters</i> , 2018, 18, 1410-1415.	4.5	81
50	Networking retinomorphic sensor with memristive crossbar for brain-inspired visual perception. <i>National Science Review</i> , 2021, 8, nwaa172.	4.6	77
51	Highly efficient and ultrastable visible-light photocatalytic water splitting over ReS ₂ . <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 14222-14227.	1.3	76
52	Experimental Identification of Critical Condition for Drastically Enhancing Thermoelectric Power Factor of Two-Dimensional Layered Materials. <i>Nano Letters</i> , 2018, 18, 7538-7545.	4.5	72
53	Observation of two resistance switching modes in TiO ₂ memristive devices electroformed at low current. <i>Nanotechnology</i> , 2011, 22, 254007.	1.3	71
54	Low-Temperature Eutectic Synthesis of PtTe ₂ with Weak Antilocalization and Controlled Layer Thinning. <i>Advanced Functional Materials</i> , 2018, 28, 1803746.	7.8	70

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55	In Situ Observation of Electrostatic and Thermal Manipulation of Suspended Graphene Membranes. Nano Letters, 2012, 12, 5470-5474.	4.5	69
56	Tunable, Ultralow-Power Switching in Memristive Devices Enabled by a Heterogeneous Graphene-Oxide Interface. Advanced Materials, 2014, 26, 3275-3281.	11.1	69
57	Topological transport and atomic tunnelling-clustering dynamics for aged Cu-doped Bi ₂ Te ₃ crystals. Nature Communications, 2014, 5, 5022.	5.8	60
58	Electronic structure and transport measurements of amorphous transition-metal oxides: observation of Fermi glass behavior. Applied Physics A: Materials Science and Processing, 2012, 107, 1-11.	1.1	58
59	Straintronics with van der Waals materials. Npj Quantum Materials, 2021, 6, .	1.8	55
60	Gate-tunable rectification inversion and photovoltaic detection in graphene/WSe ₂ heterostructures. Applied Physics Letters, 2016, 108, .	1.5	54
61	Pressure-induced metallization and superconducting phase in ReS ₂ . Npj Quantum Materials, 2017, 2, .	1.8	53
62	Scalable massively parallel computing using continuous-time data representation in nanoscale crossbar array. Nature Nanotechnology, 2021, 16, 1079-1085.	15.6	53
63	Proximity-Induced Superconductivity with Subgap Anomaly in Type II Weyl Semi-Metal WTe ₂ . Nano Letters, 2018, 18, 7962-7968.	4.5	48
64	Bi ₂ WO ₆ -BiOCl heterostructure with enhanced photocatalytic activity for efficient degradation of oxytetracycline. Scientific Reports, 2020, 10, 18401.	1.6	48
65	Growth of atomically smooth MgO films on graphene by molecular beam epitaxy. Applied Physics Letters, 2008, 93, .	1.5	43
66	The positive piezoconductive effect in graphene. Nature Communications, 2015, 6, 8119.	5.8	43
67	Spectroscopic raman nanometrology of graphene and graphene multilayers on arbitrary substrates. Journal of Physics: Conference Series, 2008, 109, 012008.	0.3	40
68	Vertical WS ₂ /SnS ₂ van der Waals Heterostructure for Tunneling Transistors. Scientific Reports, 2018, 8, 17755.	1.6	40
69	Tuning Electrical Conductance in Bilayer MoS ₂ through Defect-Mediated Interlayer Chemical Bonding. ACS Nano, 2020, 14, 10265-10275.	7.3	40
70	Force modulation of tunnel gaps in metal oxide memristive nanoswitches. Applied Physics Letters, 2009, 95, 113503.	1.5	38
71	Raman spectra of few-layer phosphorene studied from first-principles calculations. Journal of Physics Condensed Matter, 2015, 27, 185302.	0.7	38
72	Direct Evidence for Charge Compensation-Induced Large Magnetoresistance in Thin WTe ₂ . Nano Letters, 2019, 19, 3969-3975.	4.5	37

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91	Vapor phase fabrication of three-dimensional arrayed Bi ₂ Se ₃ nanosheets for cost-effective solar cells. Informa Mater J, 2020, 2, 975-983.	8.5	20
92	Strongly Negative Differential Resistance in Semiconducting Transition-Metal Dichalcogenides. Advanced Electronic Materials, 2019, 5, 1800853.	2.6	17
93	Quantum Conductance Oscillations in Metal/Molecule/Metal Switches at Room Temperature. Physical Review Letters, 2008, 101, 016802.	2.9	16
94	A Braitenberg Vehicle Based on Memristive Neuromorphic Circuits. Advanced Intelligent Systems, 2020, 2, 1900103.	3.3	16
95	Extremely high thermal conductivity of graphene: Prospects for thermal management applications in silicon nanoelectronics. , 2008, , .		15
96	Multifunctional Polymer Memory via Bi-Interfacial Topography for Pressure Perception Recognition. Advanced Science, 2020, 7, 1902864.	5.6	15
97	Topological Phase Transition-Induced Triaxial Vector Magnetoresistance in (Bi ₂ Se ₃) ₂ Nanodevices. ACS Nano, 2018, 12, 1537-1543.	7.3	13
98	Ultrafast photocarrier and coherent phonon dynamics in type-II Dirac semimetal PtTe ₂ thin films probed by optical spectroscopy. Photonics Research, 2022, 10, 653.	3.4	12
99	A selector device based on graphene-oxide heterostructures for memristor crossbar applications. Applied Physics A: Materials Science and Processing, 2015, 120, 403-407.	1.1	11
100	Ultraviolet Raman spectra of double-resonant modes of graphene. Carbon, 2016, 101, 235-238.	5.4	11
101	Temperature-sensitive spatial distribution of defects in $\text{Se}_x\text{Te}_{1-x}$ flakes. Physical Review Materials, 2021, 5, .		11
102	Emerging Low-Dimensional Heterostructure Devices for Neuromorphic Computing. Small Structures, 2022, 3, .	6.9	10
103	Reset switching statistics of TaOx-based Memristor. Journal of Electroceramics, 2017, 39, 132-136.	0.8	8
104	Spin valley and giant quantum spin Hall gap of hydrofluorinated bismuth nanosheet. Scientific Reports, 2018, 8, 7436.	1.6	8
105	Engineered Recombinant Proteins for Aqueous Ultrasonic Exfoliation and Dispersion of Biofunctionalized 2D Materials. Chemistry - A European Journal, 2019, 25, 7991-7997.	1.7	6
106	Reconfigurable vertical field-effect transistor based on graphene/MoTe ₂ /graphite heterostructure. Science China Information Sciences, 2020, 63, 1.	2.7	6
107	Characterization of quantum conducting channels in metal/molecule/metal devices using pressure-modulated conductance microscopy. Applied Physics A: Materials Science and Processing, 2011, 102, 943-948.	1.1	5
108	Set transition statistics of different switching regimes of TaOx memristor. Journal of Electroceramics, 2019, 42, 118-123.	0.8	5

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109	Chemical vapor deposition synthesis of two-dimensional freestanding transition metal oxychloride for electronic applications. <i>Science China Information Sciences</i> , 2019, 62, 1.	2.7	5
110	Raman nanometrology of graphene on arbitrary substrates and at variable temperature. <i>Proceedings of SPIE</i> , 2008, , .	0.8	4
111	Lego-like reconfigurable AI chips. <i>Nature Electronics</i> , 2022, 5, 327-328.	13.1	4
112	Tunable photoresponse with small drain voltage in few-layer graphene/WSe ₂ heterostructures. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2016, 380, 2575-2579.	0.9	3
113	2 step of conductance fluctuations due to the broken time-reversal symmetry in bulk-insulating BiSbTeSe ₂ devices. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	3
114	Uniform photoresponse in thermally oxidized Ni and MoS ₂ heterostructures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2017, 214, 1700151.	0.8	2
115	Experimental observation on a temperature-induced decoupling between the surface states in topological insulator nanoplates Bi ₂ ^x 0.15(TeSe) ₃ +0.15. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	1.1	1
116	In-situ TEM Characterization of Ultra-robust Memristors Based on Fully Layered Two-dimensional Materials. <i>Microscopy and Microanalysis</i> , 2018, 24, 1886-1887.	0.2	1
117	Nanoscale Characterization of Resistive Switching Using Advanced Conductive Atomic Force Microscopy-Based Setups. <i>Kluwer International Series in Electronic Materials: Science and Technology</i> , 2022, , 121-145.	0.3	1
118	Vertical Transistors: Analog Circuit Applications Based on Ambipolar Graphene/MoTe ₂ Vertical Transistors (<i>Adv. Electron. Mater.</i> 3/2018). <i>Advanced Electronic Materials</i> , 2018, 4, 1870015.	2.6	0
119	Engineered Recombinant Proteins for Aqueous Ultrasonic Exfoliation and Dispersion of Biofunctionalized 2D Materials. <i>Chemistry - A European Journal</i> , 2019, 25, 7957-7957.	1.7	0
120	Unusual ultrafast photocarrier dynamics in type II Dirac semimetal PtTe ₂ thin film in terahertz band. , 2019, , .		0
121	Ultrafast photocarrier dynamics in Dirac semimetal PtTe ₂ thin film. , 2021, , .		0
122	Reset Switching Statistics of TaOx-Based Memristor. <i>Kluwer International Series in Electronic Materials: Science and Technology</i> , 2022, , 187-195.	0.3	0
123	2D van der Waals Heterostructures for Emerging Device Applications. , 2020, , .		0