

Xuedong Bai

List of Publications by Year in descending order

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109
papers

6,660
citations

87723

38
h-index

64668

79
g-index

113
all docs

113
docs citations

113
times ranked

9209
citing authors

#	ARTICLE	IF	CITATIONS
1	Chirality-specific growth of single-walled carbon nanotubes on solid alloy catalysts. <i>Nature</i> , 2014, 510, 522-524.	13.7	677
2	Rational design of layered oxide materials for sodium-ion batteries. <i>Science</i> , 2020, 370, 708-711.	6.0	616
3	Epitaxial growth of a 100-square-centimetre single-crystal hexagonal boron nitride monolayer on copper. <i>Nature</i> , 2019, 570, 91-95.	13.7	422
4	Arrays of horizontal carbon nanotubes of controlled chirality grown using designed catalysts. <i>Nature</i> , 2017, 543, 234-238.	13.7	317
5	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, 15632-15635.	6.6	301
6	Measuring the Work Function at a Nanobelt Tip and at a Nanoparticle Surface. <i>Nano Letters</i> , 2003, 3, 1147-1150.	4.5	257
7	Surface Doping to Enhance Structural Integrity and Performance of Li-Rich Layered Oxide. <i>Advanced Energy Materials</i> , 2018, 8, 1802105.	10.2	228
8	Revealing High Na-Content P2-Type Layered Oxides as Advanced Sodium-Ion Cathodes. <i>Journal of the American Chemical Society</i> , 2020, 142, 5742-5750.	6.6	206
9	Enabling Stable Cycling of 4.2 V High-Voltage All-Solid-State Batteries with PEO-Based Solid Electrolyte. <i>Advanced Functional Materials</i> , 2020, 30, 1909392.	7.8	204
10	An atlas of carbon nanotube optical transitions. <i>Nature Nanotechnology</i> , 2012, 7, 325-329.	15.6	186
11	Significantly enhanced critical current densities in MgB ₂ tapes made by a scaleable nanocarbon addition route. <i>Applied Physics Letters</i> , 2006, 88, 072502.	1.5	177
12	Self-adaptive strain-relaxation optimization for high-energy lithium storage material through crumpling of graphene. <i>Nature Communications</i> , 2014, 5, 4565.	5.8	139
13	Growing Zigzag (16,0) Carbon Nanotubes with Structure-Defined Catalysts. <i>Journal of the American Chemical Society</i> , 2015, 137, 8688-8691.	6.6	118
14	Seeded growth of large single-crystal copper foils with high-index facets. <i>Nature</i> , 2020, 581, 406-410.	13.7	116
15	Multidimensional Synergistic Nanoarchitecture Exhibiting Highly Stable and Ultrafast Sodium-Ion Storage. <i>Advanced Materials</i> , 2018, 30, e1707122.	11.1	112
16	Electrically Driven Redox Process in Cerium Oxides. <i>Journal of the American Chemical Society</i> , 2010, 132, 4197-4201.	6.6	101
17	Water-Assisted Preparation of High-Purity Semiconducting (14,4) Carbon Nanotubes. <i>ACS Nano</i> , 2017, 11, 186-193.	7.3	100
18	Optical fibres with embedded two-dimensional materials for ultrahigh nonlinearity. <i>Nature Nanotechnology</i> , 2020, 15, 987-991.	15.6	94

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19	Carbon-Doped Boron Nitride Nanosheets with Ferromagnetism above Room Temperature. <i>Advanced Functional Materials</i> , 2014, 24, 5985-5992.	7.8	86
20	A Single-Step Hydrothermal Route to 3D Hierarchical Cu ₂ O/CuO/rGO Nanosheets as High-Performance Anode of Lithium-Ion Batteries. <i>Small</i> , 2018, 14, 1702667.	5.2	84
21	Kinetic modulation of graphene growth by fluorine through spatially confined decomposition of metal fluorides. <i>Nature Chemistry</i> , 2019, 11, 730-736.	6.6	82
22	Highly Stable and Spectrally Tunable Gamma Phase Rb _x Cs _{1-x} Pb ₃ Gradient-Alloyed Quantum Dots in PMMA Matrix through A Sites Engineering. <i>Advanced Functional Materials</i> , 2021, 31, 2008211.	7.8	73
23	Lattice Dynamics, Phonon Chirality, and Spin-Phonon Coupling in 2D Itinerant Ferromagnet Fe ₃ GeTe ₂ . <i>Advanced Functional Materials</i> , 2019, 29, 1904734.	7.8	70
24	Systematic determination of absolute absorption cross-section of individual carbon nanotubes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 7564-7569.	3.3	69
25	The Mechanistic Insights into the 2H-1T Phase Transition of MoS ₂ upon Alkali Metal Intercalation: From the Study of Dynamic Sodiation Processes of MoS ₂ Nanosheets. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700171.	1.9	65
26	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
27	Gate-dependent pseudospin mixing in graphene/boron nitride moiré superlattices. <i>Nature Physics</i> , 2014, 10, 743-747.	6.5	64
28	Gluing Carbon Black and Sulfur at Nanoscale: A Polydopamine-Based Nano-Binder for Double-Shelled Sulfur Cathodes. <i>Advanced Energy Materials</i> , 2017, 7, 1601591.	10.2	64
29	Rolling Up a Monolayer MoS ₂ Sheet. <i>Small</i> , 2016, 12, 3770-3774.	5.2	60
30	Vertical graphene growth on uniformly dispersed sub-nanoscale SiO _x /N-doped carbon composite microspheres with a 3D conductive network and an ultra-low volume deformation for fast and stable lithium-ion storage. <i>Journal of Materials Chemistry A</i> , 2020, 8, 3822-3833.	5.2	59
31	In Situ Oxygen Doping of Monolayer MoS ₂ for Novel Electronics. <i>Small</i> , 2020, 16, e2004276.	5.2	54
32	Creating polar antivortex in PbTiO ₃ /SrTiO ₃ superlattice. <i>Nature Communications</i> , 2021, 12, 2054.	5.8	50
33	Atomic imaging of mechanically induced topological transition of ferroelectric vortices. <i>Nature Communications</i> , 2020, 11, 1840.	5.8	49
34	Diffusion-controlled alloying of single-phase multi-principal transition metal carbides with high toughness and low thermal diffusivity. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	48
35	Optical visualization and polarized light absorption of the single-wall carbon nanotube to verify intrinsic thermal applications. <i>Light: Science and Applications</i> , 2015, 4, e318-e318.	7.7	43
36	Strong Coupling between ZnO Excitons and Localized Surface Plasmons of Silver Nanoparticles Studied by STEM-EELS. <i>Nano Letters</i> , 2015, 15, 5926-5931.	4.5	42

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37	Robust growth of two-dimensional metal dichalcogenides and their alloys by active chalcogen monomer supply. <i>Nature Communications</i> , 2022, 13, 1007.	5.8	42
38	Atomic-scale observations of electrical and mechanical manipulation of topological polar flux closure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 18954-18961.	3.3	41
39	Layer-by-layer epitaxy of multi-layer MoS ₂ wafers. <i>National Science Review</i> , 2022, 9, .	4.6	41
40	Unraveling nanoscale electrochemical dynamics of graphite fluoride by <i>in situ</i> electron microscopy: key difference between lithiation and sodiation. <i>Journal of Materials Chemistry A</i> , 2020, 8, 6105-6111.	5.2	40
41	Synthesis of Carbon/Carbon Core/Shell Nanotubes with a High Specific Surface Area. <i>Journal of Physical Chemistry C</i> , 2009, 113, 61-68.	1.5	39
42	Valley Pseudospin with a Widely Tunable Bandgap in Doped Honeycomb BN Monolayer. <i>Nano Letters</i> , 2017, 17, 2079-2087.	4.5	37
43	In situ separator modification via CVD-derived N-doped carbon for highly reversible Zn metal anodes. <i>Nano Research</i> , 2022, 15, 9785-9791.	5.8	36
44	In Situ Imaging of On-Surface, Solvent-Free Molecular Single-Crystal Growth. <i>Journal of the American Chemical Society</i> , 2015, 137, 4972-4975.	6.6	35
45	Resistive switching mechanism in the one diode-one resistor memory based on p+-Si/n-ZnO heterostructure revealed by in-situ TEM. <i>Scientific Reports</i> , 2017, 7, 45143.	1.6	35
46	Intrinsic radial breathing oscillation in suspended single-walled carbon nanotubes. <i>Physical Review B</i> , 2011, 83, .	1.1	34
47	Evidence for electric-field-driven migration and diffusion of oxygen vacancies in Pr _{0.7} Ca _{0.3} MnO ₃ . <i>Journal of Applied Physics</i> , 2012, 111, .	1.1	34
48	Cationâ€œDeficiencyâ€œDependent CO ₂ Electroreduction over Copperâ€œBased Ruddlesdenâ€œPopper Perovskite Oxides. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	33
49	Giant anisotropic photonics in the 1D van der Waals semiconductor fibrous red phosphorus. <i>Nature Communications</i> , 2021, 12, 4822.	5.8	32
50	Subunit cellâ€œlevel measurement of polarization in an individual polar vortex. <i>Science Advances</i> , 2019, 5, eaav4355.	4.7	31
51	Regulation of phase transition and magnetocaloric effect by ferroelectric domains in FeRh/PMN-PT heterojunctions. <i>Acta Materialia</i> , 2020, 191, 51-59.	3.8	31
52	Filament growth dynamics in solid electrolyte-based resistive memories revealed by in situ TEM. <i>Nano Research</i> , 2014, 7, 1065-1072.	5.8	30
53	Facile Synthesis of Largeâ€œArea Ultrathin Hexagonal BN Films via Selfâ€œLimiting Growth at the Molten B ₂ O ₃ Surface. <i>Small</i> , 2013, 9, 1353-1358.	5.2	28
54	Realâ€œtime Observation of Deep Lithiation of Tungsten Oxide Nanowires by Inâ€œSitu Electron Microscopy. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 15222-15225.	7.2	28

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55	Constructing Na-ion Cathodes via Alkali-site Substitution. <i>Advanced Functional Materials</i> , 2020, 30, 1910840.	7.8	28
56	In-situ TEM investigation of MoS ₂ upon alkali metal intercalation. <i>Science China Chemistry</i> , 2018, 61, 222-227.	4.2	26
57	Carbon nanotube transistors with graphene oxide films as gate dielectrics. <i>Science China: Physics, Mechanics and Astronomy</i> , 2010, 53, 828-833.	2.0	23
58	Real-time in situ TEM studying the fading mechanism of tin dioxide nanowire electrodes in lithium ion batteries. <i>Science China Technological Sciences</i> , 2013, 56, 2630-2635.	2.0	23
59	Microscopic Kinetics Pathway of Salt Crystallization in Graphene Nanocapillaries. <i>Physical Review Letters</i> , 2021, 126, 136001.	2.9	22
60	Engineering polar vortex from topologically trivial domain architecture. <i>Nature Communications</i> , 2021, 12, 4620.	5.8	20
61	Electroforming and endurance behavior of Al/Pr _{0.7} Ca _{0.3} MnO ₃ /Pt devices. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	19
62	Measurement of complex optical susceptibility for individual carbon nanotubes by elliptically polarized light excitation. <i>Nature Communications</i> , 2018, 9, 3387.	5.8	18
63	Synthesis of Honeycomb-Structured Beryllium Oxide via Graphene Liquid Cells. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 15734-15740.	7.2	18
64	Complete structural characterization of single carbon nanotubes by Rayleigh scattering circular dichroism. <i>Nature Nanotechnology</i> , 2021, 16, 1073-1078.	15.6	18
65	Three-Dimensional Limit of Bulk Rashba Effect in Ferroelectric Semiconductor GeTe. <i>Nano Letters</i> , 2021, 21, 77-83.	4.5	17
66	Ultralong aligned single-walled carbon nanotubes on flexible fluorophlogopite mica for strain sensors. <i>Nano Research</i> , 2012, 5, 443-449.	5.8	16
67	Towards the controlled CVD growth of graphitic B ¹³ C ¹⁵ N atomic layer films: The key role of C delivery molecular precursor. <i>Nano Research</i> , 2016, 9, 1221-1235.	5.8	16
68	Manipulating the Ferroelectric Domain States and Structural Distortion in Epitaxial BiFeO ₃ Ultrathin Films via Bi Nonstoichiometry. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 43792-43801.	4.0	15
69	Strain-Inhibited Electromigration of Oxygen Vacancies in LaCoO ₃ . <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 36800-36806.	4.0	15
70	Surface plasmon enhanced solar-blind photoresponse of Ga ₂ O ₃ film with Ga nanospheres. <i>Science China: Physics, Mechanics and Astronomy</i> , 2018, 61, 1.	2.0	14
71	Engineering of atomic-scale flexoelectricity at grain boundaries. <i>Nature Communications</i> , 2022, 13, 216.	5.8	14
72	Recent development of studies on the mechanism of resistive memories in several metal oxides. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013, 56, 2361-2369.	2.0	12

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73	Revealing Three Stages of DNA-Cisplatin Reaction by a Solid-State Nanopore. <i>Scientific Reports</i> , 2015, 5, 11868.	1.6	12
74	Atomic origin of spin-valve magnetoresistance at the SrRuO ₃ grain boundary. <i>National Science Review</i> , 2020, 7, 755-762.	4.6	12
75	Visualizing Anisotropic Oxygen Diffusion in Ceria under Activated Conditions. <i>Physical Review Letters</i> , 2020, 124, 056002.	2.9	12
76	Revealing the Electrochemical Lithiation Routes of CuO Nanowires by in-situ TEM. <i>ChemElectroChem</i> , 2016, 3, 1296-1300.	1.7	11
77	In-situ TEM study of the dynamic behavior of the graphene-metal interface evolution under Joule heating. <i>Science China Technological Sciences</i> , 2016, 59, 1080-1084.	2.0	11
78	Ferroelectric Proximity Effect and Topological Hall Effect in SrRuO ₃ /BiFeO ₃ Multilayers. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 6194-6202.	4.0	11
79	Enhanced Performance of T_{ad} upon Frequent Alternating Magnetic Fields in FeRh Alloys by Introducing Second Phases. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 18293-18301.	4.0	11
80	Lithium-ion Batteries: A Single-Step Hydrothermal Route to 3D Hierarchical Cu ₂ O/CuO/rGO Nanosheets as High-Performance Anode of Lithium-ion Batteries (Small 5/2018). <i>Small</i> , 2018, 14, 1870020.	5.2	10
81	Atomic-Scale Observation of Structure Transition from Brownmillerite to Infinite Layer in SrFeO _{2.5} Thin Films. <i>Chemistry of Materials</i> , 2021, 33, 3113-3120.	3.2	10
82	Raman spectra and phonon structures of BaGa ₄ Se ₇ crystal. <i>Communications Physics</i> , 2020, 3, .	2.0	9
83	Direct Observation of Inner-Layer Inward Contractions of Multiwalled Boron Nitride Nanotubes upon in Situ Heating. <i>Nanomaterials</i> , 2018, 8, 86.	1.9	8
84	Emergence of Insulating Ferrimagnetism and Perpendicular Magnetic Anisotropy in 3d-5d Perovskite Oxide Composite Films for Insulator Spintronics. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 15407-15414.	4.0	8
85	Reversible Intercalation of Al ³⁺ ions in Poly(3,4-ethylenedioxythiophene):Poly(4-styrenesulfonate) Electrode for Aqueous Electrochemical Capacitors with High Energy Density. <i>Energy Technology</i> , 2021, 9, 2001036.	1.8	7
86	Two-Dimensional Room-Temperature Giant Antiferrodistortive SrTiO ₃ at a Grain Boundary. <i>Physical Review Letters</i> , 2021, 126, 225702.	2.9	7
87	Atomic-scale imaging of the defect dynamics in ceria nanowires under heating by in situ aberration-corrected TEM. <i>Science China Chemistry</i> , 2019, 62, 1704-1709.	4.2	6
88	Electrically driven motion, destruction, and chirality change of polar vortices in oxide superlattices. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	2.0	6
89	Enhanced critical field and anomalous metallic state in two-dimensional centrosymmetric $W_{1-x}S_x$. <i>Physical Review B</i> , 2022, 105, .	1.1	6
90	Surface protonation and oxygen evolution activity of epitaxial La _{1-x} Sr _x CoO ₃ thin films. <i>Science China: Physics, Mechanics and Astronomy</i> , 2020, 63, 1.	2.0	5

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91	Development of in situ optical spectroscopy with high temporal resolution in an aberration-corrected transmission electron microscope. Review of Scientific Instruments, 2021, 92, 013704.	0.6	5
92	Atomic-scale dynamics of the phase transition in bilayer PtSe ₂ . Journal of Materials Chemistry C, 2021, 9, 5261-5266.	2.7	5
93	Broadband Plasmonic NbN Photocatalysts for Enhanced Hydrogen Generation from Ammonia Borane under Visible-Near-Infrared Illumination. Journal of Physical Chemistry Letters, 2022, 13, 4220-4226.	2.1	5
94	Perpendicular magnetic anisotropy induced by La _{2/3} Sr _{1/3} MnO ₃ –YBaCo ₂ O _{5+δ} interlayer coupling. Journal Physics D: Applied Physics, 2021, 54, 185302.	1.3	4
95	Insight into long-period pattern by depth sectioning using aberration-corrected scanning transmission electron microscope. Ultramicroscopy, 2020, 209, 112885.	0.8	3
96	Edge-Enriched Large-Area Hexagonal BN Ultrathin Films with Enhanced Optical Second Harmonic Generation. Journal of Physical Chemistry Letters, 2021, 12, 9475-9480.	2.1	3
97	NANOMECHANICS OF INDIVIDUAL ZINC OXIDE NANOBELTS MEASURED BY IN SITU TRANSMISSION ELECTRON MICROSCOPY. International Journal of Nanoscience, 2006, 05, 951-958.	0.4	2
98	Platinum composite nanowires for ultrasensitive mass detection. Applied Physics Letters, 2017, 110, 143102.	1.5	2
99	Atomic origin of Ti-deficient dislocation in SrTiO ₃ bicrystals and their electronic structures. Journal of Applied Physics, 2019, 126, .	1.1	2
100	Photo-enhanced field electron emission of cadmium sulfide nanowires. Science China: Physics, Mechanics and Astronomy, 2011, 54, 1963-1966.	2.0	1
101	Strong Coupling between ZnO Exciton and Localized Surface Plasmon in Ag Nanoparticles Studied by STEM-EELS. Microscopy and Microanalysis, 2015, 21, 1685-1686.	0.2	1
102	Surface plasmon enhanced solar-blind photoresponse of Ga ₂ O ₃ film with Ga nanospheres. , 2018, 61, 1.		1
103	Electrical, Optical and Ionic Probe inside Transmission Electron Microscope. Materials Research Society Symposia Proceedings, 2013, 1525, 1.	0.1	0
104	Comparison of Structural Analysis and Electrochemical Studies of C-Li ₄ Ti ₅ O ₁₂ and CNT-Li ₄ Ti ₅ O ₁₂ Nanocomposites particles used as Anode for Lithium Ion Battery. Materials Research Society Symposia Proceedings, 2013, 1541, 75701.	0.1	0
105	Dynamic Rate Mechanism of V ₂ O ₅ Coated SnO ₂ Nanowires for Lithium Ion Batteries Studied by in situ TEM. Microscopy and Microanalysis, 2015, 21, 1913-1914.	0.2	0
106	Unraveling the “Seesaw” Competition between the Electrically Driven Reduction and Reoxidation Processes in Ceria with In Situ Electron Microscopy. ChemCatChem, 2016, 8, 3326-3329.	1.8	0
107	STEM-EELS Evaluation of the Dependence of Localized Surface Plasmon Linewidth on the Size of Au Nanoparticles. Microscopy and Microanalysis, 2017, 23, 1554-1555.	0.2	0
108	Synthesis of Honeycomb-Structured Beryllium Oxide via Graphene Liquid Cells. Angewandte Chemie, 2020, 132, 15864-15870.	1.6	0

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109	Cationâ€Deficiencyâ€Dependent CO2 Electroreduction over Copperâ€Based Ruddlesdenâ€Popper Perovskite Oxides. <i>Angewandte Chemie</i> , 2022, 134, e202111670.	1.6	0