He Tian

List of Publications by Year
in descending order

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90 papers	8,814 citations	94269 37 h-index	48187 88 g-index
92 all docs	92 docs citations	92 times ranked	11753 citing authors

#	Article	IF	Citations
1	Perovskite light-emitting diodes based on spontaneously formed submicrometre-scale structures. Nature, 2018, 562, 249-253.	13.7	1,555
2	Perovskite light-emitting diodes based on solution-processed self-organized multiple quantum wells. Nature Photonics, 2016, 10, 699-704.	15.6	1,535
3	Production and application of electron vortex beams. Nature, 2010, 467, 301-304.	13.7	713
4	Efficient blue light-emitting diodes based on quantum-confined bromide perovskite nanostructures. Nature Photonics, 2019, 13, 760-764.	15.6	483
5	C₃Nâ€”A 2D Crystalline, Holeâ€Free, Tunableâ€Narrowâ€Bandgap Semiconductor with Ferromagnetic Properties. Advanced Materials, 2017, 29, 1605625.	11.1	350
6	Extremely Low Operating Current Resistive Memory Based on Exfoliated 2D Perovskite Single Crystals for Neuromorphic Computing. ACS Nano, 2017, 11, 12247-12256.	7.3	286
7	Phase-change heterostructure enables ultralow noise and drift for memory operation. Science, 2019, 366, 210-215.	6.0	261
8	Efficient and High-Color-Purity Light-Emitting Diodes Based on In Situ Grown Films of CsPbX₃ (X = Br, I) Nanoplates with Controlled Thicknesses. ACS Nano, 2017, 11, 11100-11107.	7.3	190
9	Functionalized Ironâ€“Nitrogenâ€“Carbon Electrocatalyst Provides a Reversible Electron Transfer Platform for Efficient Uranium Extraction from Seawater. Advanced Materials, 2021, 33, e2106621.	11.1	184
10	Biomacromolecules enabled dendrite-free lithium metal battery and its origin revealed by cryo-electron microscopy. Nature Communications, 2020, 11, 488.	5.8	158
11	An ultrastable lithium metal anode enabled by designed metal fluoride spansules. Science Advances, 2020, 6, eaaz3112.	4.7	157
12	Reaction and Capacity-Fading Mechanisms of Tin Nanoparticles in Potassium-Ion Batteries. Journal of Physical Chemistry C, 2017, 121, 12652-12657.	1.5	150
13	Interfacial Oxygen Vacancies as a Potential Cause of Hysteresis in Perovskite Solar Cells. Chemistry of Materials, 2016, 28, 802-812.	3.2	128
14	Degradation Process of Lead Chromate in Paintings by Vincent van Gogh Studied by Means of Synchrotron X-ray Spectromicroscopy and Related Methods. 1. Artificially Aged Model Samples. Analytical Chemistry, 2011, 83, 1214-1223.	3.2	116
15	Large-scale synthesis of N-doped carbon capsules supporting atomically dispersed iron for efficient oxygen reduction reaction electrocatalysis. EScience, 2022, 2, 227-234.	25.0	108
16	Tunable Synthesis of Hollow Metalâ€“Nitrogenâ€“Carbon Capsules for Efficient Oxygen Reduction Catalysis in Proton Exchange Membrane Fuel Cells. ACS Nano, 2019, 13, 8087-8098.	7.3	106
17	Tuning Surface Structure and Strain in Pdâ€“Pt Coreâ€“Shell Nanocrystals for Enhanced Electrocatalytic Oxygen Reduction. Small, 2017, 13, 1603423.	5.2	104
18	Efficient and bright warm-white electroluminescence from lead-free metal halides. Nature Communications, 2021, 12, 1421.	5.8	99

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19	Degradation Process of Lead Chromate in Paintings by Vincent van Gogh Studied by Means of Spectromicroscopic Methods. 3. Synthesis, Characterization, and Detection of Different Crystal Forms of the Chrome Yellow Pigment. Analytical Chemistry, 2013, 85, 851-859.	3.2	92
20	Electronic and nanostructure engineering of bifunctional MoS2 towards exceptional visible-light photocatalytic CO2 reduction and pollutant degradation. Journal of Hazardous Materials, 2020, 381, 120972.	6.5	90
21	Fatigue mechanism of yttrium-doped hafnium oxide ferroelectric thin films fabricated by pulsed laser deposition. Physical Chemistry Chemical Physics, 2017, 19, 3486-3497.	1.3	84
22	Electric field control of superconductivity at the LaAlO ₃ /KTaO ₃ (111) interface. Science, 2021, 372, 721-724.	6.0	82
23	Direct observation of room-temperature out-of-plane ferroelectricity and tunneling electroresistance at the two-dimensional limit. Nature Communications, 2018, 9, 3319.	5.8	81
24	How to Manipulate Nanoparticles with an Electron Beam?. Advanced Materials, 2013, 25, 1114-1117.	11.1	80
25	Hydroxyl-Group-Dominated Graphite Dots Reshape Laser Desorption/Ionization Mass Spectrometry for Small Biomolecular Analysis and Imaging. ACS Nano, 2017, 11, 9500-9513.	7.3	79
26	A new way of producing electron vortex probes for STEM. Ultramicroscopy, 2012, 113, 83-87.	0.8	73
27	Ultrathin Anatase TiO₂ Nanosheets for Highâ€Performance Photocatalytic Hydrogen Production. Small, 2017, 13, 1604115.	5.2	72
28	An In situ TEM study of the surface oxidation of palladium nanocrystals assisted by electron irradiation. Nanoscale, 2017, 9, 6327-6333.	2.8	68
29	Efficient light-emitting diodes based on oriented perovskite nanoplatelets. Science Advances, 2021, 7, eabg8458.	4.7	68
30	Controlled chelation between tannic acid and Fe precursors to obtain N, S co-doped carbon with high density Fe-single atom-nanoclusters for highly efficient oxygen reduction reaction in Znâ€“air batteries. Journal of Materials Chemistry A, 2020, 8, 17136-17149.	5.2	64
31	Manipulating topological transformations of polar structures through real-time observation of the dynamic polarization evolution. Nature Communications, 2019, 10, 4864.	5.8	62
32	Two-Dimensional Superconductivity at the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow><mml:mi>LaAlO</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></mml:mrow><mml:mo stretchy="false">(</mml:mo><mml:mn>110</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 207 Td (stretchy="false">)</mml:mo>	2.9	58
33	Highly efficient electrocatalytic hydrogen evolution promoted by Oâ€“Moâ€“C interfaces of ultrafine Î²-Mo₂C nanostructures. Chemical Science, 2020, 11, 3523-3530.	3.7	54
34	Hierarchical nanosheet-constructed yolkâ€“shell TiO₂ porous microspheres for lithium batteries with high capacity, superior rate and long cycle capability. Nanoscale, 2015, 7, 12979-12989.	2.8	51
35	Nanodiamonds do not provide unique evidence for a Younger Dryas impact. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 40-44.	3.3	46
36	Light-Enhanced Ion Migration in Two-Dimensional Perovskite Single Crystals Revealed in Carbon Nanotubes/Two-Dimensional Perovskite Heterostructure and Its Photomemory Application. ACS Central Science, 2019, 5, 1857-1865.	5.3	45

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37	Mesopores induced zero thermal expansion in single-crystal ferroelectrics. Nature Communications, 2018, 9, 1638.	5.8	43
38	Hydrothermal synthesis and formation mechanism of the single-crystalline Bi₄Ti₃O₁₂nanosheets with dominant (010) facets. CrystEngComm, 2016, 18, 2268-2274.	1.3	38
39	Feâ€“Ni Alloy Nanoclusters Anchored on Carbon Aerogels as Highâ€Efficiency Oxygen Electrocatalysts in Rechargeable Znâ€“Air Batteries. Small, 2021, 17, e2102002.	5.2	38
40	Nanoscale Investigation of the Degradation Mechanism of a Historical Chrome Yellow Paint by Quantitative Electron Energy Loss spectroscopy Mapping of Chromium Species. Angewandte Chemie - International Edition, 2013, 52, 11360-11363.	7.2	35
41	A Novel Roomâ€Temperature Multiferroic System of Hexagonal Lu_{1â^'}_xIn_xFeO₃. Advanced Functional Materials, 2018, 28, 1706062.	7.8	34
42	Overcoming the Limits of the Interfacial Dzyaloshinskiiâ€“Moriya Interaction by Antiferromagnetic Order in Multiferroic Heterostructures. Advanced Materials, 2020, 32, e1904415.	11.1	34
43	Surface Defect-Controlled Growth and High Photocatalytic H₂ Production Efficiency of Anatase TiO₂ Nanosheets. ACS Applied Materials & Interfaces, 2019, 11, 37256-37262.	4.0	32
44	Artificial Construction of the Layered Ruddlesdenâ€“Popper Manganite La₂Sr₂Mn₃O₁₀ by Reflection High Energy Electron Diffraction Monitored Pulsed Laser Deposition. Journal of the American Chemical Society, 2012, 134, 7700-7714.	6.6	29
45	Enabling Full Conversion Reaction with High Reversibility to Approach Theoretical Capacity for Sodium Storage. Advanced Functional Materials, 2019, 29, 1906680.	7.8	29
46	Câ€“O^{â^'}â€“K⁺ (Na⁺) groups in non-doped carbon as active sites for the oxygen reduction reaction. Journal of Materials Chemistry A, 2018, 6, 8955-8961.	5.2	28
47	Fe ultra-small particles anchored on carbon aerogels to enhance the oxygen reduction reaction in Zn-air batteries. Journal of Materials Chemistry A, 2021, 9, 6861-6871.	5.2	28
48	Fe3O4/ZnO: A high-quality magnetic oxide-semiconductor heterostructure by reactive deposition. Applied Physics Letters, 2011, 98, 012512.	1.5	26
49	In Situ Observation on Dislocation-Controlled Sublimation of Mg Nanoparticles. Nano Letters, 2016, 16, 1156-1160.	4.5	26
50	Interface-engineered electron and hole tunneling. Science Advances, 2021, 7, .	4.7	25
51	Shaping electron beams for the generation of innovative measurements in the (S)TEM. Comptes Rendus Physique, 2014, 15, 190-199.	0.3	24
52	Interfacial Multiferroics of TiO₂/PbTiO₃ Heterostructure Driven by Ferroelectric Polarization Discontinuity. ACS Applied Materials & Interfaces, 2017, 9, 1899-1906.	4.0	23
53	Electrostatic Forceâ€“Driven Oxide Heteroepitaxy for Interface Control. Advanced Materials, 2018, 30, e1707017.	11.1	23
54	Possible structural origin of superconductivity in Sr-doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">B</mml:mi><mml:msub><mml:mi mathvariant="normal">i</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physi	0.9	23

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55	Univariate Lattice Parameter Modulation of Single-Crystal-like Anatase TiO₂ Hierarchical Nanowire Arrays to Improve Photoactivity. Chemistry of Materials, 2021, 33, 1489-1497.	3.2	22
56	Metal-Free Catalyst with Large Carbon Defects for Efficient Direct Overall Water Splitting in Air at Room Pressure. ACS Applied Materials & Interfaces, 2020, 12, 30280-30288.	4.0	21
57	Interfaceâ€Induced Modulation of Charge and Polarization in Thin Film Fe₃O₄. Advanced Materials, 2014, 26, 461-465.	11.1	16
58	Tuning Interfacial Magnetic Ordering via Polarization Control in Ferroelectric SrTiO₃/PbTiO₃ Heterostructure. ACS Applied Materials & Interfaces, 2018, 10, 10536-10542.	4.0	16
59	A termination-insensitive and robust electron gas at the heterointerface of two complex oxides. Nature Communications, 2019, 10, 4026.	5.8	16
60	Enhanced hybrid improper ferroelectricity in Sr3â^'xBaxSn2O7 ceramics with a Ruddlesdenâ€“Popper (Râ€“P) structure. Applied Physics Letters, 2020, 116, .	1.5	16
61	Single-Crystal BiFeO₃ Nanoplates with Robust Antiferromagnetism. ACS Applied Materials & Interfaces, 2018, 10, 5785-5792.	4.0	15
62	Distribution and concentration of surface oxygen vacancy of TiO₂ and its photocatalytic activity. Journal Physics D: Applied Physics, 2020, 53, 424001.	1.3	15
63	Magnetic and electronic properties of the interface between half metallic Fe3O4 and semiconducting ZnO. Applied Physics Letters, 2012, 100, 081603.	1.5	14
64	Surface Amorphous Oxides Induced Electron Transfer into Complex Oxide Heterointerfaces. Advanced Materials Interfaces, 2018, 5, 1801216.	1.9	14
65	Atomic-Scale Control of Magnetism at the Titanite-Manganite Interfaces. Nano Letters, 2019, 19, 3057-3065.	4.5	13
66	A unique ligand effect in Pt-based coreâ€“shell nanocubes to boost oxygen reduction electrocatalysis. Journal of Materials Chemistry A, 2021, 9, 22653-22659.	5.2	13
67	Atomic scale investigation of enhanced ferroelectricity in (Ba,Ca)TiO₃. RSC Advances, 2017, 7, 22587-22591.	1.7	12
68	Balsam-pear-like rutile/anatase core/shell titania nanorod arrays for photoelectrochemical water splitting. Nanotechnology, 2017, 28, 465602.	1.3	12
69	pH-Dependent growth of atomic Pd layers on trisoctahedral gold nanoparticles to realize enhanced performance in electrocatalysis and chemical catalysis. Nanoscale, 2018, 10, 22302-22311.	2.8	12
70	Enhanced gas-sensing performance of SnO₂/Nb₂O₅ hybrid nanowires. RSC Advances, 2016, 6, 105317-105321.	1.7	10
71	Direct visualization of irreducible ferrielectricity in crystals. Npj Quantum Materials, 2020, 5, .	1.8	9
72	Near-equiatomic high-entropy decagonal quasicrystal in Al20Si20Mn20Fe20Ga20. Science China Materials, 2021, 64, 440-447.	3.5	9

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73	Giant room temperature elastocaloric effect in metal-free thin-film perovskites. Npj Computational Materials, 2021, 7, .	3.5	9
74	Unusual phase transitions in two-dimensional telluride heterostructures. Materials Today, 2022, 54, 52-62.	8.3	9
75	Co³⁺â€“O Bond Elongation Unlocks Co₃O₄ for Methane Activation under Ambient Conditions. ACS Catalysis, 2022, 12, 7037-7045.	5.5	9
76	Epitaxial Integration of Multiple CdSe Quantum Dots in a Colloidal CdS Nanoplatelet. Journal of the American Chemical Society, 2022, 144, 8444-8448.	6.6	8
77	A-site partially ordered La0.5Y0.5FeO3 and its multiferroic characteristics. Applied Physics Letters, 2019, 114, .	1.5	6
78	Enhanced hybrid improper ferroelectricity in Fe/Nb cosubstituted Ca₃Mn₂O₇ ceramics. Journal of the American Ceramic Society, 2021, 104, 4000-4013.	1.9	6
79	Emergence of high-temperature superconductivity at the interface of two Mott insulators. Physical Review B, 2022, 105, .	1.1	6
80	Towards quantitative mapping of the charge distribution along a nanowire by in-line electron holography. Ultramicroscopy, 2018, 194, 126-132.	0.8	5
81	2D Materials: C₃Nâ€”A 2D Crystalline, Holeâ€Free, Tunableâ€Narrowâ€Bandgap Semiconductor with Ferromagnetic Properties (Adv. Mater. 16/2017). Advanced Materials, 2017, 29, .	11.1	4
82	Cu atomic clusters on N-doped porous carbon with tunable oxidation state for the highly-selective electroreduction of CO₂. Materials Advances, 2020, 1, 2286-2292.	2.6	4
83	Roomâ€temperature multiferroic characteristics and unique vortex domain structures of hâ€Yb_{1â^'}_xIn_xFeO₃ solid solutions. Journal of the American Ceramic Society, 2021, 104, 6393-6403.	1.9	4
84	Growth and structural characterisation of Sr-doped Bi2Se3 thin films. Scientific Reports, 2018, 8, 2192.	1.6	3
85	Plasmonic Metal Oxide Nanocrystals via Surface Anchoring of Redox-Active Phosphorus Species. Chemistry of Materials, 2021, 33, 5290-5297.	3.2	3
86	Oxygen Reduction Reaction: Tuning Surface Structure and Strain in Pdâ€“Pt Coreâ€“Shell Nanocrystals for Enhanced Electrocatalytic Oxygen Reduction (Small 7/2017). Small, 2017, 13, .	5.2	2
87	Polarization screening-induced epitaxial growth and interfacial magnetism of BiFeO3/PbTiO3nanoplates. CrystEngComm, 2020, 22, 639-645.	1.3	1
88	B11-O-02Mapping valance and coordination by monochromated STEM EELS. Microscopy (Oxford,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.7	0
89	Nanosheets: Ultrathin Anatase TiO₂ Nanosheets for Highâ€Performance Photocatalytic Hydrogen Production (Small 16/2017). Small, 2017, 13, .	5.2	0
90	Imaging simulation of charged nanowires in TEM with large defocus distance. Microscopy (Oxford,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.7	0