

Jiecai Han

List of Publications by Year in descending order

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80
papers

3,287
citations

236925

25
h-index

149698

56
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82
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82
docs citations

82
times ranked

4710
citing authors

#	ARTICLE	IF	CITATIONS
1	Synergistic Phase and Disorder Engineering in 1Tâ€MoSe ₂ Nanosheets for Enhanced Hydrogenâ€Evolution Reaction. <i>Advanced Materials</i> , 2017, 29, 1700311.	21.0	411
2	Modifying redox properties and local bonding of Co ₃ O ₄ by CeO ₂ enhances oxygen evolution catalysis in acid. <i>Nature Communications</i> , 2021, 12, 3036.	12.8	262
3	Advances in ultra-high temperature ceramics, composites, and coatings. <i>Journal of Advanced Ceramics</i> , 2022, 11, 1-56.	17.4	256
4	S, N Dual-Doped Graphene-like Carbon Nanosheets as Efficient Oxygen Reduction Reaction Electrocatalysts. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 398-405.	8.0	194
5	Strong and Stiff Aramid Nanofiber/Carbon Nanotube Nanocomposites. <i>ACS Nano</i> , 2015, 9, 2489-2501.	14.6	192
6	Direct Transformation from Graphitic C ₃ N ₄ to Nitrogen-Doped Graphene: An Efficient Metal-Free Electrocatalyst for Oxygen Reduction Reaction. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 19626-19634.	8.0	182
7	Skutterudite-Type Ternary Co _{1-x} Ni _x P ₃ Nanoneedle Array Electrocatalysts for Enhanced Hydrogen and Oxygen Evolution. <i>ACS Energy Letters</i> , 2018, 3, 1744-1752.	17.4	160
8	Significantly Increased Raman Enhancement on MoX ₂ (X = S, Se) Monolayers upon Phase Transition. <i>Advanced Functional Materials</i> , 2017, 27, 1606694.	14.9	158
9	Recent Development in Separators for Highâ€Temperature Lithiumâ€Ion Batteries. <i>Small</i> , 2019, 15, e1901689.	10.0	158
10	Improving Electrocatalysts for Oxygen Evolution Using Ni _x Fe _{3-x} O ₄ /Ni Hybrid Nanostructures Formed by Solvothermal Synthesis. <i>ACS Energy Letters</i> , 2018, 3, 1698-1707.	17.4	132
11	Achieving large uniform tensile elasticity in microfabricated diamond. <i>Science</i> , 2021, 371, 76-78.	12.6	95
12	Composite Separators for Robust High Rate Lithium Ion Batteries. <i>Advanced Functional Materials</i> , 2021, 31, 2101420.	14.9	87
13	Facile synthesis of few-layer-thick carbon nitride nanosheets by liquid ammonia-assisted lithiation method and their photocatalytic redox properties. <i>RSC Advances</i> , 2014, 4, 32690-32697.	3.6	63
14	Magnetic properties of Mn-doped 6H-SiC. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	58
15	Preoxidation and Crack-Healing Behavior of ZrB ₂ -SiC Ceramic Composite. <i>Journal of the American Ceramic Society</i> , 2008, 91, 4068-4073.	3.8	54
16	Highâ€Polarity Fluoroalkyl Ether Electrolyte Enables Solvationâ€Free Li ⁺ Transfer for Highâ€Rate Lithium Metal Batteries. <i>Advanced Science</i> , 2022, 9, e2104699.	11.2	54
17	Preparation of a Dense/Porous BiLayered Ceramic by Applying an Electric Field During Freeze Casting. <i>Journal of the American Ceramic Society</i> , 2009, 92, 1874-1876.	3.8	49
18	Synergistic modulation in MX ₂ (where M = Mo or W or V, and X = S or Se) for an enhanced hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2018, 6, 21847-21858.	10.3	39

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19	Carbon Nanofiber Arrays Grown on Three-Dimensional Carbon Fiber Architecture Substrate and Enhanced Interface Performance of Carbon Fiber and Zirconium Carbide Coating. ACS Applied Materials & Interfaces, 2017, 9, 17337-17346.	8.0	34
20	Fabrication of Ceramics with Complex Porous Structures by the Impregnate-Freeze-Casting Process. Journal of the American Ceramic Society, 2009, 92, 2165-2167.	3.8	33
21	Hydrogen Bonding Stabilized Self-Assembly of Inorganic Nanoparticles: Mechanism and Collective Properties. ACS Nano, 2015, 9, 5807-5817.	14.6	31
22	Self-propagating high temperature synthesis and magnetic properties of Ni _{0.35} Zn _{0.65} Fe ₂ O ₄ powders. Bulletin of Materials Science, 2002, 25, 263-266.	1.7	30
23	sp ³ -rich deposition conditions and growth mechanism of tetrahedral amorphous carbon films deposited using filtered arc. Journal of Applied Physics, 2008, 104, .	2.5	29
24	Organosulfur Compounds Enable Uniform Lithium Plating and Long-Term Battery Cycling Stability. Nano Letters, 2020, 20, 2594-2601.	9.1	29
25	Metal Oxides with Distinctive Valence States in an Electron-Rich Matrix Enable Stable High-Capacity Anodes for Li Ion Batteries. Small Methods, 2020, 4, 1900753.	8.6	27
26	Preparation and Thermal Ablation Behavior of HfB ₂ -SiC-Based Ultra-High-Temperature Ceramics Under Severe Heat Conditions. International Journal of Applied Ceramic Technology, 2009, 6, 134-144.	2.1	24
27	High-temperature infrared and dielectric properties of large sapphire crystal for seeker dome application. Crystal Research and Technology, 2008, 43, 531-536.	1.3	20
28	Controllable phase formation and physical properties of yttrium oxide films governed by substrate heating and bias voltage. Ceramics International, 2015, 41, 8921-8930.	4.8	20
29	Combustion synthesis of AlN whiskers. Journal of Materials Science, 2006, 41, 1697-1703.	3.7	19
30	Discussion on electromagnetic crack face boundary conditions for the fracture mechanics of magneto-electro-elastic materials. Acta Mechanica Sinica/Lixue Xuebao, 2006, 22, 233-242.	3.4	18
31	Robust superhydrophobic diamond microspheres for no-loss transport of corrosive liquid microdroplets. Chemical Communications, 2017, 53, 2355-2358.	4.1	18
32	Coessential-connection by microwave plasma chemical vapor deposition: a common process towards wafer scale single crystal diamond. Functional Diamond, 2021, 1, 47-62.	3.8	17
33	Reaction Synthesis of Nickel/Aluminide Multilayer Composites Using Ni and Al Foils: Microstructures, Tensile Properties, and Deformation Behavior. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 409-419.	2.2	16
34	Optical properties of monoclinic HfO ₂ studied by first-principles local density approximation + U approach. Applied Physics Letters, 2013, 103, .	3.3	16
35	Vertical-substrate epitaxial growth of single-crystal diamond by microwave plasma-assisted chemical vapor deposition. Journal of Crystal Growth, 2018, 486, 104-110.	1.5	16
36	Experimental observation of ferromagnetism evolution in nanostructured semiconductor InN. Journal of Materials Chemistry, 2010, 20, 9935.	6.7	15

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37	Influence of Phosphorus Doping Level and Acid Pretreatment on the Voltammetric Behavior of Phosphorus Incorporated Tetrahedral Amorphous Carbon Film Electrodes. <i>Electroanalysis</i> , 2007, 19, 1773-1778.	2.9	14
38	Fracture mechanics associated with non-classical heat conduction in thermoelastic media. <i>Science China: Physics, Mechanics and Astronomy</i> , 2012, 55, 493-504.	5.1	13
39	Catalytic synthesis of crystalline SiC nanowires from a Ni/a-C/Si sandwich configuration. <i>CrystEngComm</i> , 2013, 15, 4655.	2.6	13
40	Isotropy in large-size Al ₂ O ₃ /Y ₃ Al ₅ O ₁₂ eutectic ceramic grown by Horizontal Directional Solidification method. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 704, 207-211.	5.6	13
41	Growth Mechanisms for SiC-AlN Solid Solution Crystals Prepared by Combustion Synthesis. <i>Journal of the American Ceramic Society</i> , 2006, 89, 501-508.	3.8	12
42	Fabrication of hot-pressed ZrC-based composites. <i>Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering</i> , 2009, 223, 1153-1157.	1.3	12
43	Non-hydrogenated amorphous germanium carbide with adjustable microstructure and properties: a potential anti-reflection and protective coating for infrared windows. <i>Surface and Interface Analysis</i> , 2013, 45, 685-690.	1.8	12
44	Impact behaviors of human skull sandwich cellular bones: Theoretical models and simulation. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020, 104, 103669.	3.1	12
45	Sugar-Derived Isotropic Nanoscale Polycrystalline Graphite Capable of Considerable Plastic Deformation. <i>Advanced Materials</i> , 2022, 34, .	21.0	11
46	Fabrication and mechanical properties of porous TiB ₂ ceramic. <i>Journal of Materials Science</i> , 2006, 41, 4790-4794.	3.7	10
47	Thermal Conductivity of Diamond Mosaic Crystals Grown by Chemical Vapor Deposition: Thermal Resistance of Junctions. <i>Physical Review Applied</i> , 2021, 16, .	3.8	10
48	A Single-Layer Composite Separator with 3D-Reinforced Microstructure for Practical High-Temperature Lithium Ion Batteries. <i>Small</i> , 2022, 18, e2107664.	10.0	10
49	Effects of heat treatment on mechanical properties of ODS nickel-based superalloy sheets prepared by EB-PVD. <i>Rare Metals</i> , 2011, 30, 76-80.	7.1	8
50	Influences of indium doping and annealing on microstructure and optical properties of cadmium oxide thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	2.3	8
51	Growth of three-dimensional diamond mosaics by microwave plasma-assisted chemical vapor deposition. <i>CrystEngComm</i> , 2018, 20, 198-203.	2.6	8
52	Past Achievements and Future Challenges in the Development of Infrared Antireflective and Protective Coatings. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020, 217, 2000149.	1.8	8
53	Bonding Layer Microstructures and Mechanical Behavior of Sapphire/Sapphire Joints Diffusion-bonded using MgO-Al ₂ O ₃ -SiO ₂ Interlayer. <i>International Journal of Applied Ceramic Technology</i> , 2011, 8, 1183-1191.	2.1	7
54	Evolution of surface relief of epitaxial diamond films upon growth resumption by microwave plasma chemical vapor deposition. <i>CrystEngComm</i> , 2020, 22, 2138-2146.	2.6	7

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55	Valence electron structure and properties of the ZrO ₂ . Science in China Series D: Earth Sciences, 2008, 51, 1858-1866.	0.9	6
56	Theoretical analysis of the shape evolution of crystals grown by pulling. Crystal Research and Technology, 2011, 46, 1019-1026.	1.3	6
57	Process design for the shape control of crystals grown by Kyropoulos or SAPMAC method. Crystal Research and Technology, 2012, 47, 175-182.	1.3	6
58	Vacancy defect complexes in silicon: Charges and spin order. Physical Review B, 2016, 94, .	3.2	6
59	Impact of UV spot position on forward and reverse photocurrent symmetry in a gold-diamond-gold detector. Applied Physics Letters, 2018, 113, 023501.	3.3	6
60	A moving crack in a nonhomogeneous material strip. Acta Mechanica Solida Sinica, 2006, 19, 223-230.	1.9	5
61	Haze in sapphire crystals grown by SAPMAC method. Crystal Research and Technology, 2011, 46, 669-675.	1.3	5
62	Improved work function of preferentially oriented indium oxide films induced by the plasma exposure technique. Electronic Materials Letters, 2015, 11, 938-943.	2.2	5
63	Enhanced mechanical properties of HfO ₂ film by nitrogen doping. Surface Engineering, 2016, 32, 585-588.	2.2	5
64	Valence electron structure of the (ZrTi) ₂ solid solutions calculated by the three models. Science in China Series D: Earth Sciences, 2009, 52, 1195-1201.	0.9	4
65	Multiwalled Carbon Nanotubes/TiB ₂ /Ni Composite: Microstructure and Mechanical Properties. International Journal of Applied Ceramic Technology, 2009, 6, 525-530.	2.1	4
66	Characterization of large-sized Nd:YAG single crystals grown by horizontal directional solidification. Crystal Research and Technology, 2012, 47, 485-490.	1.3	4
67	Controlling the catalytic synthesis of SiC nanowires, carbon nanotubes, and graphene from a multilayer film precursor. Journal of Materials Science, 2018, 53, 13843-13852.	3.7	4
68	Structural Characteristics and Electrode Activities of Phosphorus Incorporated Tetrahedral Amorphous Carbon Films. Phosphorus, Sulfur and Silicon and the Related Elements, 2008, 183, 657-664.	1.6	3
69	Dislocation Etching Morphology on the A Plane of Sapphire Crystal. Crystal Research and Technology, 2021, 56, 2100022.	1.3	3
70	C 1s photoemission investigation of substrate bias and annealing temperature influencing the microstructure of amorphous diamond films. Applied Physics A: Materials Science and Processing, 2007, 89, 497-501.	2.3	2
71	The controllable growth of superhydrophobic SiC nanowires by tailoring the cooling rate. CrystEngComm, 2018, 20, 7706-7712.	2.6	2
72	Research on New Materials of Metallic Thermal Protection System Panel for Reusable Launch Vehicle. , 0, , .		1

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73	Valence electron structure and properties of stabilized ZrO ₂ . Science in China Series D: Earth Sciences, 2008, 51, 1008-1016.	0.9	1
74	Optimum design of lightweight silicon carbide mirror assembly. Journal Wuhan University of Technology, Materials Science Edition, 2008, 23, 259-262.	1.0	1
75	Quantitative process design of 1-D crystallization for pure melt. Metals and Materials International, 2010, 16, 725-730.	3.4	1
76	Hydrophobicity and Adhesion of Aggregated Diamond Particles. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, .	1.8	1
77	Analysis of Surface Microstructures Formed on Ir Substrate under Different Bias Conditions by Microwave Plasma Chemical Vapor Deposition. Physica Status Solidi (A) Applications and Materials Science, 2022, 219, .	1.8	1
78	Si/SiC Ceramic Composite for Space Optical Mirror. , 2005, , .		0
79	Optimum Structural Design of Lightweight Silicon Carbide Mirror in Cassegrain System. , 0, , .		0
80	A surface electrode on a piezoelectric semi-infinite media under electric impulse. , 2011, , .		0