

Jiecai Han

List of Publications by Year in descending order

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80
papers

3,287
citations

236925

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149698

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82
all docs

82
docs citations

82
times ranked

4710
citing authors

#	ARTICLE	IF	CITATIONS
1	Advances in ultra-high temperature ceramics, composites, and coatings. Journal of Advanced Ceramics, 2022, 11, 1-56.	17.4	256
2	High-Polarity Fluoroalkyl Ether Electrolyte Enables Solvation-Free Li ⁺ Transfer for High-Rate Lithium Metal Batteries. Advanced Science, 2022, 9, e2104699.	11.2	54
3	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
4	A Single-Layer Composite Separator with 3D-Reinforced Microstructure for Practical High-Temperature Lithium Ion Batteries. Small, 2022, 18, e2107664.	10.0	10
5	Sugar-Derived Isotropic Nanoscale Polycrystalline Graphite Capable of Considerable Plastic Deformation. Advanced Materials, 2022, 34, .	21.0	11
6	Achieving large uniform tensile elasticity in microfabricated diamond. Science, 2021, 371, 76-78.	12.6	95
7	Modifying redox properties and local bonding of Co ₃ O ₄ by CeO ₂ enhances oxygen evolution catalysis in acid. Nature Communications, 2021, 12, 3036.	12.8	262
8	Composite Separators for Robust High Rate Lithium Ion Batteries. Advanced Functional Materials, 2021, 31, 2101420.	14.9	87
9	Dislocation Etching Morphology on the A Plane of Sapphire Crystal. Crystal Research and Technology, 2021, 56, 2100022.	1.3	3
10	Thermal Conductivity of Diamond Mosaic Crystals Grown by Chemical Vapor Deposition: Thermal Resistance of Junctions. Physical Review Applied, 2021, 16, .	3.8	10
11	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
12	Hydrophobicity and Adhesion of Aggregated Diamond Particles. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, .	1.8	1
13	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
14	Organosulfur Compounds Enable Uniform Lithium Plating and Long-Term Battery Cycling Stability. Nano Letters, 2020, 20, 2594-2601.	9.1	29
15	Past Achievements and Future Challenges in the Development of Infrared Antireflective and Protective Coatings. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000149.	1.8	8
16	Impact behaviors of human skull sandwich cellular bones: Theoretical models and simulation. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 104, 103669.	3.1	12
17	Evolution of surface relief of epitaxial diamond films upon growth resumption by microwave plasma chemical vapor deposition. CrystEngComm, 2020, 22, 2138-2146.	2.6	7
18	Recent Development in Separators for High-Temperature Lithium-Ion Batteries. Small, 2019, 15, e1901689.	10.0	158

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19	Vertical-substrate epitaxial growth of single-crystal diamond by microwave plasma-assisted chemical vapor deposition. <i>Journal of Crystal Growth</i> , 2018, 486, 104-110.	1.5	16
20	Growth of three-dimensional diamond mosaics by microwave plasma-assisted chemical vapor deposition. <i>CrystEngComm</i> , 2018, 20, 198-203.	2.6	8
21	The controllable growth of superhydrophobic SiC nanowires by tailoring the cooling rate. <i>CrystEngComm</i> , 2018, 20, 7706-7712.	2.6	2
22	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
23	Controlling the catalytic synthesis of SiC nanowires, carbon nanotubes, and graphene from a multilayer film precursor. <i>Journal of Materials Science</i> , 2018, 53, 13843-13852.	3.7	4
24	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
25	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
26	Impact of UV spot position on forward and reverse photocurrent symmetry in a gold-diamond-gold detector. <i>Applied Physics Letters</i> , 2018, 113, 023501.	3.3	6
27	Robust superhydrophobic diamond microspheres for no-loss transport of corrosive liquid microdroplets. <i>Chemical Communications</i> , 2017, 53, 2355-2358.	4.1	18
28	Carbon Nanofiber Arrays Grown on Three-Dimensional Carbon Fiber Architecture Substrate and Enhanced Interface Performance of Carbon Fiber and Zirconium Carbide Coating. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 17337-17346.	8.0	34
29	Synergistic Phase and Disorder Engineering in 1T-MoSe ₂ Nanosheets for Enhanced Hydrogen Evolution Reaction. <i>Advanced Materials</i> , 2017, 29, 1700311.	21.0	411
30	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
31	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
32	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
33	Enhanced mechanical properties of HfO ₂ film by nitrogen doping. <i>Surface Engineering</i> , 2016, 32, 585-588.	2.2	5
34	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
35	Vacancy defect complexes in silicon: Charges and spin order. <i>Physical Review B</i> , 2016, 94, .	3.2	6
36	Hydrogen Bonding Stabilized Self-Assembly of Inorganic Nanoparticles: Mechanism and Collective Properties. <i>ACS Nano</i> , 2015, 9, 5807-5817.	14.6	31

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37	Improved work function of preferentially oriented indium oxide films induced by the plasma exposure technique. <i>Electronic Materials Letters</i> , 2015, 11, 938-943.	2.2	5
38	Strong and Stiff Aramid Nanofiber/Carbon Nanotube Nanocomposites. <i>ACS Nano</i> , 2015, 9, 2489-2501.	14.6	192
39	Controllable phase formation and physical properties of yttrium oxide films governed by substrate heating and bias voltage. <i>Ceramics International</i> , 2015, 41, 8921-8930.	4.8	20
40	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
41	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
42	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
43	Catalytic synthesis of crystalline SiC nanowires from a Ni/a-C/Si sandwich configuration. <i>CrystEngComm</i> , 2013, 15, 4655.	2.6	13
44	Optical properties of monoclinic HfO ₂ studied by first-principles local density approximation + U approach. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	16
45	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
46	Process design for the shape control of crystals grown by Kyropoulos or SAPMAC method. <i>Crystal Research and Technology</i> , 2012, 47, 175-182.	1.3	6
47	Characterization of large-sized Nd:YAG single crystals grown by horizontal directional solidification. <i>Crystal Research and Technology</i> , 2012, 47, 485-490.	1.3	4
48	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
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	Haze in sapphire crystals grown by SAPMAC method. <i>Crystal Research and Technology</i> , 2011, 46, 669-675.	1.3	5
51	Theoretical analysis of the shape evolution of crystals grown by pulling. <i>Crystal Research and Technology</i> , 2011, 46, 1019-1026.	1.3	6
52	A surface electrode on a piezoelectric semi-infinite media under electric impulse. , 2011, , .		0
53	Quantitative process design of 1-D crystallization for pure melt. <i>Metals and Materials International</i> , 2010, 16, 725-730.	3.4	1
54	Experimental observation of ferromagnetism evolution in nanostructured semiconductor InN. <i>Journal of Materials Chemistry</i> , 2010, 20, 9935.	6.7	15

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55	Fabrication of hot-pressed ZrC-based composites. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2009, 223, 1153-1157.	1.3	12
56	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
57	Preparation of a Dense/Porous BiLayered Ceramic by Applying an Electric Field During Freeze Casting. Journal of the American Ceramic Society, 2009, 92, 1874-1876.	3.8	49
58	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
59	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
60	Multiwalled Carbon Nanotubes-TiB ₂ -Ni Composite: Microstructure and Mechanical Properties. International Journal of Applied Ceramic Technology, 2009, 6, 525-530.	2.1	4
61	Magnetic properties of Mn-doped 6H-SiC. Applied Physics Letters, 2009, 94, .	3.3	58
62	Valence electron structure and properties of stabilized ZrO ₂ . Science in China Series D: Earth Sciences, 2008, 51, 1008-1016.	0.9	1
63	Valence electron structure and properties of the ZrO ₂ . Science in China Series D: Earth Sciences, 2008, 51, 1858-1866.	0.9	6
64	Optimum design of lightweight silicon carbide mirror assembly. Journal Wuhan University of Technology, Materials Science Edition, 2008, 23, 259-262.	1.0	1
65	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
66	Preoxidation and Crack-Healing Behavior of ZrB ₂ -SiC Ceramic Composite. Journal of the American Ceramic Society, 2008, 91, 4068-4073.	3.8	54
67	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
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	Influence of Phosphorus Doping Level and Acid Pretreatment on the Voltammetric Behavior of Phosphorus Incorporated Tetrahedral Amorphous Carbon Film Electrodes. Electroanalysis, 2007, 19, 1773-1778.	2.9	14
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	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
72	Growth Mechanisms for SiC-AlN Solid Solution Crystals Prepared by Combustion Synthesis. Journal of the American Ceramic Society, 2006, 89, 501-508.	3.8	12

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73	Fabrication and mechanical properties of porous TiB ₂ ceramic. Journal of Materials Science, 2006, 41, 4790-4794.	3.7	10
74	Combustion synthesis of AlN whiskers. Journal of Materials Science, 2006, 41, 1697-1703.	3.7	19
75	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
76	A moving crack in a nonhomogeneous material strip. Acta Mechanica Solida Sinica, 2006, 19, 223-230.	1.9	5
77	Si/SiC Ceramic Composite for Space Optical Mirror. , 2005, , .		0
78	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
79	Optimum Structural Design of Lightweight Silicon Carbide Mirror in Cassegrain System. , 0, , .		0
80	Research on New Materials of Metallic Thermal Protection System Panel for Reusable Launch Vehicle. , 0, , .		1