

Zhi-Hao Zhao

List of Publications by Year in descending order

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80
papers

3,772
citations

117453

34
h-index

133063

59
g-index

80
all docs

80
docs citations

80
times ranked

3295
citing authors

#	ARTICLE	IF	CITATIONS
1	Achieving ultrahigh triboelectric charge density for efficient energy harvesting. <i>Nature Communications</i> , 2017, 8, 88.	5.8	495
2	OD/2D Heterojunctions of Vanadate Quantum Dots/Graphitic Carbon Nitride Nanosheets for Enhanced Visible-Light-Driven Photocatalysis. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 8407-8411.	7.2	421
3	A Fully Self-Powered Vibration Monitoring System Driven by Dual-Mode Triboelectric Nanogenerators. <i>ACS Nano</i> , 2020, 14, 2475-2482.	7.3	154
4	Selection rules of triboelectric materials for direct-current triboelectric nanogenerator. <i>Nature Communications</i> , 2021, 12, 4686.	5.8	154
5	All-Weather Droplet-Based Triboelectric Nanogenerator for Wave Energy Harvesting. <i>ACS Nano</i> , 2021, 15, 13200-13208.	7.3	135
6	Rationally patterned electrode of direct-current triboelectric nanogenerators for ultrahigh effective surface charge density. <i>Nature Communications</i> , 2020, 11, 6186.	5.8	129
7	Simultaneously Enhancing Power Density and Durability of Sliding-Mode Triboelectric Nanogenerator via Interface Liquid Lubrication. <i>Advanced Energy Materials</i> , 2020, 10, 2002920.	10.2	112
8	A Dual-Mode Triboelectric Nanogenerator for Wind Energy Harvesting and Self-Powered Wind Speed Monitoring. <i>ACS Nano</i> , 2022, 16, 6244-6254.	7.3	111
9	Superelastic 3D few-layer MoS ₂ /carbon framework heterogeneous electrodes for highly reversible sodium-ion batteries. <i>Nano Energy</i> , 2018, 48, 526-535.	8.2	99
10	Effect of low-frequency electromagnetic casting on the castability, microstructure, and tensile properties of direct-chill cast Al-Zn-Mg-Cu alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2004, 35, 2487-2494.	1.1	89
11	The evolution mechanism of defect dipoles and high strain in MnO ₂ -doped KNN lead-free ceramics. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	71
12	Rationally Designed Dual-Mode Triboelectric Nanogenerator for Harvesting Mechanical Energy by Both Electrostatic Induction and Dielectric Breakdown Effects. <i>Advanced Energy Materials</i> , 2020, 10, 2000965.	10.2	70
13	SiOC nanolayer wrapped 3D interconnected graphene sponge as a high-performance anode for lithium ion batteries. <i>Journal of Materials Chemistry A</i> , 2018, 6, 9064-9073.	5.2	68
14	Improved Output Performance of Triboelectric Nanogenerator by Fast Accumulation Process of Surface Charges. <i>Advanced Energy Materials</i> , 2021, 11, 2100050.	10.2	67
15	Microstructure and electrical properties in Zn-doped Ba _{0.85} Ca _{0.15} Ti _{0.90} Zr _{0.10} O ₃ piezoelectric ceramics. <i>Journal of Alloys and Compounds</i> , 2015, 637, 291-296.	2.8	64
16	A highly efficient constant-voltage triboelectric nanogenerator. <i>Energy and Environmental Science</i> , 2022, 15, 1334-1345.	15.6	62
17	Enhanced piezoelectric properties and strain response in ~001% textured BNT-BKT-BT ceramics. <i>Materials and Design</i> , 2018, 137, 184-191.	3.3	58
18	Electrical Properties and Relaxor Phase Evolution of Li-Modified BNT-BKT-BT Lead-Free Ceramics. <i>Journal of the American Ceramic Society</i> , 2016, 99, 2354-2360.	1.9	56

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19	Ultrahigh electro-strain in acceptor-doped KNN lead-free piezoelectric ceramics via defect engineering. <i>Acta Materialia</i> , 2020, 200, 35-41.	3.8	56
20	Low-Cost, Environmentally Friendly, and High-Performance Triboelectric Nanogenerator Based on a Common Waste Material. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 30776-30784.	4.0	56
21	A graphene-modified flexible SiOC ceramic cloth for high-performance lithium storage. <i>Energy Storage Materials</i> , 2020, 25, 876-884.	9.5	53
22	Long-Lifetime Triboelectric Nanogenerator Operated in Conjunction Modes and Low Crest Factor. <i>Advanced Energy Materials</i> , 2020, 10, 1903024.	10.2	53
23	Improving performance of triboelectric nanogenerators by dielectric enhancement effect. <i>Matter</i> , 2022, 5, 180-193.	5.0	53
24	Hugely Enhanced Output Power of Direct-Current Triboelectric Nanogenerators by Using Electrostatic Breakdown Effect. <i>Advanced Materials Technologies</i> , 2020, 5, 2000289.	3.0	49
25	A Self-Powered Dual-Type Signal Vector Sensor for Smart Robotics and Automatic Vehicles. <i>Advanced Materials</i> , 2022, 34, e2110363.	11.1	48
26	Mechanism of grain refinement of an Al-Zn-Mg-Cu alloy prepared by low-frequency electromagnetic casting. <i>Journal of Materials Science</i> , 2012, 47, 5501-5508.	1.7	47
27	Formation of feathery grains with the application of a static magnetic field during direct chill casting of Al-9.8wt%Zn alloy. <i>Journal of Materials Science</i> , 2009, 44, 1063-1068.	1.7	46
28	Bionic-Fin-Structured Triboelectric Nanogenerators for Undersea Energy Harvesting. <i>Advanced Materials Technologies</i> , 2020, 5, 2000531.	3.0	46
29	0D/2D Heterojunctions of Vanadate Quantum Dots/Graphitic Carbon Nitride Nanosheets for Enhanced Visible-Light-Driven Photocatalysis. <i>Angewandte Chemie</i> , 2017, 129, 8527-8531.	1.6	44
30	A high humidity-resistive triboelectric nanogenerator via coupling of dielectric material selection and surface-charge engineering. <i>Journal of Materials Chemistry A</i> , 2021, 9, 21357-21365.	5.2	43
31	Achieving Ultrarobust and Humidity-Resistant Triboelectric Nanogenerator by Dual-Capacitor Enhancement System. <i>Advanced Energy Materials</i> , 0, , 2101958.	10.2	42
32	The formation and effect of defect dipoles in lead-free piezoelectric ceramics: A review. <i>Sustainable Materials and Technologies</i> , 2019, 20, e00092.	1.7	39
33	Enhancing output performance of direct-current triboelectric nanogenerator under controlled atmosphere. <i>Nano Energy</i> , 2021, 84, 105864.	8.2	37
34	Gradient structure high emissivity MoSi ₂ -SiO ₂ -SiOC coating for thermal protective application. <i>Journal of Alloys and Compounds</i> , 2017, 703, 437-447.	2.8	36
35	Large electro-strain response of La ³⁺ and Nb ⁵⁺ co-doped ternary 0.85Bi _{0.5} Na _{0.5} TiO ₃ -0.11Bi _{0.5} K _{0.5} TiO ₃ -0.04BaTiO ₃ lead-free piezoelectric ceramics. <i>Journal of Alloys and Compounds</i> , 2017, 724, 1000-1006.	2.8	34
36	A robust rolling-mode direct-current triboelectric nanogenerator arising from electrostatic breakdown effect. <i>Nano Energy</i> , 2021, 85, 106014.	8.2	34

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37	Achieving Ultrahigh Effective Surface Charge Density of Direct-Current Triboelectric Nanogenerator in High Humidity. <i>Small</i> , 2022, 18, e2201402.	5.2	28
38	Effect of glass phase content on structure and properties of gradient MoSi_2 - BaO - Al_2O_3 - SiO_2 coating for porous fibrous insulations. <i>Journal of Alloys and Compounds</i> , 2016, 657, 684-690.	2.8	27
39	Lidar Mapping Optimization Based on Lightweight Semantic Segmentation. <i>IEEE Transactions on Intelligent Vehicles</i> , 2019, 4, 353-362.	9.4	27
40	A novel aerogels/porous Si_3N_4 ceramics composite with high strength and improved thermal insulation property. <i>Ceramics International</i> , 2018, 44, 5233-5237.	2.3	26
41	Highly textured $\text{Ba}_{0.85}\text{Ca}_{0.15}\text{Ti}_{0.90}\text{Zr}_{0.10}\text{O}_3$ ceramics prepared by reactive template grain growth process. <i>Materials Letters</i> , 2016, 165, 131-134.	1.3	25
42	Texture development in $\text{Ba}_{0.85}\text{Ca}_{0.15}\text{Ti}_{0.90}\text{Zr}_{0.10}\text{O}_3$ lead-free ceramics prepared by reactive template grain growth with different Ba and Ca sources. <i>Ceramics International</i> , 2016, 42, 18756-18763.	2.3	24
43	Effect of Ca^{2+} and Mn^{2+} ions on the radiation properties of LaAlO_3 . <i>Ceramics International</i> , 2018, 44, 20427-20431.	2.3	23
44	Fabrication and toughening behavior of carbon nanotube (CNT) scaffold reinforced SiBCN ceramic composites with high CNT loading. <i>Ceramics International</i> , 2017, 43, 9024-9031.	2.3	22
45	Large electro-strain signal of the BNT - BT - KNN lead-free piezoelectric ceramics with CuO doping. <i>Journal of Advanced Dielectrics</i> , 2019, 09, 1950022.	1.5	20
46	High electrostrictive strain induced by defect dipoles in acceptor-doped $(\text{K}_{0.5}\text{Na}_{0.5})\text{NbO}_3$ ceramics. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 275303.	1.3	19
47	Giant electro-strain in textured Li^+ -doped 0.852BNT - 0.11BKT - 0.038BT ternary lead-free piezoelectric ceramics. <i>Journal of the American Ceramic Society</i> , 2020, 103, 1765-1772.	1.9	19
48	Improved Output Performance of Direct-Current Triboelectric Nanogenerator through Field Enhancing Breakdown Effect. <i>Advanced Materials Technologies</i> , 2021, 6, 2100195.	3.0	19
49	BNT -based multi-layer ceramic actuator with enhanced temperature stability. <i>Journal of Alloys and Compounds</i> , 2019, 771, 541-546.	2.8	18
50	Effect of a high magnetic field on the morphological and crystallographic features of primary Al_6Mn phase formed during solidification process. <i>Journal of Materials Research</i> , 2013, 28, 1567-1573.	1.2	17
51	Low temperature pressureless sintering of dense silicon nitride using $\text{BaO-Al}_2\text{O}_3\text{-SiO}_2$ glass as sintering aid. <i>Ceramics International</i> , 2017, 43, 10123-10129.	2.3	17
52	Formation Mechanism of Plate-like $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ Particles in Molten Salt Fluxes. <i>Integrated Ferroelectrics</i> , 2014, 154, 154-158.	0.3	16
53	Microstructure, mechanical properties and sintering mechanism of pressureless-sintered porous Si_3N_4 ceramics with $\text{YbF}_3\text{-MgF}_2$ composite sintering aids. <i>Ceramics International</i> , 2020, 46, 2558-2564.	2.3	15
54	The effect of the electromagnetic vibration on the microstructure, segregation, and mechanical properties of As-cast AZ80 magnesium alloy billet. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2006, 37, 3715-3724.	1.1	14

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55	Microstructure Evolution of AZ80 Magnesium Alloy during Multi-Directional Forging Process. <i>Materials Transactions</i> , 2014, 55, 270-274.	0.4	14
56	High performance screen printed $\text{Pb}(\text{Zr}_{0.46}\text{Ti}_{0.54})\text{O}_3 \sim \text{Pb}(\text{Zn}_{1/3}\text{Nb}_{2/3})\text{O}_3 \sim \text{Pb}(\text{Ni}_{1/3}\text{Nb}_{2/3})\text{O}_3$ thick films by one-step co-firing method. <i>Materials Letters</i> , 2015, 152, 17-20.	1.3	13
57	Triboelectric Nanogenerator with Low Crest Factor via Precise Phase Difference Design Realized by 3D Printing. <i>Small Methods</i> , 2021, 5, e2100936.	4.6	13
58	Enhanced electromechanical strain response in $(\text{Fe}_{0.5}\text{Nb}_{0.5})_{4+}$ -modified $\text{Bi}_{0.5}(\text{Na}_{0.8}\text{K}_{0.2})_{0.5}\text{TiO}_3$ lead-free piezoelectric ceramics. <i>Journal of Materials Science</i> , 2018, 53, 8059-8066.	1.7	12
59	Piezo-phototronic effect-modulated carrier transport behavior in different regions of a Si/CdS heterojunction photodetector under a Vis-NIR waveband. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 9574-9580.	1.3	11
60	Phase structure, piezoelectric, ferroelectric, and electric-field-induced strain properties of Nb-modified $0.8\text{Bi}_{0.5}\text{Na}_{0.5}\text{TiO}_3 \sim 0.2\text{Sr}_{0.85}\text{Bi}_{0.1}\text{TiO}_3$ ceramics. <i>Ceramics International</i> , 2017, 43, 13612-13617.	2.3	10
61	Study on Microstructures of Al-4 wt% V Master Alloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 3741-3747.	1.1	8
62	Structural and crystallographic study on 3004 aluminum alloy ingot by horizontal direct chill casting under combined electromagnetic fields. <i>Journal of Materials Research</i> , 2015, 30, 745-752.	1.2	8
63	High $\hat{\epsilon}$ - $\hat{\rho}$ phase transition and properties of YbF ₃ -added porous Si ₃ N ₄ ceramics obtained by low temperature pressureless sintering. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019, 78, 131-137.	1.7	8
64	Hybrid Energy Harvesting System by a Coupling of Triboelectric and Thermoelectric Generator. <i>Energy Technology</i> , 2022, 10, .	1.8	8
65	Effect of a low frequency electromagnetic field on the direct-chill (DC) casting of AZ80 magnesium alloy ingots. <i>International Journal of Materials Research</i> , 2006, 97, 1539-1544.	0.1	7
66	Microstructure and RRA treatment of LFEC 7075 aluminum alloy extruded bars. <i>Journal Wuhan University of Technology, Materials Science Edition</i> , 2013, 28, 184-191.	0.4	7
67	Highly sensitive three-dimensional scanning triboelectric sensor for digital twin applications. <i>Nano Energy</i> , 2022, 97, 107198.	8.2	7
68	Crystallographic textured evolution in $0.85\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3 \sim 0.04\text{BaTiO}_3 \sim 0.11\text{K}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ ceramics prepared by reactive-templated grain growth method. <i>Journal of Materials Science: Materials in Electronics</i> , 2014, 25, 1873-1879.	1.1	6
69	Structures and Electrical Properties of Textured $\text{Ca}_{0.85}(\text{LiCe})_{0.075}\text{Bi}_4\text{Ti}_4\text{O}_{15}$ Ceramics Prepared by the Reactive Templated Grain Growth. <i>Integrated Ferroelectrics</i> , 2015, 162, 1-7.	0.3	6
70	Directional Growth of Tin Crystals Controlled by Combined Solute Concentration Gradient Field and Static Magnetic Field. <i>Acta Metallurgica Sinica (English Letters)</i> , 2015, 28, 725-732.	1.5	5
71	A Tuning Fork Triboelectric Nanogenerator with Frequency Multiplication for Efficient Mechanical Energy Harvesting. <i>Small Methods</i> , 2022, 6, e2200066.	4.6	5
72	Effect of Low-Frequency Magnetic Fields on Microstructures of Horizontal Direct Chill Cast 2024 Aluminum Alloys. <i>Materials Transactions</i> , 2005, 46, 1903-1907.	0.4	3

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73	Evolution of textured Ca _{0.85} (LiCe) _{0.075} Bi ₄ Ti ₄ O ₁₅ ceramics via templated grain growth using a rolling-extended method. Journal of Materials Science: Materials in Electronics, 2015, 26, 2082-2089.	1.1	3
74	Microstructure and properties of pressureless-sintered porous Si ₃ N ₄ using PMMA as pore-forming agent. Integrated Ferroelectrics, 2016, 171, 46-51.	0.3	3
75	The Effects of Electromagnetic Vibration on Macrosegregation in AZ80 Magnesium Alloy Billets. Materials Transactions, 2006, 47, 392-398.	0.4	2
76	The effect of grain refiner and combined electro-magnetic field on grain evolution of horizontal direct chill casting 7075 aluminum alloy. International Journal of Materials Research, 2010, 101, 380-385.	0.1	2
77	Experimental investigation of the start-up phase during direct chill and low frequency electromagnetic casting of 6063 aluminum alloy processes. Heat and Mass Transfer, 2010, 46, 657-664.	1.2	2
78	Effect of Fe on microstructures and mechanical properties of an Al-Mg-Si-Cu-Cr-Zr alloy prepared by low frequency electromagnetic casting. Journal of Materials Research, 2017, 32, 2067-2078.	1.2	2
79	A Cross Dipole Antenna Array in LTCC for Satellite Communication. , 2021, , .		0
80	Effect of a low frequency electromagnetic field on the direct-chill (DC) casting of AZ80 magnesium alloy ingots. International Journal of Materials Research, 2022, 97, 1539-1544.	0.1	0