

Hou-Bing Huang

List of Publications by Year in descending order

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87
papers

2,126
citations

331670

21
h-index

254184

43
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88
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88
docs citations

88
times ranked

1843
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultra-high energy storage in superparaelectric relaxor ferroelectrics. <i>Science</i> , 2021, 374, 100-104.	12.6	276
2	Super-elastic ferroelectric single-crystal membrane with continuous electric dipole rotation. <i>Science</i> , 2019, 366, 475-479.	12.6	272
3	High-entropy enhanced capacitive energy storage. <i>Nature Materials</i> , 2022, 21, 1074-1080.	27.5	161
4	High-entropy polymer produces a giant electrocaloric effect at low fields. <i>Nature</i> , 2021, 600, 664-669.	27.8	121
5	Toward Wearable Cooling Devices: Highly Flexible Electrocaloric Ba _{0.67} Sr _{0.33} TiO ₃ Nanowire Arrays. <i>Advanced Materials</i> , 2016, 28, 4811-4816.	21.0	101
6	Role of Reversible Phase Transformation for Strong Piezoelectric Performance at the Morphotropic Phase Boundary. <i>Physical Review Letters</i> , 2018, 120, 055501.	7.8	84
7	Water printing of ferroelectric polarization. <i>Nature Communications</i> , 2018, 9, 3809.	12.8	75
8	Toroidal polar topology in strained ferroelectric polymer. <i>Science</i> , 2021, 371, 1050-1056.	12.6	74
9	Hybrid Magnetic Micropillar Arrays for Programmable Actuation. <i>Advanced Materials</i> , 2020, 32, e2001879.	21.0	58
10	Size-Dependent Phase Transition in Perovskite Nanocrystals. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 5451-5457.	4.6	48
11	Simultaneously achieving giant piezoelectricity and record coercive field enhancement in relaxor-based ferroelectric crystals. <i>Nature Communications</i> , 2022, 13, 2444.	12.8	46
12	Size effects of electrocaloric cooling in ferroelectric nanowires. <i>Journal of the American Ceramic Society</i> , 2018, 101, 1566-1575.	3.8	38
13	Ferroelectric domain-wall logic units. <i>Nature Communications</i> , 2022, 13, .	12.8	37
14	How Far Can We Push the Rigid Oligomers/Polymers toward Ferroelectric Nematic Liquid Crystals?. <i>Journal of the American Chemical Society</i> , 2021, 143, 17857-17861.	13.7	36
15	Defect-Engineered Dzyaloshinskii-Moriya Interaction and Electric-Field-Switchable Topological Spin Texture in SrRuO ₃ . <i>Advanced Materials</i> , 2021, 33, e2102525.	21.0	34
16	Improper molecular ferroelectrics with simultaneous ultrahigh pyroelectricity and figures of merit. <i>Science Advances</i> , 2021, 7, .	10.3	32
17	High electrocaloric effect in hot-pressed Pb _{0.85} La _{0.1} (Zr _{0.65} Ti _{0.35})O ₃ ceramics with a wide operating temperature range. <i>Journal of the American Ceramic Society</i> , 2017, 100, 4581-4589.	3.8	30
18	Core-Shell Magnetic Micropillars for Reprogrammable Actuation. <i>ACS Nano</i> , 2021, 15, 4747-4758.	14.6	30

#	ARTICLE	IF	CITATIONS
19	Magnetically actuated functional gradient nanocomposites for strong and ultra-durable biomimetic interfaces/surfaces. <i>Materials Horizons</i> , 2017, 4, 869-877.	12.2	28
20	Designed Giant Room-Temperature Electrocaloric Effects in Metal-Free Organic Perovskite [MDABCO](NH ₄) ₃ by Phase-Field Simulations. <i>Advanced Functional Materials</i> , 2021, 31, 2104393.	14.9	27
21	The strong electrocaloric effect in molecular ferroelectric ImClO ₄ with ultrahigh electrocaloric strength. <i>Journal of Materials Chemistry A</i> , 2020, 8, 16189-16194.	10.3	23
22	Phase-field simulations of vortex chirality manipulation in ferroelectric thin films. <i>Npj Quantum Materials</i> , 2022, 7, .	5.2	22
23	Large Room Temperature Negative Electrocaloric Effect in Novel Antiferroelectric PbHfO ₃ Films. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 21331-21337.	8.0	21
24	Influences of grain/particle interfacial energies on second-phase particle pinning grain coarsening of polycrystalline. <i>Journal of Alloys and Compounds</i> , 2020, 818, 152848.	5.5	19
25	Analysis of multi-domain ferroelectric switching in BiFeO ₃ thin film using phase-field method. <i>Computational Materials Science</i> , 2016, 115, 208-213.	3.0	18
26	Grain boundary curvature based 2D cellular automata simulation of grain coarsening. <i>Journal of Alloys and Compounds</i> , 2019, 791, 411-422.	5.5	18
27	Understanding and predicting geometrical constraint ferroelectric charged domain walls in a BiFeO ₃ island via phase-field simulations. <i>Applied Physics Letters</i> , 2018, 113, .	3.3	17
28	Understanding electrocaloric cooling of ferroelectrics guided by phase-field modeling. <i>Journal of the American Ceramic Society</i> , 2022, 105, 3689-3714.	3.8	17
29	Phase-field simulations of surface charge-induced polarization switching. <i>Applied Physics Letters</i> , 2019, 114, .	3.3	15
30	Phase-field simulation of multi-phase interactions in Fe-C peritectic solidification. <i>Computational Materials Science</i> , 2020, 171, 109220.	3.0	15
31	Domain evolution in bended freestanding BaTiO ₃ ultrathin films: A phase-field simulation. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	15
32	Nanoscale Bandgap Tuning across an Inhomogeneous Ferroelectric Interface. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 24704-24710.	8.0	14
33	Bioinspired Wear-Resistant and Ultradurable Functional Gradient Coatings. <i>Small</i> , 2018, 14, e1802717.	10.0	14
34	Switching the chirality of a magnetic vortex deterministically with an electric field. <i>Materials Research Letters</i> , 2018, 6, 669-675.	8.7	13
35	Strain Engineering of Energy Storage Performance in Relaxor Ferroelectric Thin Film Capacitors. <i>Advanced Theory and Simulations</i> , 2022, 5, .	2.8	13
36	Strain-induced broadening temperature range of electrocaloric effects in ferroelectric superlattices. <i>Journal of Alloys and Compounds</i> , 2019, 777, 821-827.	5.5	12

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37	Ferroelasticâ€œDomainâ€œAssisted Mechanical Switching of Ferroelectric Domains in Pb(Zr,Ti)O ₃ Thin Films. <i>Advanced Electronic Materials</i> , 2020, 6, 2000300.	5.1	12
38	Phase-field model of graphene aerogel formation by ice template method. <i>Applied Physics Letters</i> , 2019, 115, 111901.	3.3	11
39	Self-Assembled Epitaxial Ferroelectric Oxide Nanospring with Super-Scalability. <i>Advanced Materials</i> , 2022, 34, e2108419.	21.0	11
40	Tip-Induced In-Plane Ferroelectric Superstructure in Zigzag-Wrinkled BaTiO ₃ Thin Films. <i>Nano Letters</i> , 2022, 22, 2859-2866.	9.1	11
41	Thickness Dependence of Switching Behavior in Ferroelectric BiFeO ₃ Thin Films: A Phase-Field Simulation. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 1162.	2.5	10
42	Wide Electrocaloric Temperature Range Induced by Ferroelectric to Antiferroelectric Phase Transition. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 1672.	2.5	10
43	Ultrafast Ferroelectric Domain Switching Induced by Nano-Second Strain-Pulse. <i>Advanced Theory and Simulations</i> , 2022, 5, .	2.8	10
44	Phase-field simulations of surface charge-induced ferroelectric vortex. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 405302.	2.8	9
45	Magnetization switching modes in nanopillar spin valve under the external field. <i>Science China: Physics, Mechanics and Astronomy</i> , 2011, 54, 1227-1234.	5.1	8
46	Numerical simulation of vortex dynamics in type-II superconductors in oscillating magnetic field using time-dependent Ginzburg-Landau equations. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 505701.	1.8	8
47	Multiphase-field approach with parabolic approximation scheme. <i>Computational Materials Science</i> , 2020, 172, 109322.	3.0	8
48	Fe-C peritectic solidification of polycrystalline ferrite by phase-field method. <i>Computational Materials Science</i> , 2020, 178, 109626.	3.0	8
49	Investigation into electrocaloric effect of different types of ferroelectric materials by Landau-Devonshire theory. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2020, 69, 217801.	0.5	8
50	Electric-Field-Insensitive Temperature Stability of Strain in KNN Multilayer Composite Ceramics. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 26949-26957.	8.0	8
51	Numerical Simulation of Phase Transitions in Type-II Annular Superconductor Using Time-dependent Ginzburg-Landau Equations. <i>Journal of Superconductivity and Novel Magnetism</i> , 2018, 31, 3445-3451.	1.8	7
52	Polarization-switching pathway determined electrical transport behaviors in rhombohedral BiFeO ₃ thin films. <i>Nanoscale</i> , 2021, 13, 17746-17753.	5.6	7
53	Antiferroelectric Phase Diagram Enhancing Energy-Storage Performance by Phase-Field Simulations. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 25770-25780.	8.0	7
54	Determining dendrite arm spacing in directional solidification using a fast Fourier transform method. <i>Computational Materials Science</i> , 2020, 173, 109463.	3.0	6

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55	Phase Diagram of Sub-THz Electric-Field-Induced Polarization Oscillation. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, 2100416.	2.4	6
56	Microscopic physical origin of polarization induced large tunneling electroresistance in tetragonal-phase BiFeO ₃ . <i>Acta Materialia</i> , 2022, 225, 117564.	7.9	6
57	Strain manipulation of ferroelectric skyrmion bubbles in a freestanding PbTiO_3 film: A phase field simulation. <i>Physical Review B</i> , 2022, 105, .		
58	Multi-scale simulations of metamagnetic martensite transition in NiCoMnIn. <i>Journal of Alloys and Compounds</i> , 2016, 689, 507-511.	5.5	5
59	Current assisted memory effect in superconductor-ferromagnet bilayers: a potential candidate for memristors. <i>Superconductor Science and Technology</i> , 2019, 32, 095002.	3.5	5
60	Influences of particle fractions on second-phase particles pinning grain coarsening processes. <i>Journal of Materials Science</i> , 2020, 55, 3434-3449.	3.7	5
61	Quantitative investigation of polar nanoregion size effects in relaxor ferroelectrics. <i>Acta Materialia</i> , 2022, 237, 118147.	7.9	5
62	Micromagnetic simulation of electric field-modulation on precession dynamics of spin torque nano-oscillator. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	4
63	Tunable temperature dependence of electric-field-control multicaloric effects. <i>Journal of Alloys and Compounds</i> , 2019, 806, 1491-1496.	5.5	4
64	Explicit Dynamics of Diffuse Interface in Phase-Field Model. <i>Advanced Theory and Simulations</i> , 2021, 4, .	2.8	4
65	Visualization of large-scale charged domain Walls in hexagonal manganites. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	4
66	Phase field simulation of misfit strain manipulating domain structure and ferroelectric properties in $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ thin films. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2020, 69, 127801.	0.5	4
67	Designing Ultrafast Cooling Rate for Room Temperature Electrocaloric Effects by Phase-Field Simulations. <i>Advanced Theory and Simulations</i> , 2022, 5, .	2.8	4
68	Simulation of stress-modulated magnetization precession frequency in Heusler-based spin torque oscillator. <i>Journal of Magnetism and Magnetic Materials</i> , 2017, 426, 415-420.	2.3	3
69	Hydride corrosion kinetics on metallic surface: a multiphase-field modeling. <i>Materials Research Express</i> , 2021, 8, 106518.	1.6	3
70	Photoenhanced Electroresistance at Dislocation-Mediated Phase Boundary. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 18662-18670.	8.0	3
71	Phase-Field Model of Hydride Blister Growth Kinetics on Zirconium Surface. <i>Frontiers in Materials</i> , 2022, 9, .	2.4	3
72	Micromagnetic Simulation of Strain-Assisted Current-Induced Magnetization Switching. <i>Advances in Condensed Matter Physics</i> , 2016, 2016, 1-6.	1.1	2

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73	Simulation of Magnetically-Actuated Functional Gradient Nanocomposites. Applied Sciences (Switzerland), 2017, 7, 1171.	2.5	2
74	Phase-field simulation of two-dimensional topological charges in nematic liquid crystals. Journal of Applied Physics, 2020, 128, 124701.	2.5	2
75	Domain wall tuned superconductivity in superconductor-ferromagnet bilayers. Journal Physics D: Applied Physics, 2020, 53, 375001.	2.8	2
76	Multi-phase-field simulation of austenite peritectic solidification based on a ferrite grain*. Chinese Physics B, 2021, 30, 018201.	1.4	2
77	Phase-Field Simulation of Superconductor-Ferromagnet Bilayer-Based Cryogenic Strain Sensor. Journal of Superconductivity and Novel Magnetism, 2022, 35, 409-414.	1.8	2
78	Pressure-induced room temperature electrocaloric effect in BiFeO ₃ -PbTiO ₃ solid solution based on Landau-Devonshire theory. Materials Today Communications, 2022, 31, 103396.	1.9	2
79	Boundary Pinning Effects on the Frequency Spectra of Point-Contact Spin-Torque Oscillators. IEEE Magnetics Letters, 2018, 9, 1-4.	1.1	1
80	Theoretically optimized hybrid magnetic nanoparticle concentrations for functional gradient nanocomposites. AIP Advances, 2020, 10, 105209.	1.3	1
81	Defect-Engineered Dzyaloshinskii-Moriya Interaction and Electric-Field-Switchable Topological Spin Texture in SrRuO ₃ (Adv. Mater. 33/2021). Advanced Materials, 2021, 33, 2170255.	21.0	1
82	Enhancing the Elastocaloric Strength by Combining Positive and Negative Elastocaloric Effects. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	1
83	Effect of Background Magnetic Field on Type-II Superconductor under Oscillating Magnetic Field Simulated Using Ginzburg-Landau Model. Advances in Condensed Matter Physics, 2018, 2018, 1-7.	1.1	0
84	Phase-field model of topological charge interaction force in nematic liquid crystals. Soft Materials, 2020, , 1-6.	1.7	0
85	A parabolic approximation scheme for multi-phase-field simulation of non-isothermal solidification. Materials Today Communications, 2021, 28, 102712.	1.9	0
86	Self-Assembled Epitaxial Ferroelectric Oxide Nanospring with Super-Scalability (Adv. Mater. 13/2022). Advanced Materials, 2022, 34, .	21.0	0
87	Response to Comment on "Improper molecular ferroelectrics with simultaneous ultrahigh pyroelectricity and figures of merit". Science Advances, 2022, 8, .	10.3	0