Yijia Gu

List of Publications by Year
in descending order

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		9254	7944
332	25,719	74	149
papers	citations	h-index	g-index

343	343	343	19349
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Phase-Field Models for Microstructure Evolution. Annual Review of Materials Research, 2002, 32, 113-140.	4.3	2,259
2	Flexible high-temperature dielectric materials from polymer nanocomposites. Nature, 2015, 523, 576-579.	13.7	1,476
3	Strain Tuning of Ferroelectric Thin Films. Annual Review of Materials Research, 2007, 37, 589-626.	4.3	987
4	Ultrathin, flexible, solid polymer composite electrolyte enabled with aligned nanoporous host for lithium batteries. Nature Nanotechnology, 2019, 14, 705-711.	15.6	773
5	Ultrahighâ€“energy density lead-free dielectric films via polymorphic nanodomain design. Science, 2019, 365, 578-582.	6.0	662
6	The origin of ultrahigh piezoelectricity in relaxor-ferroelectric solid solution crystals. Nature Communications, 2016, 7, 13807.	5.8	510
7	Giant piezoelectricity of Sm-doped Pb(Mg _{1/3} Nb _{2/3})O ₃ -PbTiO ₃ single crystals. Science, 2019, 364, 264-268.	6.0	479
8	A Thin Film Approach to Engineering Functionality into Oxides. Journal of the American Ceramic Society, 2008, 91, 2429-2454.	1.9	452
9	Phaseâ€Field Method of Phase Transitions/Domain Structures in Ferroelectric Thin Films: A Review. Journal of the American Ceramic Society, 2008, 91, 1835-1844.	1.9	420
10	Spontaneous Vortex Nanodomain Arrays at Ferroelectric Heterointerfaces. Nano Letters, 2011, 11, 828-834.	4.5	419
11	Computer simulation of the domain dynamics of a quenched system with a large number of nonconserved order parameters: The grain-growth kinetics. Physical Review B, 1994, 50, 15752-15756.	1.1	363
12	Transparent ferroelectric crystals with ultrahigh piezoelectricity. Nature, 2020, 577, 350-354.	13.7	360
13	Multiferroic Heterostructures Integrating Ferroelectric and Magnetic Materials. Advanced Materials, 2016, 28, 15-39.	11.1	356
14	Stable metal battery anodes enabled by polyethylenimine sponge hosts by way of electrokinetic effects. Nature Energy, 2018, 3, 1076-1083.	19.8	338
15	Domain Dynamics During Ferroelectric Switching. Science, 2011, 334, 968-971.	6.0	320
16	Sandwich-structured polymer nanocomposites with high energy density and great chargeâ€“discharge efficiency at elevated temperatures. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9995-10000.	3.3	317
17	New frontiers for the materials genome initiative. Npj Computational Materials, 2019, 5, .	3.5	312
18	Phase-field simulations of ferroelectric/ferroelastic polarization switching. Acta Materialia, 2004, 52, 749-764.	3.8	298

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19	Ultrahigh energy storage in superparaelectric relaxor ferroelectrics. Science, 2021, 374, 100-104.	6.0	276
20	Super-elastic ferroelectric single-crystal membrane with continuous electric dipole rotation. Science, 2019, 366, 475-479.	6.0	272
21	Alveolus-Inspired Active Membrane Sensors for Self-Powered Wearable Chemical Sensing and Breath Analysis. ACS Nano, 2020, 14, 6067-6075.	7.3	271
22	Highâ€Performance Polymers Sandwiched with Chemical Vapor Deposited Hexagonal Boron Nitrides as Scalable Highâ€Temperature Dielectric Materials. Advanced Materials, 2017, 29, 1701864.	11.1	270
23	First-principles study of binary bcc alloys using special quasirandom structures. Physical Review B, 2004, 69, .	1.1	266
24	Emergence of room-temperature ferroelectricity at reduced dimensions. Science, 2015, 349, 1314-1317.	6.0	259
25	Highâ€Throughput Phaseâ€Field Design of Highâ€Energyâ€Density Polymer Nanocomposites. Advanced Materials, 2018, 30, 1704380.	11.1	254
26	Direct imaging of the spatial and energy distribution of nucleation centres in ferroelectric materials. Nature Materials, 2008, 7, 209-215.	13.3	250
27	Spatially resolved steady-state negative capacitance. Nature, 2019, 565, 468-471.	13.7	245
28	Scalable Polymer Nanocomposites with Record Highâ€Temperature Capacitive Performance Enabled by Rationally Designed Nanostructured Inorganic Fillers. Advanced Materials, 2019, 31, e1900875.	11.1	236
29	Dynamic Conductivity of Ferroelectric Domain Walls in BiFeO₃. Nano Letters, 2011, 11, 1906-1912.	4.5	223
30	Flexoelectricity in solids: Progress, challenges, and perspectives. Progress in Materials Science, 2019, 106, 100570.	16.0	223
31	Extended Mapping and Exploration of the Vanadium Dioxide Stress-Temperature Phase Diagram. Nano Letters, 2010, 10, 2667-2673.	4.5	215
32	A roadmap for electronic grade 2D materials. 2D Materials, 2019, 6, 022001.	2.0	205
33	Threeâ€Dimensional Computer Simulation of Ferroelectric Domain Formation. Journal of the American Ceramic Society, 1998, 81, 492-500.	1.9	197
34	Ultrahigh specific strength in a magnesium alloy strengthened by spinodal decomposition. Science Advances, 2021, 7, .	4.7	176
35	Phase-field modeling and machine learning of electric-thermal-mechanical breakdown of polymer-based dielectrics. Nature Communications, 2019, 10, 1843.	5.8	174
36	Interfacial Electronic Properties Dictate Li Dendrite Growth in Solid Electrolytes. Chemistry of Materials, 2019, 31, 7351-7359.	3.2	165

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37	Colossal Room-Temperature Electrocaloric Effect in Ferroelectric Polymer Nanocomposites Using Nanostructured Barium Strontium Titanates. ACS Nano, 2015, 9, 7164-7174.	7.3	164
38	Controllable conductive readout in self-assembled, topologically confined ferroelectric domain walls. Nature Nanotechnology, 2018, 13, 947-952.	15.6	163
39	Atomic-scale mechanisms of ferroelastic domain-wall-mediated ferroelectric switching. Nature Communications, 2013, 4, .	5.8	152
40	Operando and three-dimensional visualization of anion depletion and lithium growth by stimulated Raman scattering microscopy. Nature Communications, 2018, 9, 2942.	5.8	138
41	Challenges and opportunities for multi-functional oxide thin films for voltage tunable radio frequency/microwave components. Journal of Applied Physics, 2013, 114, .	1.1	137
42	Ferroelastic domain switching dynamics under electrical and mechanical excitations. Nature Communications, 2014, 5, 3801.	5.8	135
43	Stability of Polar Vortex Lattice in Ferroelectric Superlattices. Nano Letters, 2017, 17, 2246-2252.	4.5	131
44	Selective control of multiple ferroelectric switching pathways using a trailing flexoelectric field. Nature Nanotechnology, 2018, 13, 366-370.	15.6	124
45	Thermotropic phase boundaries in classic ferroelectrics. Nature Communications, 2014, 5, 3172.	5.8	123
46	High-entropy polymer produces a giant electrocaloric effect at low fields. Nature, 2021, 600, 664-669.	13.7	121
47	First-principles calculations of lattice dynamics and thermal properties of polar solids. Npj Computational Materials, 2016, 2, .	3.5	119
48	Flexible Multiferroic Bulk Heterojunction with Giant Magnetoelectric Coupling via van der Waals Epitaxy. ACS Nano, 2017, 11, 6122-6130.	7.3	118
49	Surface Domain Structures and Mesoscopic Phase Transition in Relaxor Ferroelectrics. Advanced Functional Materials, 2011, 21, 1977-1987.	7.8	113
50	Thermodynamics of electromechanically coupled mixed ionic-electronic conductors: Deformation potential, Vegard strains, and flexoelectric effect. Physical Review B, 2011, 83, .	1.1	110
51	Understanding and designing magnetoelectric heterostructures guided by computation: progresses, remaining questions, and perspectives. Npj Computational Materials, 2017, 3, .	3.5	110
52	Bioinspired elastic piezoelectric composites for high-performance mechanical energy harvesting. Journal of Materials Chemistry A, 2018, 6, 14546-14552.	5.2	104
53	Flexoelectricity and ferroelectric domain wall structures: Phase-field modeling and DFT calculations. Physical Review B, 2014, 89, .	1.1	101
54	Toward Wearable Cooling Devices: Highly Flexible Electrocaloric Ba_{0.67}Sr_{0.33}TiO₃ Nanowire Arrays. Advanced Materials, 2016, 28, 4811-4816.	11.1	101

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55	Understanding, Predicting, and Designing Ferroelectric Domain Structures and Switching Guided by the Phase-Field Method. Annual Review of Materials Research, 2019, 49, 127-152.	4.3	101
56	Interfacial polarization and pyroelectricity in antiferrodistortive structures induced by a flexoelectric effect and rotostriction. Physical Review B, 2012, 85, .	1.1	100
57	Ferroelastic switching in a layered-perovskite thin film. Nature Communications, 2016, 7, 10636.	5.8	97
58	Controlled manipulation of oxygen vacancies using nanoscale flexoelectricity. Nature Communications, 2017, 8, 615.	5.8	93
59	Sharpened VO₂ Phase Transition via Controlled Release of Epitaxial Strain. Nano Letters, 2017, 17, 5614-5619.	4.5	93
60	Large kinetic asymmetry in the metal-insulator transition nucleated at localized and extended defects. Physical Review B, 2011, 83, .	1.1	92
61	Configurable topological textures in strain graded ferroelectric nanoplates. Nature Communications, 2018, 9, 403.	5.8	91
62	Phaseâ€Field Model of Electrothermal Breakdown in Flexible Highâ€Temperature Nanocomposites under Extreme Conditions. Advanced Energy Materials, 2018, 8, 1800509.	10.2	90
63	Magnetoelectric quasi-(0-3) nanocomposite heterostructures. Nature Communications, 2015, 6, 6680.	5.8	89
64	Microstructural Development of Coherent Tetragonal Precipitates in Magnesium-Partially-Stabilized Zirconia: A Computer Simulation. Journal of the American Ceramic Society, 1995, 78, 657-661.	1.9	86
65	Size-dependent electric voltage controlled magnetic anisotropy in multiferroic heterostructures: Interface-charge and strain comediated magnetoelectric coupling. Physical Review B, 2011, 83, .	1.1	86
66	Giant piezoelectricity in oxide thin films with nanopillar structure. Science, 2020, 369, 292-297.	6.0	86
67	Polymer Dielectrics with Simultaneous Ultrahigh Energy Density and Low Loss. Advanced Materials, 2021, 33, e2008198.	11.1	85
68	Role of Reversible Phase Transformation for Strong Piezoelectric Performance at the Morphotropic Phase Boundary. Physical Review Letters, 2018, 120, 055501.	2.9	84
69	Structural Insight in the Interfacial Effect in Ferroelectric Polymer Nanocomposites. Advanced Materials, 2020, 32, e2005431.	11.1	84
70	Giant Resistive Switching via Control of Ferroelectric Charged Domain Walls. Advanced Materials, 2016, 28, 6574-6580.	11.1	83
71	Role of scaffold network in controlling strain and functionalities of nanocomposite films. Science Advances, 2016, 2, e1600245.	4.7	80
72	Numerical Simulation of Zener Pinning with Growing Secondâ€Phase Particles. Journal of the American Ceramic Society, 1998, 81, 526-532.	1.9	77

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73	Electrokinetic Phenomena Enhanced Lithiumâ€ion Transport in Leaky Film for Stable Lithium Metal Anodes. Advanced Energy Materials, 2019, 9, 1900704.	10.2	76
74	Water printing of ferroelectric polarization. Nature Communications, 2018, 9, 3809.	5.8	75
75	Conductivity of twin-domain-wall/surface junctions in ferroelastics: Interplay of deformation potential, octahedral rotations, improper ferroelectricity, and flexoelectric coupling. Physical Review B, 2012, 86, .	1.1	74
76	Toroidal polar topology in strained ferroelectric polymer. Science, 2021, 371, 1050-1056.	6.0	74
77	Phase transition enhanced superior elasticity in freestanding single-crystalline multiferroic BiFeO ‹sub›3‹/sub› membranes. Science Advances, 2020, 6, .	4.7	73
78	Hydride Formation in Zirconium Alloys. Jom, 2012, 64, 1403-1408.	0.9	72
79	Thermodynamics and ferroelectric properties of KNbO3. Journal of Applied Physics, 2009, 106, .	1.1	70
80	Atomic-resolution imaging of electrically induced oxygen vacancy migration and phase transformation in SrCoO2.5-Ïƒ. Nature Communications, 2017, 8, 104.	5.8	66
81	Subterahertz collective dynamics of polar vortices. Nature, 2021, 592, 376-380.	13.7	66
82	Unraveling Deterministic Mesoscopic Polarization Switching Mechanisms: Spatially Resolved Studies of a Tilt Grain Boundary in Bismuth Ferrite. Advanced Functional Materials, 2009, 19, 2053-2063.	7.8	65
83	Internal Biasing in Relaxor Ferroelectric Polymer to Enhance the Electrocaloric Effect. Advanced Functional Materials, 2015, 25, 5134-5139.	7.8	64
84	Fast 180Â° magnetization switching in a strain-mediated multiferroic heterostructure driven by a voltage. Scientific Reports, 2016, 6, 27561.	1.6	64
85	Enhanced flexoelectricity at reduced dimensions revealed by mechanically tunable quantum tunnelling. Nature Communications, 2019, 10, 537.	5.8	64
86	Thermodynamics of nanodomain formation and breakdown in scanning probe microscopy: Landau-Ginzburg-Devonshire approach. Physical Review B, 2009, 80, .	1.1	63
87	Nanoscale mechanical switching of ferroelectric polarization via flexoelectricity. Applied Physics Letters, 2015, 106, .	1.5	63
88	Thermodynamics of strained vanadium dioxide single crystals. Journal of Applied Physics, 2010, 108, 083517.	1.1	62
89	Stability of the M2 phase of vanadium dioxide induced by coherent epitaxial strain. Physical Review B, 2016, 94, .	1.1	62
90	Thermodynamic potential and phase diagram for multiferroic bismuth ferrite (BiFeO 3). Npj Computational Materials, 2017, 3, .	3.5	62

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91	Electrical Tunability of Domain Wall Conductivity in LiNbO₃ Thin Films. Advanced Materials, 2019, 31, e1902890.	11.1	61
92	Inversion Symmetry Breaking by Oxygen Octahedral Rotations in the Ruddlesden-Popper<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Na</mml:mi><mml:mi>R</mml:mi><mml:msub><mml:mrow><mml:mi>TiO</mml:mi></mml:mr Physical Review Letters, 2014, 112, 187602.	2.9	60
93	Surface effect on domain wall width in ferroelectrics. Journal of Applied Physics, 2009, 106, .	1.1	59
94	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>BiFeO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>Domain Wall Energies and Structures: A Combined Experimental and Density Functional<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mtext mathvariant="normal">Theory</mml:mtext><mml:mo mathvariant="bold">+</mml:mo><mml:mi mathvariant="bold">U</mml:mi></mml:math>Study. Physical Review Letters, 2013, 110, 267601.	2.9	59
95	Hybrid Magnetic Micropillar Arrays for Programmable Actuation. Advanced Materials, 2020, 32, e2001879.	11.1	58
96	Shape Evolution of a Coherent Tetragonal Precipitate in Partially Stabilized Cubic ZrO2: A Computer Simulation. Journal of the American Ceramic Society, 1993, 76, 3029-3033.	1.9	57
97	Lattice Parameters and Local Lattice Distortions in fcc-Ni Solutions. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 562-569.	1.1	56
98	Size-dependent polarization distribution in ferroelectric nanostructures: Phase field simulations. Applied Physics Letters, 2008, 92, .	1.5	56
99	Fast Magnetic Domain-Wall Motion in a Ring-Shaped Nanowire Driven by a Voltage. Nano Letters, 2016, 16, 2341-2348.	4.5	55
100	The influence of 180Â° ferroelectric domain wall width on the threshold field for wall motion. Journal of Applied Physics, 2008, 104, 084107.	1.1	53
101	Anisotropic polarization-induced conductance at a ferroelectricâ€“insulator interface. Nature Nanotechnology, 2018, 13, 1132-1136.	15.6	53
102	Universal phase dynamics in VO ₂ switches revealed by ultrafast operando diffraction. Science, 2021, 373, 352-355.	6.0	53
103	Computer Simulation Model for Coupled Grain Growth and Ostwald Ripening-Application to Al2O3-ZrO2 Two-Phase Systems. Journal of the American Ceramic Society, 1996, 79, 1163-1168.	1.9	52
104	Defect-Induced Hedgehog Polarization States in Multiferroics. Physical Review Letters, 2018, 120, 137602.	2.9	52
105	Computer Simulation of Twin Formation during the Displacive c t' Phase Transformation in the Zirconia-Yttria System. Journal of the American Ceramic Society, 1995, 78, 769-773.	1.9	50
106	Disrupting long-range polar order with an electric field. Physical Review B, 2016, 93, .	1.1	50
107	Composition- and pressure-induced ferroelectric to antiferroelectric phase transitions in Sm-doped BiFeO3 system. Applied Physics Letters, 2015, 106, .	1.5	49
108	Permanent ferroelectric retention of BiFeO3 mesocrystal. Nature Communications, 2016, 7, 13199.	5.8	49

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109	Electrically controlled non-volatile switching of magnetism in multiferroic heterostructures via engineered ferroelastic domain states. NPG Asia Materials, 2016, 8, e316-e316.	3.8	48
110	Ferroelectric Domain Walls in PbTiO₃ Are Effective Regulators of Heat Flow at Room Temperature. Nano Letters, 2019, 19, 7901-7907.	4.5	48
111	Hydrogel Ionic Diodes toward Harvesting Ultralowâ€Frequency Mechanical Energy. Advanced Materials, 2021, 33, e2103056.	11.1	48
112	Conformational Domain Wall Switch. Advanced Functional Materials, 2019, 29, 1807523.	7.8	47
113	Phenomenological thermodynamic potential for CaTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>single crystals. Physical Review B, 2012, 85, .	1.1	46
114	Predicting Coherency Loss of $$ gamma^{primeprime} $$ Precipitates in IN718 Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3235-3247.	1.1	46
115	V₂O₅ Nanowire Composite Paper as a High-Performance Lithium-Ion Battery Cathode. ACS Omega, 2017, 2, 793-799.	1.6	46
116	Reversible phase transition induced large piezoelectric response in Sm-doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>BiFe</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> with a composition near the morphotropic phase boundary. Physical Review B, 2017, 95, .	1.1	46
117	Strain-mediated voltage-controlled switching of magnetic skyrmions in nanostructures. Npj Computational Materials, 2018, 4, .	3.5	46
118	Superhierarchical Inorganic/Organic Nanocomposites Exhibiting Simultaneous Ultrahigh Dielectric Energy Density and High Efficiency. Advanced Functional Materials, 2021, 31, 2007994.	7.8	46
119	Precipitation Hardening in Ferroelectric Ceramics. Advanced Materials, 2021, 33, e2102421.	11.1	46
120	Ferroelectric crystals with giant electro-optic property enabling ultracompact Q-switches. Science, 2022, 376, 371-377.	6.0	46
121	Machine learning in energy storage materials. , 2022, 1, 175-195.		45
122	Possibility of Spinodal Decomposition in ZrO2-Y2O3 Alloys: A Theoretical Investigation. Journal of the American Ceramic Society, 1995, 78, 1680-1686.	1.9	44
123	Mechanical-force-induced non-local collective ferroelastic switching in epitaxial lead-titanate thin films. Nature Communications, 2019, 10, 3951.	5.8	43
124	Extraordinarily Large Electrocaloric Strength of Metalâ€Free Perovskites. Advanced Materials, 2020, 32, e1906224.	11.1	43
125	First-principles study of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mrow><mml:mn>180</mml:mn></mml:mrow><mml:mo>â walls in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">BaTiO</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:math>: Mixed Bloch-NÃ©el-Ising character. Physical Review B, 2014, 90, .	1.1	42
126	Impact of symmetry on the ferroelectric properties of CaTiO3 thin films. Applied Physics Letters, 2015, 106, .	1.5	42

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127	Uncertainty Quantification in Metallic Additive Manufacturing Through Physics-Informed Data-Driven Modeling. Jom, 2019, 71, 2625-2634.	0.9	42
128	Optimizing Piezoelectric Nanocomposites by Highâ€Throughput Phaseâ€Field Simulation and Machine Learning. Advanced Science, 2022, 9, e2105550.	5.6	42
129	Computer simulation of grain growth kinetics with solute drag. Journal of Materials Research, 1999, 14, 1113-1123.	1.2	41
130	Linking first-principles energetics to CALPHAD: An application to thermodynamic modeling of the Al-Ca binary system. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 5-13.	1.1	41
131	A phase-field model for deformation twinning. Philosophical Magazine Letters, 2011, 91, 110-121.	0.5	41
132	Direct observation of asymmetric domain wall motion in a ferroelectric capacitor. Acta Materialia, 2013, 61, 6765-6777.	3.8	41
133	Nanodomain Engineering in Ferroelectric Capacitors with Graphene Electrodes. Nano Letters, 2016, 16, 6460-6466.	4.5	41
134	Facilitation of Ferroelectric Switching via Mechanical Manipulation of Hierarchical Nanoscale Domain Structures. Physical Review Letters, 2017, 118, 017601.	2.9	41
135	Multiscale framework for simulation-guided growth of 2D materials. Npj 2D Materials and Applications, 2018, 2, .	3.9	41
136	Hierarchical Domain Structure and Extremely Large Wall Current in Epitaxial BiFeO₃ Thin Films. Advanced Functional Materials, 2018, 28, 1801725.	7.8	41
137	A thermodynamic potential and the temperature-composition phase diagram for single-crystalline K1-xNaxNbO3 (0â€‰â‰â€‰xâ€‰â‰â€‰0.5). Applied Physics Letters, 2017, 110, .	1.5	40
138	Quasi-one-dimensional metallic conduction channels in exotic ferroelectric topological defects. Nature Communications, 2021, 12, 1306.	5.8	40
139	Polarization switching of the incommensurate phases induced by flexoelectric coupling in ferroelectric thin films. Acta Materialia, 2015, 90, 344-354.	3.8	39
140	Light-Activated Gigahertz Ferroelectric Domain Dynamics. Physical Review Letters, 2018, 120, 096101.	2.9	39
141	Designing polymer nanocomposites with high energy density using machine learning. Npj Computational Materials, 2021, 7, .	3.5	39
142	A Phase Diagram for Epitaxial PbZr1-xTixO3 Thin Films at the Bulk Morphotropic Boundary Composition. Journal of the American Ceramic Society, 2005, 88, 1669-1672.	1.9	38
143	Mechanical Switching of Nanoscale Multiferroic Phase Boundaries. Advanced Functional Materials, 2015, 25, 3405-3413.	7.8	38
144	Size effects of electrocaloric cooling in ferroelectric nanowires. Journal of the American Ceramic Society, 2018, 101, 1566-1575.	1.9	38

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145	Giant tuning of ferroelectricity in single crystals by thickness engineering. Science Advances, 2020, 6, .	4.7	38
146	Atomic-scale observation of non-classical nucleation-mediated phase transformation in a titanium alloy. Nature Materials, 2022, 21, 290-296.	13.3	38
147	Computer Simulation of Grain Growth and Ostwald Ripening in Aluminaâ€"Zirconia Twoâ€Phase Composites. Journal of the American Ceramic Society, 1997, 80, 1773-1780.	1.9	37
148	Universal emergence of spatially modulated structures induced by flexoantiferrodistortive coupling in multiferroics. Physical Review B, 2013, 88, .	1.1	37
149	Direct Observation of Nanoscale Peltier and Joule Effects at Metalâ€"Insulator Domain Walls in Vanadium Dioxide Nanobeams. Nano Letters, 2014, 14, 2394-2400.	4.5	37
150	Emergence of the Vortex State in Confined Ferroelectric Heterostructures. Advanced Materials, 2019, 31, e1901014.	11.1	37
151	Computer Simulation of the Dynamics of 180o Ferroelectric Domains. Journal of the American Ceramic Society, 1995, 78, 2554-2556.	1.9	36
152	Orientations of low-energy domain walls in perovskites with oxygen octahedral tilts. Physical Review B, 2014, 90, .	1.1	36
153	Effects of strain and oxygen vacancies on the ferroelectric and antiferrodistortive distortions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>PbTiO</mml:mi><mml:mn>3</mml:mn><m Physical Review B, 2015, 92, .	1.1	36
154	Domain Dynamics under Ultrafast Electric-Field Pulses. Physical Review Letters, 2020, 124, 107601.	2.9	36
155	A thermodynamic free energy function for potassium niobate. Applied Physics Letters, 2009, 94, .	1.5	34
156	Revealing ferroelectric switching character using deep recurrent neural networks. Nature Communications, 2019, 10, 4809.	5.8	34
157	An Allâ€Scale Hierarchical Architecture Induces Colossal Roomâ€Temperature Electrocaloric Effect at Ultralow Electric Field in Polymer Nanocomposites. Advanced Materials, 2020, 32, e1907927.	11.1	34
158	Vortex Domain Walls in Ferroelectrics. Nano Letters, 2021, 21, 3533-3539.	4.5	34
159	Design and discovery of materials guided by theory and computation. Npj Computational Materials, 2015, 1, .	3.5	33
160	Uncertainty quantification and reduction in metal additive manufacturing. Npj Computational Materials, 2020, 6, .	3.5	33
161	Phase-Field Modeling of Nucleation in Solid-State Phase Transformations. Jom, 2014, 66, 1520-1528.	0.9	32
162	Field enhancement of electronic conductance at ferroelectric domain walls. Nature Communications, 2017, 8, 1318.	5.8	32

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163	Periodicity-Doubling Cascades: Direct Observation in Ferroelastic Materials. Physical Review Letters, 2019, 123, 087603.	2.9	32
164	Improper molecular ferroelectrics with simultaneous ultrahigh pyroelectricity and figures of merit. Science Advances, 2021, 7, .	4.7	32
165	Space charge effects on the dielectric response of polymer nanocomposites. Applied Physics Letters, 2017, 111, .	1.5	31
166	Control of Domain Structures in Multiferroic Thin Films through Defect Engineering. Advanced Materials, 2018, 30, e1802737.	11.1	31
167	Mechanically induced ferroelectric switching in BaTiO3 thin films. Acta Materialia, 2020, 193, 151-162.	3.8	31
168	Frequency dependent dynamical electromechanical response of mixed ionic-electronic conductors. Journal of Applied Physics, 2012, 111, 014107.	1.1	30
169	Tunneling Hot Spots in Ferroelectric SrTiO₃. Nano Letters, 2018, 18, 491-497.	4.5	30
170	A Bottom-Up Formation Mechanism of Solid Electrolyte Interphase Revealed by Isotope-Assisted Time-of-Flight Secondary Ion Mass Spectrometry. Journal of Physical Chemistry Letters, 2018, 9, 5508-5514.	2.1	29
171	Acoustic Detection of Phase Transitions at the Nanoscale. Advanced Functional Materials, 2016, 26, 478-486.	7.8	28
172	Magnetically actuated functional gradient nanocomposites for strong and ultra-durable biomimetic interfaces/surfaces. Materials Horizons, 2017, 4, 869-877.	6.4	28
173	Constructing Polymorphic Nanodomains in BaTiO₃ Films via Epitaxial Symmetry Engineering. Advanced Functional Materials, 2020, 30, 1910569.	7.8	28
174	Electric field-induced tetragonal to orthorhombic phase transitions in [110]c-oriented BaTiO3 single crystals. Applied Physics Letters, 2012, 101, 232904.	1.5	27
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