Observation of room-temperature polar skyrmions

Nature

568, 368-372

DOI: 10.1038/s41586-019-1092-8

#	Article	IF	Citations
1	Frustrated Dipole Order Induces Noncollinear Proper Ferrielectricity in Two Dimensions. Physical Review Letters, 2019, 123, 067601.	2.9	52
2	Topological domain states and magnetoelectric properties in multiferroic nanostructures. National Science Review, 2019, 6, 684-702.	4.6	35
3	Direct current-tunable MHz to multi-GHz skyrmion generation and control. Scientific Reports, 2019, 9, 9496.	1.6	7
4	Functional domain walls: Concepts and perspectives. Solid State Physics, 2019, , 133-142.	1.3	0
5	Prediction of a novel topological multidefect ground state. Physical Review B, 2019, 100, .	1.1	8
6	Skyrmions in ferroelectric materials. Solid State Physics, 2019, , 143-169.	1.3	11
7	Electrifying skyrmion bubbles. Nature, 2019, 568, 322-323.	13.7	2
8	From the archive. Nature, 2019, 568, 323-323.	13.7	0
9	Dynamical Magnetic Field Accompanying the Motion of Ferroelectric Domain Walls. Physical Review Letters, 2019, 123, 127601.	2.9	28
10	Design and Manipulation of Ferroic Domains in Complex Oxide Heterostructures. Materials, 2019, 12, 3108.	1.3	17
11	Microstructure and Properties of PZT Films with Different PbO Contentâ€"Ionic Mechanism of Built-In Fields Formation. Materials, 2019, 12, 2926.	1.3	11
12	Biggest Denisovan fossil yet spills ancient humanâ€™s secrets. Nature, 2019, 569, 16-17.	13.7	5
13	Chiral edge currents for ac-driven skyrmions in confined pinning geometries. Physical Review B, 2019, 100, .	1.1	5
14	Magnetic skyrmions in nanostructures of non-centrosymmetric materials. APL Materials, 2019, 7, .	2.2	20
15	Self-assembly growth of a multiferroic topological nanoisland array. Nanoscale, 2019, 11, 20514-20521.	2.8	13
16	Rotational polarization nanotopologies in BaTiO₃/SrTiO₃ superlattices. Nanoscale, 2019, 11, 21275-21283.	2.8	21
17	Design of Complex Oxide Interfaces by Oxide Molecular Beam Epitaxy. Journal of Superconductivity and Novel Magnetism, 2020, 33, 107-120.	0.8	25
18	Domainâ€scale imaging to dispel the clouds over the thermal depolarization of Bi_{0.5}Na_{0.5}TiO₃â€based relaxor ferroelectrics. Journal of the American Ceramic Society, 2020, 103, 1881-1890.	1.9	24

#	Article	IF	Citations
19	On the Imbalance and Response Time of Glaciers in the European Alps. Geophysical Research Letters, 2020, 47, e2019GL085578.	1.5	47
20	Role of temperature-dependent electron trapping dynamics in the optically driven nanodomain transformation in a PbTiO3/SrTiO3 superlattice. Applied Physics Letters, 2020, 116, 012901.	1.5	2
21	In-situ stirring assisted hydrothermal synthesis of W-doped VO2 (M) nanorods with improved doping efficiency and mid-infrared switching property. Journal of Alloys and Compounds, 2020, 821, 153556.	2.8	13
22	Ferroelectric Oxide Thin Film with an Out-of-Plane Electrical Conductivity. Nano Letters, 2020, 20, 1047-1053.	4.5	5
23	Atomically Resolved Edge States on a Layered Ferroelectric Oxide. ACS Applied Materials & Interfaces, 2020, 12, 4150-4154.	4.0	9
24	Controllable Ferromagnetism in Super-tetragonal PbTiO₃ through Strain Engineering. Nano Letters, 2020, 20, 881-886.	4.5	11
25	Observation of Magnetic Antiskyrmions in the Low Magnetization Ferrimagnet Mn₂Rh_{0.95}Ir_{0.05}Sn. Nano Letters, 2020, 20, 59-65.	4.5	51
26	Visualizing quantum phenomena at complex oxide interfaces: An atomic view from scanning transmission electron microscopy. Frontiers of Physics, 2020, 15, 1.	2.4	5
27	Discovery of Realâ€Space Topological Ferroelectricity in Metallic Transition Metal Phosphides. Advanced Materials, 2020, 32, e2003479.	11.1	13
28	Less can be more in functional materials. Science, 2020, 369, 252-253.	6.0	6
29	Six-Fold Vertices in a Single-Component Organic Ferroelectric with Most Equivalent Polarization Directions. Journal of the American Chemical Society, 2020, 142, 13989-13995.	6.6	34
30	Topology and control of self-assembled domain patterns in low-dimensional ferroelectrics. Nature Communications, 2020, 11, 5779.	5.8	37
31	Characterization of ferroelectric domain walls by scanning electron microscopy. Journal of Applied Physics, 2020, 128, .	1.1	22
32	Site-specific spectroscopic measurement of spin and charge in (LuFeO3)m/(LuFe2O4)1 multiferroic superlattices. Nature Communications, 2020, 11, 5582.	5.8	9
33	Full Control of Polarization in Ferroelectric Thin Films Using Growth Temperature to Modulate Defects. Advanced Electronic Materials, 2020, 6, 2000852.	2.6	13
34	Topological phonons in oxide perovskites controlled by light. Science Advances, 2020, 6, .	4.7	47
35	In-situ monitoring of interface proximity effects in ultrathin ferroelectrics. Nature Communications, 2020, 11, 5815.	5.8	21
36	Emergent helical texture of electric dipoles. Science, 2020, 369, 680-684.	6.0	36

#	Article	IF	Citations
37	Vector, bidirector, and Bloch skyrmion phases induced by structural crystallographic symmetry breaking. Physical Review B, 2020, 102, .	1.1	15
38	Physical foundations and basic properties of magnetic skyrmions. Nature Reviews Physics, 2020, 2, 492-498.	11.9	107
39	Solution to Electric Field Screening in Diamond Quantum Electrometers. Physical Review Applied, 2020, 14, .	1.5	11
40	Unveiling the ferrielectric nature of PbZrO3-based antiferroelectric materials. Nature Communications, 2020, 11, 3809.	5.8	81
41	Hopf Solitons in Helical and Conical Backgrounds of Chiral Magnetic Solids. Physical Review Letters, 2020, 125, 057201.	2.9	32
42	Thermal generation, manipulation and thermoelectric detection of skyrmions. Nature Electronics, 2020, 3, 672-679.	13.1	86
43	Magnetic domain engineering in SrRuO3 thin films. Npj Quantum Materials, 2020, 5, .	1.8	18
44	Beyond Substrates: Strain Engineering of Ferroelectric Membranes. Advanced Materials, 2020, 32, e2003780.	11.1	58
45	Flexoelectricity in thin films and membranes of complex oxides. APL Materials, 2020, 8, .	2.2	14
46	Domain-wall engineering and topological defects in ferroelectric and ferroelastic materials. Nature Reviews Physics, 2020, 2, 634-648.	11.9	154
47	Polar Morphologies from First Principles: PbTiO₃ Films on SrTiO₃ Substrates and the p(2Ã—Î›) Surface Reconstruction. Advanced Theory and Simulations, 2020, 3, 2000154.	1.3	11
48	Beyond Expectation: Advanced Materials Design, Synthesis, and Processing to Enable Novel Ferroelectric Properties and Applications. MRS Advances, 2020, 5, 3453-3472.	0.5	1
49	Exploring physics of ferroelectric domain walls via Bayesian analysis of atomically resolved STEM data. Nature Communications, 2020, 11, 6361.	5.8	17
50	Boundary conditions control of topological polar nanodomains in epitaxial BiFeO3 (110) multilayered films. Journal of Applied Physics, 2020, 128, 184103.	1.1	7
51	100th anniversary of the discovery of ferroelectricity: How it impacted the current day physics. Ferroelectrics, 2020, 569, 348-356.	0.3	4
52	Organic Ferroelectric Vortexâ€"Antivortex Domain Structure. Journal of the American Chemical Society, 2020, 142, 21932-21937.	6.6	31
53	Thickness-dependent evolution of piezoresponses and <i>a</i>/<i>c</i> domains in [101]-oriented PbTiO3 ferroelectric films. Journal of Applied Physics, 2020, 128, .	1.1	11
54	Mapping Topological Dipole Textures, Chirality, and the Potential Energy Landscape of Polar Skyrmions Using 4D-STEM. Microscopy and Microanalysis, 2020, 26, 968-970.	0.2	1

#	Article	IF	Citations
55	Atomic Resolution Crystal Field Splitting Mapping in Polar Vortices Oxide Superlattices. Microscopy and Microanalysis, 2020, 26, 3178-3180.	0.2	1
56	Skyrmion fluctuations at a first-order phase transition boundary. Applied Physics Letters, 2020, 116, .	1.5	12
57	Hopfions emerge in ferroelectrics. Nature Communications, 2020, 11, 2433.	5.8	47
58	Coupling of polarization orientations of the ferroelectric layers in an oxide sandwich structure. Applied Physics Letters, 2020, 116, .	1.5	2
59	Polar meron lattice in strained oxide ferroelectrics. Nature Materials, 2020, 19, 881-886.	13.3	134
60	Real-time observation of phase coexistence and a/a to flux-closure domain transformation in ferroelectric films. Acta Materialia, 2020, 193, 311-317.	3.8	13
61	Controllable skyrmion chirality in ferroelectrics. Scientific Reports, 2020, 10, 8657.	1.6	26
62	S<scp>iesta</scp>: Recent developments and applications. Journal of Chemical Physics, 2020, 152, 204108.	1.2	229
63	Strain-induced room-temperature ferroelectricity in SrTiO3 membranes. Nature Communications, 2020, 11, 3141.	5.8	121
64	Reconstruction of the interatomic forces from dynamic scanning transmission electron microscopy data. Journal of Applied Physics, 2020, 127, 224301.	1.1	2
65	Modulating the electronic and optical properties for SrTiO₃/LaAlO₃ bilayers treated as the 2D materials by biaxial strains. Journal of Physics Condensed Matter, 2020, 32, 215701.	0.7	4
66	A spiking neuron constructed by the skyrmion-based spin torque nano-oscillator. Applied Physics Letters, 2020, 116, .	1.5	36
67	Tip-force-induced ultrafast polarization switching in ferroelectric thin film: A dynamical phase field simulation. Journal of Applied Physics, 2020, 128, .	1.1	8
68	Emergent Antipolar Phase in BiFeO₃â€"La_{0.7}Sr_{0.3}MnO₃ Superlattice. Nano Letters, 2020, 20, 6045-6050.	4.5	12
69	Domains and Topological Defects in Layered Ferrielectric Materials: Implications for Nanoelectronics. ACS Applied Nano Materials, 2020, 3, 8161-8166.	2.4	4
70	The emergence of magnetic skyrmions. Physics Today, 2020, 73, 44-49.	0.3	24
71	Observation of Vortex Domains in a Two-Dimensional Lead Iodide Perovskite Ferroelectric. Journal of the American Chemical Society, 2020, 142, 4925-4931.	6.6	153
72	Giant Uniaxial Strain Ferroelectric Domain Tuning in Freestanding PbTiO₃ Films. Advanced Materials Interfaces, 2020, 7, 1901604.	1.9	41

#	Article	IF	Citations
73	Large Polarization and Susceptibilities in Artificial Morphotropic Phase Boundary PbZr_{1âˆ’}<i>_x</i>Ti<i>_x</i>O₃ Superlattices. Advanced Electronic Materials, 2020, 6, 1901395.	2.6	17
74	Domain evolution in bended freestanding BaTiO3 ultrathin films: A phase-field simulation. Applied Physics Letters, 2020, 116, .	1.5	15
75	Magnetic Skyrmion Materials. Chemical Reviews, 2021, 121, 2857-2897.	23.0	292
76	Local negative permittivity and topological phase transition in polar skyrmions. Nature Materials, 2021, 20, 194-201.	13.3	86
77	Dzyaloshinskiiâ€"Moriya-like interaction in ferroelectrics and antiferroelectrics. Nature Materials, 2021, 20, 341-345.	13.3	37
78	Piezoelectric properties of ferroelectric perovskite superlattices with polar discontinuity. Computational Materials Science, 2021, 188, 110113.	1.4	5
79	Recent Progress on Topological Structures in Ferroic Thin Films and Heterostructures. Advanced Materials, 2021, 33, e2000857.	11.1	84
80	Origin of the hump anomalies in the Hall resistance loops of ultrathin <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>SrRuO</mml:mi><mml:mn>3</mml:mn></m multilayers. Physical Review Materials, 2021, 5, .	0.9	18
81	Antiferromagnetic switching driven by the collective dynamics of a coexisting spin glass. Science Advances, 2021, 7, .	4.7	27
82	PFM (piezoresponse force microscopy)-aided design for molecular ferroelectrics. Chemical Society Reviews, 2021, 50, 8248-8278.	18.7	63
83	Crossings of Ferroelastic Twin Domains. Springer Theses, 2021, , 93-114.	0.0	0
84	The 2021 quantum materials roadmap. JPhys Materials, 2020, 3, 042006.	1.8	111
85	Metalâ€"ferroelectric supercrystals with periodically curved metallic layers. Nature Materials, 2021, 20, 495-502.	13.3	39
86	Ferroelectricity. Springer Theses, 2021, , 5-18.	0.0	0
87	Chiral Spin Textures in Amorphous Ironâ€"Germanium Thick Films. Advanced Materials, 2021, 33, e2004830.	11.1	13
88	Ferroic dislocations in paraelectric <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Sr</mml:mi><mml:mi>Ti</mml:mi><mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2021, 103, .	1.1	4
89	Emerging phenomena from exotic ferroelectric topological states. APL Materials, 2021, 9, .	2.2	16
90	An Intriguing Polarization Configuration of Mixed Ising- and NÃ©el-Type Model in the Prototype PbZrO₃-Based Antiferroelectrics. Inorganic Chemistry, 2021, 60, 3232-3237.	1.9	8

#	Article	IF	Citations
91	Dzyaloshinskiiâ€“Moriya interaction turns electric. Nature Materials, 2021, 20, 291-292.	13.3	4
92	Tip-induced domain protrusion in ferroelectric films with in-plane polarization. Journal of Applied Physics, 2021, 129, 054103.	1.1	1
93	Shedding light on non-Ising polar domain walls: Insight from second harmonic generation microscopy and polarimetry analysis. Journal of Applied Physics, 2021, 129, .	1.1	25
94	Dynamical topology in ferroelectric nanostructures by 12[11Â¯0](110) dislocations in SrTiO3. Physical Review B, 2021, 103, .	1.1	2
95	Aberration corrected STEM techniques to investigate polarization in ferroelectric domain walls and vortices. APL Materials, 2021, 9, .	2.2	15
96	Tip-induced flexoelectricity, polar vortices, and magnetic moments in ferroelastic materials. Journal of Applied Physics, 2021, 129, .	1.1	6
97	Quasi-one-dimensional metallic conduction channels in exotic ferroelectric topological defects. Nature Communications, 2021, 12, 1306.	5.8	40
98	Exotic Quad-Domain Textures and Transport Characteristics of Self-Assembled BiFeO₃ Nanoislands on Nb-Doped SrTiO₃. ACS Applied Materials & Interfaces, 2021, 13, 12331-12340.	4.0	8
99	Flexoelectric Thin-Film Photodetectors. Nano Letters, 2021, 21, 2946-2952.	4.5	44
100	Creation and observation of Hopfions in magnetic multilayer systems. Nature Communications, 2021, 12, 1562.	5.8	95
101	Buried moirÃ© supercells through SrTiO3 nanolayer relaxation. Physical Review Research, 2021, 3, .	1.3	5
102	Whirls and swirls of polarization. Science, 2021, 371, 992-993.	6.0	3
103	Toroidal polar topology in strained ferroelectric polymer. Science, 2021, 371, 1050-1056.	6.0	74
104	Creating polar antivortex in PbTiO3/SrTiO3 superlattice. Nature Communications, 2021, 12, 2054.	5.8	50
105	A Molecular Approach to Quantum Sensing. ACS Central Science, 2021, 7, 712-723.	5.3	52
106	Dimensionality-Induced Change in Topological Order in Multiferroic Oxide Superlattices. Physical Review Letters, 2021, 126, 157601.	2.9	12
107	Layer and spontaneous polarizations in perovskite oxides and their interplay in multiferroic bismuth ferrite. Journal of Chemical Physics, 2021, 154, 154702.	1.2	14
108	Vortex Domain Walls in Ferroelectrics. Nano Letters, 2021, 21, 3533-3539.	4.5	34

#	Article	IF	Citations
109	Analogy between the Magnetic Dipole Moment at the Surface of a Magnetoelectric and the Electric Charge at the Surface of a Ferroelectric. Journal of Experimental and Theoretical Physics, 2021, 132, 493-505.	0.2	8
110	Subterahertz collective dynamics of polar vortices. Nature, 2021, 592, 376-380.	13.7	66
111	Skyrmion devices for memory and logic applications. APL Materials, 2021, 9, .	2.2	89
112	Oxygen vacancy-induced topological nanodomains in ultrathin ferroelectric films. Npj Quantum Materials, 2021, 6, .	1.8	23
113	Controlling the magnetoelectric coupling in Ni/BiFe0.95Mn0.05O3 with a dielectric spacer. Journal of Magnetism and Magnetic Materials, 2021, 526, 167689.	1.0	0
114	Self-supervised learning and prediction of microstructure evolution with convolutional recurrent neural networks. Patterns, 2021, 2, 100243.	3.1	33
115	Topological polar structures in ferroelectric oxide films. Journal of Applied Physics, 2021, 129, .	1.1	9
116	Stabilization and manipulation of in-plane polarization in a ferroelectric | dielectric superlattice. Journal of Applied Physics, 2021, 129, .	1.1	3
117	Strongly enhanced and tunable photovoltaic effect in ferroelectric-paraelectric superlattices. Science Advances, 2021, 7, .	4.7	19
118	Nanoscale bubble domains with polar topologies in bulk ferroelectrics. Nature Communications, 2021, 12, 3632.	5.8	57
119	Numerical Discretization of Variational Phase Field Model for Phase Transitions in Ferroelectric Thin Films. Communications in Computational Physics, 2021, 29, 729-746.	0.7	0
120	Condensation of collective polar vortex modes. Physical Review B, 2021, 103, .	1.1	10
121	Domains and domain walls in ferroic materials. Journal of Applied Physics, 2021, 129, .	1.1	5
122	Noncollinear topological textures in two-dimensional van der Waals materials: From magnetic to polar systems. International Journal of Modern Physics B, 0, , 2130004.	1.0	9
123	One-step epitaxy of high-mobility La-doped BaSnO3 films by high-pressure magnetron sputtering. APL Materials, 2021, 9, .	2.2	16
124	Ferroelectric materials prompt a rethink of matter. Nature, 2021, 595, S34-S35.	13.7	1
125	Magnetism in curved geometries. Journal of Applied Physics, 2021, 129, .	1.1	29
127	In situ monitoring of epitaxial ferroelectric thin-film growth. Journal of Physics Condensed Matter, 2021, 33, 293001.	0.7	11

#	Article	IF	Citations
128	Observation of domain wall bimerons in chiral magnets. Nature Communications, 2021, 12, 3490.	5.8	33
129	Probing the dynamics of ferroelectric topological oscillators with the electron beam. Microscopy and Microanalysis, 2021, 27, 690-692.	0.2	2
130	Engineering polar vortex from topologically trivial domain architecture. Nature Communications, 2021, 12, 4620.	5.8	20
131	Emergent chirality in a polar meron to skyrmion transition revealed by 4D-STEM. Microscopy and Microanalysis, 2021, 27, 348-350.	0.2	7
132	Phase-field simulations of surface charge-induced ferroelectric vortex. Journal Physics D: Applied Physics, 2021, 54, 405302.	1.3	9
133	Electric field control of magnetism. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	1.0	21
134	Control of Domain States in Rhombohedral Lead Zirconate Titanate Films via Misfit Strains and Surface Charges. Advanced Electronic Materials, 2022, 8, 2100386.	2.6	2
135	Direct switching of polarization vortex in triangular ferroelectric nanodots: Role of crystal orientation. Physical Review B, 2021, 104, .	1.1	2
136	Emergence of Nontrivial Spin Textures in Frustrated Van Der Waals Ferromagnets. Nanomaterials, 2021, 11, 1770.	1.9	9
137	Atomic mapping of periodic dipole waves in ferroelectric oxide. Science Advances, 2021, 7, .	4.7	27
138	Direct detectors and their applications in electron microscopy for materials science. JPhys Materials, 2021, 4, 042005.	1.8	35
139	Unexpectedly low barrier of ferroelectric switching in HfO2 via topological domain walls. Materials Today, 2021, 50, 8-15.	8.3	40
140	Electrocaloric effect in ferroelectric materials: From phase field to first-principles based effective Hamiltonian modeling. Materials Reports Energy, 2021, 1, 100050.	1.7	3
141	Chiral polarization textures induced by the flexoelectric effect in ferroelectric nanocylinders. Physical Review B, 2021, 104, .	1.1	13
142	Structural Evidence for Ultrafast Polarization Rotation in Ferroelectric/Dielectric Superlattice Nanodomains. Physical Review X, 2021, 11, .	2.8	5
143	Advances and Applications of Atomic-Resolution Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2021, 27, 943-995.	0.2	14
144	Engineered periodic quadrupole superstructure in ferroelectric thin films via flexoelectricity. Acta Materialia, 2021, 216, 117126.	3.8	5
145	From classical thermodynamics to phase-field method. Progress in Materials Science, 2022, 124, 100868.	16.0	172

#	Article	IF	Citations
146	Strain manipulation of vortex core in bi-component magnetic nanodisks. Journal Physics D: Applied Physics, 2021, 54, 495001.	1.3	1
147	Recent Advances in Multilayerâ€Structure Dielectrics for Energy Storage Application. Advanced Science, 2021, 8, e2102221.	5.6	105
148	Sub-10 nm Probing of Ferroelectricity in Heterogeneous Materials by Machine Learning Enabled Contact Kelvin Probe Force Microscopy. ACS Applied Electronic Materials, 2021, 3, 4409-4417.	2.0	3
149	Emergence of non-trivial polar topologies hidden in singular stress field in SrTiO₃: topological strain-field engineering. Journal of Physics Condensed Matter, 2021, 33, 505301.	0.7	9
150	Freestanding Ferroelectric Bubble Domains. Advanced Materials, 2021, 33, e2105432.	11.1	18
151	Gaussian process analysis of electron energy loss spectroscopy data: multivariate reconstruction and kernel control. Npj Computational Materials, 2021, 7, .	3.5	6
152	Magnetoelectric phase transition driven by interfacial-engineered Dzyaloshinskii-Moriya interaction. Nature Communications, 2021, 12, 5453.	5.8	18
154	Boundary conditions manipulation of polar vortex domains in BiFeO₃ membranes via phase-field simulations. Journal Physics D: Applied Physics, 2021, 54, 495301.	1.3	4
155	Prismatic 2.0 â€“ Simulation software for scanning and high resolution transmission electron microscopy (STEM and HRTEM). Micron, 2021, 151, 103141.	1.1	42
157	Depolarization field tuning of nanoscale ferroelectric domains in (001)PbZr0.4Ti0.6O3/SrTiO3/PbZr0.4Ti0.6O3 epitaxial heterostructures. Journal of Applied Physics, 2021, 129, 024104.	1.1	5
158	Periodic nanostructures: preparation, properties and applications. Chemical Society Reviews, 2021, 50, 6423-6482.	18.7	34
159	Nonlinearity and Topology. Advances in Dynamics, Patterns, Cognition, 2020, , 25-54.	0.2	4
160	Deterministic Influence of Substrate-Induced Oxygen Vacancy Diffusion on Bi₂WO₆ Thin Film Growth. Crystal Growth and Design, 2021, 21, 625-630.	1.4	9
161	Reconstruction and uncertainty quantification of lattice Hamiltonian model parameters from observations of microscopic degrees of freedom. Journal of Applied Physics, 2020, 128, 214103.	1.1	2
162	Complex center-type topological domain in ferroelectric nanoislands of rhombohedral Pb(Zr0.7,Ti0.3)O3. Journal of Applied Physics, 2020, 128, .	1.1	6
163	Structural and electronic properties of monodomain ultrathin PbTiO3/SrTiO3/PbTiO3/SrRuO3 heterostructures: A first-principles approach. Journal of Applied Physics, 2020, 128, .	1.1	6
164	A new era in ferroelectrics. APL Materials, 2020, 8, .	2.2	36
165	The emergence of tunable negative electrocaloric effect in ferroelectric/paraelectric superlattices. Journal Physics D: Applied Physics, 2020, 53, 505302.	1.3	12

#	Article	IF	Citations
166	Observation of an exotic lattice structure in the transparent <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi mathvariant="normal">K</mml:mi><mml:mi>Ta</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^'</mml:mo>< mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub></mml:math> perovskite supercrystal. Physical Review B, 2020, 102, .	1.1	8
167	Observation of a stable fractionalized polar skyrmionlike texture with giant piezoelectric response enhancement. Physical Review B, 2020, 102, .	1.1	11
168	Domain structure and dielectric properties of metal-ferroelectric superlattices with asymmetric interfaces. Physical Review Materials, 2020, 4, .	0.9	6
169	Mesoscopic structure of mixed type domain walls in multiaxial ferroelectrics. Physical Review Materials, 2020, 4, .	0.9	3
170	Theory of the skyrmion, meron, antiskyrmion, and antimeron in chiral magnets. Physical Review Research, 2019, 1, .	1.3	21
171	Domains and domain walls in multiferroics. ChemistrySelect, 2020, 5, .	0.7	28
172	Construction of novel ferroelectric topological structures and their structural characteristics at sub-angstrÃ¶m level. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 216801-216801.	0.2	1
173	Disentangling ferroelectric domain wall geometries and pathways in dynamic piezoresponse force microscopy via unsupervised machine learning. Nanotechnology, 2022, 33, 055707.	1.3	14
174	Spontaneous helielectric nematic liquid crystals: Electric analog to helimagnets. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	51
175	In Situ Cryogenic HAADF-STEM Observation of Spontaneous Transition of Ferroelectric Polarization Domain Structures at Low Temperatures. Nano Letters, 2021, 21, 8679-8686.	4.5	5
176	Observation of surface magnons and crystalline electric field shifts in superantiferromagnetic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>NdCu</mml:mi><mml:mn>2</mml:mn></mml:msub></m Physical Review B, 2021, 104, .	1.1	4
177	Enhancement of Interfacial Polarization in BaTiO 3 Thin Films via Oxygen Inhomogeneity. Advanced Electronic Materials, 0, , 2100876.	2.6	4
178	Energetic Couplings in Ferroics. Advanced Electronic Materials, 2022, 8, 2100639.	2.6	3
179	H/F substitution for advanced molecular ferroelectrics. Trends in Chemistry, 2021, 3, 1088-1099.	4.4	48
180	Symmetry-aware recursive image similarity exploration for materials microscopy. Npj Computational Materials, 2021, 7, .	3.5	5
181	Subthreshold Characteristics of a Metal-Oxideâ€"Semiconductor Field-Effect Transistor with External PVDF Gate Capacitance. Crystals, 2019, 9, 673.	1.0	0
182	Atomic scale crystal field mapping of polar vortices in oxide superlattices. Nature Communications, 2021, 12, 6273.	5.8	13
183	Quantum Dynamics at Scale. , 2020, , .		1

#	Article	IF	Citations
184	Displacement separation analysis from atomic-resolution images. Ultramicroscopy, 2022, 232, 113404.	0.8	3
185	Polar topological structures in ferroelectric materials. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 127702.	0.2	5
186	Accelerating Experimental Science Using Jupyter and NERSC HPC. Communications in Computer and Information Science, 2020, , 145-163.	0.4	5
187	Electrostatics and domains in ferroelectric superlattices. Royal Society Open Science, 2020, 7, 201270.	1.1	12
188	Atomic-Scale Tunable Flexoelectric Couplings in Oxide Multiferroics. Nano Letters, 2021, 21, 9601-9608.	4.5	7
189	Atomic-scale understanding of enhanced polarization of highly strained nanoscale columnar PbTiO3. Physical Review B, 2021, 104, .	1.1	2
190	Roadmap for Ferroelectric Domain Wall Nanoelectronics. Advanced Functional Materials, 2022, 32, 2110263.	7.8	45
191	Nonvolatile Ferroelectricâ€Domainâ€Wall Memory Embedded in a Complex Topological Domain Structure. Advanced Materials, 2022, 34, e2107711.	11.1	32
192	Stability and low-energy orientations of interphase boundaries in multiaxial ferroelectrics: Phase-field simulations. Physical Review B, 2022, 105, .	1.1	3
193	Signatures of enhanced out-of-plane polarization in asymmetric BaTiO3 superlattices integrated on silicon. Nature Communications, 2022, 13, 265.	5.8	13
194	Polar Chirality in BiFeO₃ Emerging from A Peculiar Domain Wall Sequence. Advanced Electronic Materials, 2022, 8, .	2.6	7
195	Electrically driven motion, destruction, and chirality change of polar vortices in oxide superlattices. Science China: Physics, Mechanics and Astronomy, 2022, 65, 1.	2.0	6
196	Phaseâ€Field Simulations of Tunable Polar Topologies in Leadâ€Free Ferroelectric/Paraelectric Multilayers with Ultrahigh Energyâ€Storage Performance. Advanced Materials, 2022, 34, e2108772.	11.1	24
197	Electrostatically Driven Polarization Flop and Strainâ€Induced Curvature in Freeâ€Standing Ferroelectric Superlattices. Advanced Materials, 2022, 34, e2106826.	11.1	18
198	Tunable Nanoscale Evolution and Topological Phase Transitions of a Polar Vortex Supercrystal. Advanced Materials, 2022, 34, e2106401.	11.1	9
199	Liberating a hidden antiferroelectric phase with interfacial electrostatic engineering. Science Advances, 2022, 8, eabg5860.	4.7	18
200	Generation and manipulation of skyrmions and other topological spin structures with rare metals. Rare Metals, 2022, 41, 2200-2216.	3.6	24
201	Thickness-Dependent Polar Domain Evolution in Strained, Ultrathin PbTiO₃ Films. ACS Applied Materials & Interfaces, 2022, 14, 9724-9733.	4.0	4

#	Article	IF	Citations
202	Controlling topological defect transitions in nanoscale lead zirconate titanate heterostructures. Physical Review Materials, 2021, 5, .	0.9	7
203	Modeling of Ferroelectric Oxide Perovskites: From First to Second Principles. Annual Review of Condensed Matter Physics, 2022, 13, 325-364.	5.2	17
204	Orderâ€"Disorder Transitions in a Polar Vortex Lattice. Advanced Functional Materials, 2022, 32, .	7.8	9
205	Local manipulation and topological phase transitions of polar skyrmions. Matter, 2022, 5, 1031-1041.	5.0	12
206	Field-induced heterophase state in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>PbZrO</mml:mi><mml:mn>3</mml:mn></mml:msub></m thin films. Physical Review B, 2022, 105, .	1.1	12
207	Phase-field simulations of vortex chirality manipulation in ferroelectric thin films. Npj Quantum Materials, 2022, 7, .	1.8	22
208	Hybrid improper dipolar density wave in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>NaLaCoWO</mml:mi></mml:mrow><mml:m Physical Review Materials, 2022, 6, .	0.9	0
209	High-density switchable skyrmion-like polar nanodomains integrated on silicon. Nature, 2022, 603, 63-67.	13.7	79
210	Phase Diagram of a Strained Ferroelectric Nanowire. Crystals, 2022, 12, 453.	1.0	5
211	Exploring far-from-equilibrium ultrafast polarization control in ferroelectric oxides with excited-state neural network quantum molecular dynamics. Science Advances, 2022, 8, eabk2625.	4.7	8
212	Emergent elastic fields induced by topological phase transitions: Impact of molecular chirality and steric anisotropy. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2118492119.	3.3	2
213	Hidden <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>k</mml:mi></mml:math> -Space Magnetoelectric Multipoles in Nonmagnetic Ferroelectrics. Physical Review Letters, 2022, 128, 116402.	2.9	7
214	Imaging Ferroelectrics: Reinterpreting Charge Gradient Microscopy as Potential Gradient Microscopy. Advanced Electronic Materials, 0, , 2101384.	2.6	0
215	Multiscale Structure Engineering for High-Performance Pb-Free Piezoceramics. Accounts of Materials Research, 2022, 3, 461-471.	5.9	29
216	Thinâ€Film Ferroelectrics. Advanced Materials, 2022, 34, e2108841.	11.1	33
217	Strain phase diagram and physical properties of (110)-oriented PbTiO3 thin films by phase-field simulations. Acta Materialia, 2022, 228, 117761.	3.8	8
218	Chiral structures of electric polarization vectors quantified by X-ray resonant scattering. Nature Communications, 2022, 13, 1769.	5.8	6
219	Discovery of electric devilâ€™s staircase in perovskite antiferroelectric. Science Advances, 2022, 8, eabl9088.	4.7	17

#	Article	IF	Citations
220	Controllable electrical, magnetoelectric and optical properties of BiFeO3 via domain engineering. Progress in Materials Science, 2022, 127, 100943.	16.0	40
221	Anti-polar state in BiFeO₃/NdFeO₃ superlattices. Journal of Applied Physics, 2021, 130, 244101.	1.1	0
222	Optically Induced Picosecond Lattice Compression in the Dielectric Component of a Strongly Coupled Ferroelectric/Dielectric Superlattice. Advanced Electronic Materials, 0, , 2101051.	2.6	1
223	Surface charge mediated polar response in ferroelectric nanoparticles. Applied Physics Letters, 2021, 119, .	1.5	5
224	Tailoring interfacial effect in multilayers with Dzyaloshinskiiâ€“Moriya interaction by helium ion irradiation. Scientific Reports, 2021, 11, 23626.	1.6	11
225	Machines for Materials and Materials for Machines: Metal-Insulator Transitions and Artificial Intelligence. Frontiers in Physics, 2021, 9, .	1.0	5
226	TopoTEM: A Python Package for Quantifying and Visualizing Scanning Transmission Electron Microscopy Data of Polar Topologies. Microscopy and Microanalysis, 2022, , 1-9.	0.2	7
227	Perspectives on domain engineering for dielectric energy storage thin films. Applied Physics Letters, 2022, 120, .	1.5	8
228	Organic ferroelectric croconic acid: a concise survey from bulk single crystals to thin films. Journal of Materials Chemistry C, 2022, 10, 8142-8167.	2.7	4
230	Automated Experiment in 4D-STEM: Exploring Emergent Physics and Structural Behaviors. ACS Nano, 2022, 16, 7605-7614.	7.3	23
231	Stability of chiral polarization vortex in strained ferroelectric superlattices. Journal of Applied Physics, 2022, 131, 164101.	1.1	4
232	Geometric Control of Domain Structure Stability in Ferroelectric Nanotubes. Advanced Electronic Materials, 2022, 8, .	2.6	4
233	Physical realization of topological Roman surface by spin-induced ferroelectric polarization in cubic lattice. Nature Communications, 2022, 13, 2373.	5.8	6
234	Optical second harmonic signature of phase coexistence in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mtext>ferroelectric</mml:mtext><mml:mo>|</mml:mo><mml:mtext>diel heterostructures. Physical Review B, 2022, 105, .	1.1	7
235	Inherent Spinâ€“Polarization Coupling in a Magnetoelectric Vortex. Nano Letters, 2022, 22, 3976-3982.	4.5	3
236	Ferroelectric thin films: performance modulation and application. Materials Advances, 2022, 3, 5735-5752.	2.6	11
237	Bringing some bulk into ferroelectric devices. Nature Materials, 0, , .	13.3	1
238	Strain manipulation of ferroelectric skyrmion bubbles in a freestanding <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>PbTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></m film: A phase field simulation. Physical Review B, 2022, 105, .	1.1	6

#	Article	IF	Citations
239	Room-temperature surface multiferroicity in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Y</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>NiMnO</mml:mi><mml:mn>6</mml:mn></mml:mr nanorods. Physical Review B, 2022, 105, .	1.1	0
240	Polar surface of ferroelectric nanodomains in GeTe thin films. Physical Review Materials, 2022, 6, .	0.9	4
241	Meronâ€"antimeron annihilation induced by the electric field in a polar meron lattice. Journal of Applied Physics, 2022, 131, .	1.1	4
242	Melting of crystals of polarization vortices and chiral phase transitions in oxide superlattices. Physical Review B, 2022, 105, .	1.1	5
243	Dynamical phase-field model of coupled electronic and structural processes. Npj Computational Materials, 2022, 8, .	3.5	7
244	Freestanding Perovskite Oxide Films: Synthesis, Challenges, and Properties. Annalen Der Physik, 2022, 534, .	0.9	36
245	Singular Eulerâ€"Maclaurin expansion on multidimensional lattices. Nonlinearity, 2022, 35, 3706-3754.	0.6	2
246	A pyrotoroidic transition in ferroelectric polymer. Matter, 2022, 5, 3041-3052.	5.0	4
247	Origin of circular dichroism in resonant elastic x-ray scattering from magnetic and polar chiral structures. Physical Review B, 2022, 106, .	1.1	2
248	Strain-Induced asymmetry and on-site dynamics of silicon defects in graphene. Carbon Trends, 2022, 9, 100189.	1.4	0
249	Melting of Polar Vortex Arrays in an Oxide Superlattice Probed by <i>In Situ</i> STEM EELS. Microscopy and Microanalysis, 2022, 28, 2358-2359.	0.2	0
250	Theoretical Understanding of Polar Topological Phase Transitions in Functional Oxide Heterostructures: A Review. Small Methods, 2022, 6, .	4.6	9
251	Giant voltage amplification from electrostatically induced incipient ferroelectric states. Nature Materials, 2022, 21, 1252-1257.	13.3	4
252	Strainâ€Driven Mixedâ€Phase Domain Architectures and Topological Transitions in Pb_{1â^'}<i>_x</i>Sr<i>_x</i>TiO₃ Thin Films. Advanced Materials, 2022, 34, .	11.1	5
253	Selfâ€Assembled LuFeO ₃ /LuFe ₂ O ₄ Heterostructure with Emergent Ferroic Orderings. Advanced Functional Materials, 0, , 2206050.	7.8	1
254	Ferroelectric/paraelectric superlattices for energy storage. Science Advances, 2022, 8, .	4.7	14
255	Interfacial phase frustration stabilizes unconventional skyrmion crystals. Npj Quantum Materials, 2022, 7, .	1.8	4
256	Significant photovoltaic enhancement in La-doped BiFeO3 achieved by engineering crystallographic facet arrays. Scripta Materialia, 2022, 221, 114961.	2.6	1

#	Article	IF	Citations
257	Towards computational polar-topotronics: Multiscale neural-network quantum molecular dynamics simulations of polar vortex states in SrTiO3/PbTiO3 nanowires. Frontiers in Nanotechnology, 0, 4, .	2.4	0
258	The evolution of ferroelectricity and ferromagnetism in epitaxial and freestanding SrTiO3-Ïƒ thin films. Ceramics International, 2022, 48, 37174-37179.	2.3	2
259	Ultrafast Activation and Tuning of Topological Textures in Ferroelectric Nanostructures. Advanced Electronic Materials, 0, , 2200808.	2.6	4
260	Electric field manipulation of magnetic skyrmions. Rare Metals, 2022, 41, 4000-4014.	3.6	3
261	Dynamics of Polar Skyrmion Bubbles under Electric Fields. Physical Review Letters, 2022, 129, .	2.9	20
262	Influence of depolarization field on temperature-misfit strain phase diagram of PbZr_{0.4}Ti_{0.6}O₃ ultrathin films. Applied Physics Letters, 2022, 121, 102904.	1.5	0
263	Statics and dynamics of skyrmions interacting with disorder and nanostructures. Reviews of Modern Physics, 2022, 94, .	16.4	61
264	Patterning of large area nanoscale domains in as-grown epitaxial ferroelectric PbTiO3 films. Journal of Materiomics, 2022, , .	2.8	0
265	Polarization Topology at the Nominally Charged Domain Walls in Uniaxial Ferroelectrics. Advanced Materials, 2022, 34, .	11.1	11
266	Skyrmion motion and partitioning of domain wall velocity driven by repulsive interactions. Communications Physics, 2022, 5, .	2.0	3
267	Unsupervised learning of ferroic variants from atomically resolved STEM images. AIP Advances, 2022, 12, .	0.6	2
268	Electric-field control of the nucleation and motion of isolated three-fold polar vertices. Nature Communications, 2022, 13, .	5.8	4
269	Atomically engineered cobaltite layers for robust ferromagnetism. Science Advances, 2022, 8, .	4.7	5
270	Entangled polarizations in ferroelectrics: A focused review of polar topologies. Acta Materialia, 2023, 243, 118485.	3.8	8
271	Theoretical Studies on Controlling the Chirality of Helical Polarization Vortices in Ferroelectric Nanowires: Implications for Reconfigurable Electronic Devices. ACS Applied Nano Materials, 2022, 5, 16509-16518.	2.4	1
272	Berezinskii-Kosterlitz-Thouless phases in ultrathin <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 superlattices. Physical Review B, 2022, 106, .	1.1	1
273	Biferroelectricity of a homochiral organic molecule in both solid crystal and liquid crystal phases. Nature Communications, 2022, 13, .	5.8	6
274	Phase Competition in High-Quality Epitaxial Antiferroelectric PbZrO₃ Thin Films. ACS Applied Materials & Interfaces, 2022, 14, 51096-51104.	4.0	10

#	Article	IF	Citations
275	Strain engineering of ferroelectric topologies prepared on conventional SrTiO3 substrates buffered with REScO3 layers. Acta Materialia, 2023, 243, 118530.	3.8	2
276	Real-Time Transformation of Flux-Closure Domains with Superhigh Thermal Stability. Nano Letters, 2022, 22, 8892-8899.	4.5	3
277	Brownâ€™s Equation for the Simulation of Complex Domain Structures in Ferroelectrics. Wuli Xuebao/Acta Physica Sinica, 2023, .	0.2	0
278	Static structures and dynamic responses of polar topologies in oxide superlattices. Applied Physics Letters, 2022, 121, 212902.	1.5	1
279	Non-volatile electric-field control of inversion symmetry. Nature Materials, 2023, 22, 207-215.	13.3	12
280	Probing charge density in materials with atomic resolution in real space. Nature Reviews Physics, 2023, 5, 117-132.	11.9	4
281	Structural Chirality of Polar Skyrmions Probed by Resonant Elastic X-Ray Scattering. Physical Review Letters, 2022, 129, .	2.9	3
282	Elongated skyrmion as spin torque nano-oscillator and magnonic waveguide. Communications Physics, 2022, 5, .	2.0	3
283	Disentangling multiple scattering with deep learning: application to strain mapping from electron diffraction patterns. Npj Computational Materials, 2022, 8, .	3.5	7
284	Microscopic origin of the electric Dzyaloshinskii-Moriya interaction. Physical Review B, 2022, 106, .	1.1	2
285	Controlling the properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>PbTiO</mml:mi><mml:mn>3</mml:mn></mml:msub><m superlattices by photoexcited carriers. Physical Review B, 2022, 106, .	1.1	1
286	Squishing Skyrmions: Symmetry-Guided Dynamic Transformation of Polar Topologies Under Compression. Journal of Physical Chemistry Letters, 2022, 13, 11335-11345.	2.1	1
287	Non-Ising domain walls in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>c</mml:mi></mml:math> -phase ferroelectric lead titanate thin films. Physical Review B, 2022, 106, .	1.1	1
288	Disorder-Induced Topological State Transition in the Optical Skyrmion Family. Physical Review Letters, 2022, 129, .	2.9	7
289	AtomAI framework for deep learning analysis of image and spectroscopy data in electron and scanning probe microscopy. Nature Machine Intelligence, 2022, 4, 1101-1112.	8.3	23
291	Direct Visualization of Localized Vibrations at Complex Grain Boundaries. Advanced Materials, 2023, 35, .	11.1	7
292	Room-Temperature Ferroelectricity of Paraelectric Oxides Tailored by Nano-Engineering. ACS Applied Materials & Interfaces, 2023, 15, 4226-4233.	4.0	1
293	Stability of ferroelectric bubble domains. Physical Review Materials, 2023, 7, .	0.9	8

#	Article	IF	Citations
294	Thermal transport manipulated by vortex domain walls in bulk h-ErMnO3. Materials Today Physics, 2023, 31, 100972.	2.9	1
295	Structuralâ€functional unit ordering for highâ€performance electronâ€correlated materials. , 2023, 2, 30-52.		2
296	Hierarchically Engineered Manganite Thin Films with a Wide-Temperature-Range Colossal Magnetoresistance Response. ACS Nano, 2023, 17, 2517-2528.	7.3	0
297	Regional consistency between cation displacement and oxygen octahedral tilt in nanodomain of BNKT-SBT relaxor ferroelectrics revealed by atomic-resolution AC-STEM. Scripta Materialia, 2023, 227, 115279.	2.6	2
298	Perovskite-based emerging memories. , 2023, , 401-484.		0
299	Towards two-dimensional van der Waals ferroelectrics. Nature Materials, 2023, 22, 542-552.	13.3	66
300	Interface-related phenomena in epitaxial complex oxide ferroics across different thin film platforms: opportunities and challenges. Materials Horizons, 2023, 10, 1060-1086.	6.4	2
301	Research progress of applications of freestanding single crystal oxide thin film. Wuli Xuebao/Acta Physica Sinica, 2023, .	0.2	0
302	Creation and erasure of polar bubble domains in PbTiO3 films by mechanical stress and light illuminations. Journal of Materiomics, 2023, 9, 626-633.	2.8	2
303	Uncovering polar vortex structures by inversion of multiple scattering with a stacked Bloch wave model. Ultramicroscopy, 2023, , 113732.	0.8	1
304	Observation of center-type quad-domain structures in ordered BiFeO₃ nanoisland arrays fabricated via mask-assisted pulsed laser deposition. Journal of Applied Physics, 2023, 133, 134103.	1.1	0
305	Nonabelian Ginzburgâ€"Landau theory for ferroelectrics. Journal of Physics Condensed Matter, 2023, 35, 155702.	0.7	0
306	Domain-Enhanced Energy Storage, Piezoelectric, and Dielectric Properties in Pb(Zr_{0.52}Ti_{0.48})O₃/SrTiO₃ Ferroelectric Superlattices. Journal of Physical Chemistry C, 2023, 127, 3830-3836.	1.5	1
307	Lightâ€"matter interaction empowered by orbital angular momentum: Control of matter at the micro- and nanoscale. Progress in Quantum Electronics, 2023, 88, 100459.	3.5	16
308	Manipulation and observation of atomic-scale superlattices in perovskite manganate. Chinese Chemical Letters, 2023, 34, 108267.	4.8	0
309	Emergent chirality in a polar meron to skyrmion phase transition. Nature Communications, 2023, 14, .	5.8	15
310	Quintuple Function Integration in Two-Dimensional Cr(II) Five-Membered Heterocyclic Metal Organic Frameworks via Tuning Ligand Spin and Lattice Symmetry. Journal of the American Chemical Society, 2023, 145, 7869-7878.	6.6	14
311	Emergent Ferroelectric Switching Behavior from Polar Vortex Lattice. Advanced Materials, 2023, 35, .	11.1	4

#	Article	IF	Citations
312	Gyromotion of skyrmion along the nanofilm edge driven by spin waves. Journal of Magnetism and Magnetic Materials, 2023, , 170665.	1.0	0
313	Attosecond magnetization dynamics in non-magnetic materials driven by intense femtosecond lasers. Npj Computational Materials, 2023, 9, .	3.5	13
314	Polar meron-antimeron networks in strained and twisted bilayers. Nature Communications, 2023, 14, .	5.8	9
315	Thermodynamics of Light-Induced Nanoscale Polar Structures in Ferroelectric Superlattices. Nano Letters, 2023, 23, 2551-2556.	4.5	2
316	Low-temperature ground state structure of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>PbTi</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review B, 2023, 107, .	1.1	0
317	Enhanced Electrocaloric Response in Electrostatically Frustrated Ferroelectrics. Physica Status Solidi - Rapid Research Letters, 0, , .	1.2	0
318	Polarization Switching and Correlated Phase Transitions in Fluoriteâ€Structure ZrO₂ Nanocrystals. Advanced Materials, 2023, 35, .	11.1	4
319	Modular development of deep potential for complex solid solutions. Physical Review B, 2023, 107, .	1.1	4
320	Picoscale structure of functional materials constructed from functional units. Wuli Xuebao/Acta Physica Sinica, 2023, .	0.2	0
321	Topological phases in polar oxide nanostructures. Reviews of Modern Physics, 2023, 95, .	16.4	17
332	Potential of MXenes as a novel material for spintronic devices: a review. Physical Chemistry Chemical Physics, 2023, 25, 18584-18608.	1.3	9
335	Spherical ferroelectric solitons. Nature Materials, 2023, 22, 553-561.	13.3	6
351	A review on different theoretical models of electrocaloric effect for refrigeration. Frontiers in Energy, 2023, 17, 478-503.	1.2	4
388	Polymer nanocomposite dielectrics for capacitive energy storage. Nature Nanotechnology, 0, , .	15.6	1
402	Three-Dimensional Phase-Field based Quantum Transport Simulations of Polar Topological States. , 2023, , .		0