Sergei V Kalinin

List of Publications by Year
in descending order

269 papers	15,962 citations	12303 69 h-index	20307 116 g-index
270 all docs	270 docs citations	270 times ranked	11561 citing authors

#	Article	IF	Citations
1	Hypothesis Learning in Automated Experiment: Application to Combinatorial Materials Libraries. Advanced Materials, 2022, 34, e2201345.	11.1	30
2	Chemical control of polarization in thin strained films of a multiaxial ferroelectric: Phase diagrams and polarization rotation. Physical Review B, 2022, 105, .	1.1	2
3	Experimental discovery of structureâ€“property relationships in ferroelectric materials via active learning. Nature Machine Intelligence, 2022, 4, 341-350.	8.3	37
4	Exploring Causal Physical Mechanisms via Non-Gaussian Linear Models and Deep Kernel Learning: Applications for Ferroelectric Domain Structures. ACS Nano, 2022, 16, 1250-1259.	7.3	12
5	Tunable Microwave Conductance of Nanodomains in Ferroelectric PbZr _{0.2} Ti _{0.8} O ₃ Thin Film. Advanced Electronic Materials, 2022, 8, 2100952.	2.6	5
6	Highly enhanced ferroelectricity in HfO ₂ -based ferroelectric thin film by light ion bombardment. Science, 2022, 376, 731-738.	6.0	58
7	Ferroelastic Nanodomain-mediated Mechanical Switching of Ferroelectricity in Thick Epitaxial Films. Nano Letters, 2021, 21, 445-452.	4.5	10
8	Toward Decoding the Relationship between Domain Structure and Functionality in Ferroelectrics via Hidden Latent Variables. ACS Applied Materials & Interfaces, 2021, 13, 1693-1703.	4.0	22
9	Reducing Time to Discovery: Materials and Molecular Modeling, Imaging, Informatics, and Integration. ACS Nano, 2021, 15, 3971-3995.	7.3	36
10	Predictability as a probe of manifest and latent physics: The case of atomic scale structural, chemical, and polarization behaviors in multiferroic Sm-doped BiFeO3. Applied Physics Reviews, 2021, 8, .	5.5	7
11	Ferroelectric and Charge Transport Properties in Strain-Engineered Two-Dimensional Lead Iodide Perovskites. Chemistry of Materials, 2021, 33, 4077-4088.	3.2	10
12	Exploring Responses of Contact Kelvin Probe Force Microscopy in Triple-Cation Double-Halide Perovskites. Journal of Physical Chemistry C, 2021, 125, 12355-12365.	1.5	3
13	Ensemble learning-iterative training machine learning for uncertainty quantification and automated experiment in atom-resolved microscopy. Npj Computational Materials, 2021, 7, .	3.5	26
14	Automated and Autonomous Experiments in Electron and Scanning Probe Microscopy. ACS Nano, 2021, 15, 12604-12627.	7.3	49
15	A combined theoretical and experimental study of the phase coexistence and morphotropic boundaries in ferroelectric-antiferroelectric-antiferrodistortive multiferroics. Acta Materialia, 2021, 213, 116939.	3.8	3
16	Flexosensitive polarization vortices in thin ferroelectric films. Physical Review B, 2021, 104, .	1.1	9
17	Disentangling Ferroelectric Wall Dynamics and Identification of Pinning Mechanisms via Deep Learning. Advanced Materials, 2021, 33, e2103680.	11.1	17
18	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

#	Article	IF	Citations
19	Decoding the shift-invariant data: applications for band-excitation scanning probe microscopy [*]. Machine Learning: Science and Technology, 2021, 2, 045028.	2.4	5
20	Probing polarization dynamics at specific domain configurations: Computer-vision based automated experiment in piezoresponse force microscopy. Applied Physics Letters, 2021, 119, .	1.5	5
21	Probing Metastable Domain Dynamics via Automated Experimentation in Piezoresponse Force Microscopy. ACS Nano, 2021, 15, 15096-15103.	7.3	6
22	Unraveling the hysteretic behavior at double cations-double halides perovskite - electrode interfaces. Nano Energy, 2021, 89, 106428.	8.2	11
23	Multi-objective Bayesian optimization of ferroelectric materials with interfacial control for memory and energy storage applications. Journal of Applied Physics, 2021, 130, .	1.1	15
24	Selfâ€Assembled Room Temperature Multiferroic BiFeO₃â€LiFe₅O₈ Nanocomposites. Advanced Functional Materials, 2020, 30, 1906849.	7.8	14
25	Dynamic Manipulation in Piezoresponse Force Microscopy: Creating Nonequilibrium Phases with Large Electromechanical Response. ACS Nano, 2020, 14, 10569-10577.	7.3	14
26	Fast Scanning Probe Microscopy via Machine Learning: Nonâ€Rectangular Scans with Compressed Sensing and Gaussian Process Optimization. Small, 2020, 16, e2002878.	5.2	37
27	Super-resolution and signal separation in contact Kelvin probe force microscopy of electrochemically active ferroelectric materials. Journal of Applied Physics, 2020, 128, 055101.	1.1	6
28	Melting of spatially modulated phases at domain wall/surface junctions in antiferrodistortive multiferroics. Physical Review B, 2020, 102, .	1.1	5
29	Tensor factorization for elucidating mechanisms of piezoresponse relaxation via dynamic Piezoresponse Force Spectroscopy. Npj Computational Materials, 2020, 6, .	3.5	2
30	Bayesian inference in band excitation scanning probe microscopy for optimal dynamic model selection in imaging. Journal of Applied Physics, 2020, 128, 054105.	1.1	8
31	Piezoresponse amplitude and phase quantified for electromechanical characterization. Journal of Applied Physics, 2020, 128, .	1.1	31
32	Machine learning-based multidomain processing for texture-based image segmentation and analysis. Applied Physics Letters, 2020, 116, .	1.5	19
33	High-Pressure, High-Temperature Synthesis and Characterization of Polar and Magnetic LuCrWO₆. Inorganic Chemistry, 2020, 59, 3579-3584.	1.9	9
34	Imaging mechanism for hyperspectral scanning probe microscopy via Gaussian process modelling. Npj Computational Materials, 2020, 6, .	3.5	19
35	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
36	Mesoscopic structure of mixed type domain walls in multiaxial ferroelectrics. Physical Review Materials, 2020, 4, .	0.9	3

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37	Mesoscopic theory of defect orderingâ€“disordering transitions in thin oxide films. Scientific Reports, 2020, 10, 22377.	1.6	0
38	Spectral Map Reconstruction Using Pan-Sharpening Algorithm: Enhancing Chemical Imaging with AFM-IR. Microscopy and Microanalysis, 2019, 25, 1024-1025.	0.2	2
39	Compressive Sensing on Diverse STEM Scans: Real-time Feedback, Low-dose and Dynamic Range. Microscopy and Microanalysis, 2019, 25, 1688-1689.	0.2	3
40	Toward Electrochemical Studies on the Nanometer and Atomic Scales: Progress, Challenges, and Opportunities. ACS Nano, 2019, 13, 9735-9780.	7.3	32
41	Ferromagnetic-like behavior of Bi0.9La0.1FeO3â€“KBr nanocomposites. Scientific Reports, 2019, 9, 10417.	1.6	10
42	The ORNL Lectures on Scanning Probe Microscopy, Part 1: Piezoresponse Force Microscopy and Spectroscopy of Ferroelectrics, Energy Materials, and Biological Systems. Microscopy Today, 2019, 27, 12-16.	0.2	0
43	FerroNet: Machine Learning Flow for Analysis of Ferroelectric and Ferroelastic Materials. Microscopy and Microanalysis, 2019, 25, 170-171.	0.2	0
44	Unsupervised Machine Learning to Distill Structural-Property Insights from 4D-STEM. Microscopy and Microanalysis, 2019, 25, 12-13.	0.2	0
45	Intrinsic structural instabilities of domain walls driven by gradient coupling: Meandering antiferrodistortive-ferroelectric domain walls inBiFeO3. Physical Review B, 2019, 99, .	1.1	22
46	Application of pan-sharpening algorithm for correlative multimodal imaging using AFM-IR. Npj Computational Materials, 2019, 5, .	3.5	9
47	Deep neural networks for understanding noisy data applied to physical property extraction in scanning probe microscopy. Npj Computational Materials, 2019, 5, .	3.5	43
48	Time-Resolved Electrical Scanning Probe Microscopy of Layered Perovskites Reveals Spatial Variations in Photoinduced Ionic and Electronic Carrier Motion. ACS Nano, 2019, 13, 2812-2821.	7.3	38
49	Atomic Mechanisms for the Si Atom Dynamics in Graphene: Chemical Transformations at the Edge and in the Bulk. Advanced Functional Materials, 2019, 29, 1904480.	7.8	25
50	Giant negative electrostriction and dielectric tunability in a van der Waals layered ferroelectric. Physical Review Materials, 2019, 3, .	0.9	47
51	Nanoscale Transport Imaging of Active Lateral Devices: Static and Frequency Dependent Modes. Springer Series in Surface Sciences, 2018, , 251-329.	0.3	3
52	Subtractive fabrication of ferroelectric thin films with precisely controlled thickness. Nanotechnology, 2018, 29, 155302.	1.3	7
53	Photothermoelastic contrast in nanoscale infrared spectroscopy. Applied Physics Letters, 2018, 112, 033105.	1.5	8
54	Surface-screening mechanisms in ferroelectric thin films and their effect on polarization dynamics and domain structures. Reports on Progress in Physics, 2018, 81, 036502.	8.1	129

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55	Mitigating e-beam-induced hydrocarbon deposition on graphene forâ€‰atomic-scale scanning transmission electron microscopy studies. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	0.6	32
56	Defect-driven flexochemical coupling in thin ferroelectric films. Physical Review B, 2018, 97, .	1.1	39
57	YCrWO₆: Polar and Magnetic Oxide with CaTa₂O₆-Related Structure. Chemistry of Materials, 2018, 30, 1045-1054.	3.2	22
58	Dynamic Modes in Kelvin Probe Force Microscopy: Band Excitation and G-Mode. Springer Series in Surface Sciences, 2018, , 49-99.	0.3	3
59	Direct Probing of Polarization Charge at Nanoscale Level. Advanced Materials, 2018, 30, 1703675.	11.1	23
60	Graphene Defect Editing, Deposition, and Growth via E-Beam-Induced Organic Reactions in Aberration Corrected STEM. Microscopy and Microanalysis, 2018, 24, 1994-1995.	0.2	1
61	Multimodal Chemical and Functional Imaging of Nanoscale Transformations Away from Equilibrium. Microscopy and Microanalysis, 2018, 24, 1042-1043.	0.2	0
62	Exploring the Magnetoelectric Coupling at the Composite Interfaces of FE/FM/FE Heterostructures. Scientific Reports, 2018, 8, 17381.	1.6	26
63	Decoupling Mesoscale Functional Response in PLZT across the Ferroelectricâ€“Relaxor Phase Transition with Contact Kelvin Probe Force Microscopy and Machine Learning. ACS Applied Materials & Interfaces, 2018, 10, 42674-42680.	4.0	8
64	Deep Data Analytics in Structural and Functional Imaging of Nanoscale Materials. Springer Series in Materials Science, 2018, , 103-128.	0.4	3
65	Nanoscale Electrochemical Phenomena of Polarization Switching in Ferroelectrics. ACS Applied Materials & Interfaces, 2018, 10, 38217-38222.	4.0	18
66	High-veracity functional imaging in scanning probe microscopy via Graph-Bootstrapping. Nature Communications, 2018, 9, 2428.	5.8	12
67	Mapping mesoscopic phase evolution during E-beam induced transformations via deep learning of atomically resolved images. Npj Computational Materials, 2018, 4, .	3.5	31
68	Surface Chemistry Controls Anomalous Ferroelectric Behavior in Lithium Niobate. ACS Applied Materials & Interfaces, 2018, 10, 29153-29160.	4.0	20
69	Labyrinthine domains in ferroelectric nanoparticles: Manifestation of a gradient-induced morphological transition. Physical Review B, 2018, 98, .	1.1	35
70	Locally Controlled Cu-Ion Transport in Layered Ferroelectric CuInP₂S₆. ACS Applied Materials & Interfaces, 2018, 10, 27188-27194.	4.0	68
71	Towards nanoscale electrical measurements in liquid by advanced KPFM techniques: a review. Reports on Progress in Physics, 2018, 81, 086101.	8.1	70
72	E-beam manipulation of Si atoms on graphene edges with an aberration-corrected scanning transmission electron microscope. Nano Research, 2018, 11, 6217-6226.	5.8	21

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73	Atom-by-Atom Assembly in Aberration Corrected STEM and the Role of Chemistry at the Surface of Graphene. Microscopy and Microanalysis, 2018, 24, 326-327.	0.2	0
74	Automated Atom-by-Atom Assembly of Structures in Graphene: The Rise of STEM for Atomic Scale Control. Microscopy and Microanalysis, 2018, 24, 1594-1595.	0.2	0
75	Chemical nature of ferroelastic twin domains in CH3NH3PbI3 perovskite. Nature Materials, 2018, 17, 1013-1019.	13.3	183
76	Dynamic behavior of CH3NH3PbI3 perovskite twin domains. Applied Physics Letters, 2018, 113, .	1.5	27
77	Electronic switching by metastable polarization states in <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> thin films. Physical Review Materials, 2018, 2, .	0.9	5
78	Mixed electrochemicalâ€“ferroelectric states in nanoscale ferroelectrics. Nature Physics, 2017, 13, 812-818.	6.5	98
79	Ferroelectric or non-ferroelectric: Why so many materials exhibit â€œferroelectricityâ€•on the nanoscale. Applied Physics Reviews, 2017, 4, .	5.5	240
80	Piezoresponse of ferroelectric films in ferroionic states: Time and voltage dynamics. Applied Physics Letters, 2017, 110, 182907.	1.5	16
81	In Situ Observation of Oxygen Vacancy Dynamics and Ordering in the Epitaxial LaCoO₃ System. ACS Nano, 2017, 11, 6942-6949.	7.3	89
82	Exploring Electro-Chemo-Mechanical Phenomena on the Nanoscale Using Scanning Probe Microscopy. Kluwer International Series in Electronic Materials: Science and Technology, 2017, , 137-160.	0.3	0
83	Quantification of in-contact probe-sample electrostatic forces with dynamic atomic force microscopy. Nanotechnology, 2017, 28, 065704.	1.3	43
84	Knowledge Extraction from Atomically Resolved Images. ACS Nano, 2017, 11, 10313-10320.	7.3	30
85	Electronicâ€Reconstructionâ€Enhanced Tunneling Conductance at Terrace Edges of Ultrathin Oxide Films. Advanced Materials, 2017, 29, 1702001.	11.1	7
86	Single-atom fabrication with electron and ion beams: From surfaces and two-dimensional materials toward three-dimensional atom-by-atom assembly. MRS Bulletin, 2017, 42, 637-643.	1.7	28
87	Nanoscale Probing of Elasticâ€“Electronic Response to Vacancy Motion in NiO Nanocrystals. ACS Nano, 2017, 11, 8387-8394.	7.3	9
88	Magnetostriction-polarization coupling in multiferroic Mn2MnWO6. Nature Communications, 2017, 8, 2037.	5.8	40
89	Pressure-induced switching in ferroelectrics: Phase-field modeling, electrochemistry, flexoelectric effect, and bulk vacancy dynamics. Physical Review B, 2017, 96, .	1.1	44
90	Decoding Apparent Ferroelectricity in Perovskite Nanofibers. ACS Applied Materials & Interfaces, 2017, 9, 42131-42138.	4.0	6

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91	Field enhancement of electronic conductance at ferroelectric domain walls. Nature Communications, 2017, 8, 1318.	5.8	32
92	Lost surface waves in nonpiezoelectric solids. Physical Review B, 2017, 96, .	1.1	23
93	Ferroionic states in ferroelectric thin films. Physical Review B, 2017, 95, .	1.1	57
94	G-mode - Full Information Capture Applied to Scanning Probe Microscopy. Microscopy and Microanalysis, 2017, 23, 184-185.	0.2	1
95	Local Probing of Ferroelectric and Ferroelastic Switching through Stressâ€Mediated Piezoelectric Spectroscopy. Advanced Materials Interfaces, 2016, 3, 1500470.	1.9	17
96	Quantification of surface displacements and electromechanical phenomena via dynamic atomic force microscopy. Nanotechnology, 2016, 27, 425707.	1.3	92
97	Size-effect in layered ferrielectric CuInP2S6. Applied Physics Letters, 2016, 109, .	1.5	66
98	Rapid mapping of polarization switching through complete information acquisition. Nature Communications, 2016, 7, 13290.	5.8	21
99	Microwave a.c. conductivity of domain walls in ferroelectric thin films. Nature Communications, 2016, 7, 11630.	5.8	81
100	Decoupling indirect topographic cross-talk in band excitation piezoresponse force microscopy imaging and spectroscopy. Applied Physics Letters, 2016, 108, .	1.5	17
101	Directing Matter: Toward Atomic-Scale 3D Nanofabrication. ACS Nano, 2016, 10, 5600-5618.	7.3	99
102	Solid-state electrochemistry on the nanometer and atomic scales: the scanning probe microscopy approach. Nanoscale, 2016, 8, 13838-13858.	2.8	27
103	Imaging via complete cantilever dynamic detection: general dynamic mode imaging and spectroscopy in scanning probe microscopy. Nanotechnology, 2016, 27, 414003.	1.3	14
104	Big, Deep, and Smart Data in Scanning Probe Microscopy. ACS Nano, 2016, 10, 9068-9086.	7.3	103
105	Chemical State Evolution in Ferroelectric Films during Tip-Induced Polarization and Electroresistive Switching. ACS Applied Materials & Interfaces, 2016, 8, 29588-29593.	4.0	33
106	Exploring Polarization Rotation Instabilities in Superâ€Tetragonal BiFeO₃ Epitaxial Thin Films and Their Technological Implications. Advanced Electronic Materials, 2016, 2, 1600307.	2.6	9
107	Acoustic Detection of Phase Transitions at the Nanoscale. Advanced Functional Materials, 2016, 26, 478-486.	7.8	28
108	Nanoscale Elastic Changes in 2D Ti₃C₂T_x (MXene) Pseudocapacitive Electrodes. Advanced Energy Materials, 2016, 6, 1502290.	10.2	117

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109	Multifrequency spectrum analysis using fully digital G Mode-Kelvin probe force microscopy. Nanotechnology, 2016, 27, 105706.	1.3	36
110	Topological Defects in Ferroic Materials. Springer Series in Materials Science, 2016, , 181-197.	0.4	2
111	Piezoresponse Force Microscopy and Spectroscopy. , 2016, , 3252-3263.		0
112	Patterning: Atomicâ€Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision (Small 44/2015). Small, 2015, 11, 5854-5854.	5.2	2
113	Paving the way to nanoionics: atomic origin of barriers for ionic transport through interfaces. Scientific Reports, 2015, 5, 17229.	1.6	35
114	Intrinsic space charge layers and field enhancement in ferroelectric nanojunctions. Applied Physics Letters, 2015, 107, 022903.	1.5	4
115	Full information acquisition in piezoresponse force microscopy. Applied Physics Letters, 2015, 107, 263102.	1.5	28
116	A bridge for accelerating materials by design. Npj Computational Materials, 2015, 1, .	3.5	47
117	Current and surface charge modified hysteresis loops in ferroelectric thin films. Journal of Applied Physics, 2015, 118, .	1.1	60
118	Multidimensional dynamic piezoresponse measurements: Unraveling local relaxation behavior in relaxor-ferroelectrics via big data. Journal of Applied Physics, 2015, 118, .	1.1	17
119	Coupling of electrical and mechanical switching in nanoscale ferroelectrics. Applied Physics Letters, 2015, 107, .	1.5	21
120	Thickness, humidity, and polarization dependent ferroelectric switching and conductivity in Mg doped lithium niobate. Journal of Applied Physics, 2015, 118, .	1.1	17
121	Quantitative Nanometerâ€Scale Mapping of Dielectric Tunability. Advanced Materials Interfaces, 2015, 2, 1500088.	1.9	7
122	Differentiating Ferroelectric and Nonferroelectric Electromechanical Effects with Scanning Probe Microscopy. ACS Nano, 2015, 9, 6484-6492.	7.3	231
123	Finite-size effects of hysteretic dynamics in multilayer graphene on a ferroelectric. Physical Review B, 2015, 91, .	1.1	17
124	Probing Local Bias-Induced Transitions Using Photothermal Excitation Contact Resonance Atomic Force Microscopy and Voltage Spectroscopy. ACS Nano, 2015, 9, 1848-1857.	7.3	37
125	Carrier density modulation in a germanium heterostructure by ferroelectric switching. Nature Communications, 2015, 6, 6067.	5.8	75
126	Identification of phases, symmetries and defects through local crystallography. Nature Communications, 2015, 6, 7801.	5.8	63

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127	A review of molecular beam epitaxy of ferroelectric BaTiO₃films on Si, Ge and GaAs substrates and their applications. Science and Technology of Advanced Materials, 2015, 16, 036005.	2.8	89
128	Finite size effects in ferroelectric-semiconductor thin films under open-circuit electric boundary conditions. Journal of Applied Physics, 2015, 117, .	1.1	29
129	Domain Wall Motion Across Various Grain Boundaries in Ferroelectric Thin Films. Journal of the American Ceramic Society, 2015, 98, 1848-1857.	1.9	42
130	Bigâ€“deepâ€“smart data in imaging for guiding materials design. Nature Materials, 2015, 14, 973-980.	13.3	281
131	Constraining Data Mining with Physical Models: Voltage- and Oxygen Pressure-Dependent Transport in Multiferroic Nanostructures. Nano Letters, 2015, 15, 6650-6657.	4.5	23
132	Ion transport and softening in a polymerized ionic liquid. Nanoscale, 2015, 7, 947-955.	2.8	18
133	Piezoresponse Force Microscopy and Spectroscopy. , 2015, , 1-12.		0
134	Effect of Doping on Surface Reactivity and Conduction Mechanism in Samarium-Doped Ceria Thin Films. ACS Nano, 2014, 8, 12494-12501.	7.3	34
135	Reply to â€œComment on â€˜Origin of piezoelectric response under a biased scanning probe microscopy tip across a 180Â° ferroelectric domain wallâ€™â€• Physical Review B, 2014, 89, .	1.1	3
136	Preface to Special Topic: Piezoresponse force microscopy and nanoscale phenomena in polar materials. Journal of Applied Physics, 2014, 116, 066701.	1.1	1
137	Interrelation between Structure â€“ Magnetic Properties in La_{0.5}Sr_{0.5}CoO₃. Advanced Materials Interfaces, 2014, 1, 1400203.	1.9	20
138	Thermotropic phase boundaries in classic ferroelectrics. Nature Communications, 2014, 5, 3172.	5.8	123
139	Dual harmonic Kelvin probe force microscopy at the grapheneâ€“liquid interface. Applied Physics Letters, 2014, 104, .	1.5	50
140	Exploring Local Electrostatic Effects with Scanning Probe Microscopy: Implications for Piezoresponse Force Microscopy and Triboelectricity. ACS Nano, 2014, 8, 10229-10236.	7.3	123
141	Direct observation of ferroelectric field effect andÂvacancy-controlled screening at the BiFeO3/LaxSr1â^'xMnO3 interface. Nature Materials, 2014, 13, 1019-1025.	13.3	218
142	Direct Probing of Charge Injection and Polarizationâ€Controlled Ionic Mobility on Ferroelectric LiNbO₃ Surfaces. Advanced Materials, 2014, 26, 958-963.	11.1	49
143	Deep Data Analysis of Conductive Phenomena on Complex Oxide Interfaces: Physics from Data Mining. ACS Nano, 2014, 8, 6449-6457.	7.3	73
144	Electrochemical strain microscopy of local electrochemical processes in solids: mechanism of imaging and spectroscopy in the diffusion limit. Journal of Electroceramics, 2014, 32, 51-59.	0.8	20

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145	Spatially-resolved mapping of history-dependent coupled electrochemical and electronical behaviors of electroresistive NiO. Scientific Reports, 2014, 4, 6725.	1.6	11
146	Space- and Time-Resolved Mapping of Ionic Dynamic and Electroresistive Phenomena in Lateral Devices. ACS Nano, 2013, 7, 6806-6815.	7.3	48
147	Probing Local Ionic Dynamics in Functional Oxides at the Nanoscale. Nano Letters, 2013, 13, 3455-3462.	4.5	55
148	Domain Wall Conduction and Polarizationâ€Mediated Transport in Ferroelectrics. Advanced Functional Materials, 2013, 23, 2592-2616.	7.8	113
149	Mechanical Control of Electroresistive Switching. Nano Letters, 2013, 13, 4068-4074.	4.5	55
150	Nanoscale Probing of Voltage Activated Oxygen Reduction/Evolution Reactions in Nanopatterned (La_xSr_{1â€x})CoO_{3â€}_{Î´} Cathodes. Advanced Energy Materials, 2013, 3, 788-797.	10.2	19
151	Switching of ferroelectric polarization in epitaxial BaTiO3 films on silicon without a conducting bottom electrode. Nature Nanotechnology, 2013, 8, 748-754.	15.6	218
152	Frequency spectroscopy of irreversible electrochemical nucleation kinetics on the nanoscale. Nanoscale, 2013, 5, 11964.	2.8	12
153	Probing Biasâ€Dependent Electrochemical Gasâ€“Solid Reactions in (La_xSr_{1â€“x})CoO_{3â€“}_{Î´} Cathode Materials. Advanced Functional Materials, 2013, 23, 5027-5036.	7.8	9
154	Electrical Modulation of the Local Conduction at Oxide Tubular Interfaces. ACS Nano, 2013, 7, 8627-8633.	7.3	40
155	Functional Ion Defects in Transition Metal Oxides. Science, 2013, 341, 858-859.	6.0	227
156	Direct Probe of Interplay between Local Structure and Superconductivity in FeTe_{0.55}Se_{0.45}. ACS Nano, 2013, 7, 2634-2641.	7.3	24
157	Structural phase transitions and electronic phenomena at 180-degree domain walls in rhombohedral BaTiO<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>. Physical Review B, 2013, 87, .	1.1	49
158	Local probing of electrochemically induced negative differential resistance in TiO2memristive materials. Nanotechnology, 2013, 24, 085702.	1.3	18
159	Interplay of Octahedral Tilts and Polar Order in BiFeO₃ Films. Advanced Materials, 2013, 25, 2497-2504.	11.1	101
160	Polarization Dynamics in Ferroelectric Capacitors: Local Perspective on Emergent Collective Behavior and Memory Effects. Advanced Functional Materials, 2013, 23, 2490-2508.	7.8	22
161	Variable temperature electrochemical strain microscopy of Sm-doped ceria. Nanotechnology, 2013, 24, 145401.	1.3	19
162	Universality of Polarization Switching Dynamics in Ferroelectric Capacitors Revealed by 5D Piezoresponse Force Microscopy. Advanced Functional Materials, 2013, 23, 3971-3979.	7.8	22

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163	Mesoscopic mechanism of the domain wall interaction with elastic defects in uniaxial ferroelectrics. Journal of Applied Physics, 2013, 113, .	1.1	9
164	Large Resistive Switching in Ferroelectric BiFeO₃ Nanoâ€Island Based Switchable Diodes. Advanced Materials, 2013, 25, 2339-2343.	11.1	192
165	Tunneling Electroresistance Induced by Interfacial Phase Transitions in Ultrathin Oxide Heterostructures. Nano Letters, 2013, 13, 5837-5843.	4.5	115
166	Nanoscale Origins of Nonlinear Behavior in Ferroic Thin Films. Advanced Functional Materials, 2013, 23, 81-90.	7.8	20
167	Influence of the interfacing with an electrically inhomogeneous bottom electrode on the ferroelectric properties of epitaxial PbTiO3. Applied Physics Letters, 2013, 103, .	1.5	3
168	Indentation of a punch with chemical or heat distribution at its base into transversely isotropic half-space: Application to local thermal and electrochemical probes. Journal of Applied Physics, 2013, 113, 187201.	1.1	13
169	LOCAL PROBES IN THE NEXT DECADE OF ENERGY RESEARCH: BRIDGING MACROSCOPIC AND ATOMIC WORLDS. World Scientific Series in Nanoscience and Nanotechnology, 2013, , 3-35.	0.1	1
170	Scanning Probe Microscopy in US Department of Energy Nanoscale Science Research Centers: Status, Perspectives, and Opportunities. Advanced Functional Materials, 2013, 23, 2468-2476.	7.8	2
171	ELECTROCHEMICAL STRAIN MICROSCOPY OF LI-ION AND LI-AIR BATTERY MATERIALS. World Scientific Series in Nanoscience and Nanotechnology, 2013, , 393-454.	0.1	3
172	Half-harmonic Kelvin probe force microscopy with transfer function correction. Applied Physics Letters, 2012, 100, 063118.	1.5	20
173	Anisotropic conductivity of uncharged domain walls in BiFeO<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>. Physical Review B, 2012, 86, .	1.1	64
174	Origin of piezoelectric response under a biased scanning probe microscopy tip across a 180<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mo>â^˜</mml:mo></mml:msup></mml:math>ferroelectric domain wall. Physical Review B, 2012, 86, .	1.1	26
175	Electrochemical Strain Microscopy: Probing Electrochemical Transformations in Nanoscale Volumes. Microscopy Today, 2012, 20, 10-15.	0.2	11
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