Sergei V. Kalinin

List of Publications by Year
in descending order

805 papers	39,762 citations	2675 95 h-index	6471 157 g-index
823 all docs	823 docs citations	823 times ranked	23631 citing authors

#	Article	IF	Citations
1	Conduction at domain walls in oxide multiferroics. Nature Materials, 2009, 8, 229-234.	27.5	1,212
2	Nanoscale mapping of ion diffusion in a lithium-ion battery cathode. Nature Nanotechnology, 2010, 5, 749-754.	31.5	513
3	Electric modulation of conduction in multiferroic Ca-doped BiFeO3 films. Nature Materials, 2009, 8, 485-493.	27.5	481
4	Imaging mechanism of piezoresponse force microscopy of ferroelectric surfaces. Physical Review B, 2002, 65, .	3.2	446
5	Polarization Control of Electron Tunneling into Ferroelectric Surfaces. Science, 2009, 324, 1421-1425.	12.6	441
6	Dual-frequency resonance-tracking atomic force microscopy. Nanotechnology, 2007, 18, 475504.	2.6	428
7	The band excitation method in scanning probe microscopy for rapid mapping of energy dissipation on the nanoscale. Nanotechnology, 2007, 18, 435503.	2.6	413
8	Switching spectroscopy piezoresponse force microscopy of ferroelectric materials. Applied Physics Letters, 2006, 88, 062908.	3.3	371
9	Local polarization dynamics in ferroelectric materials. Reports on Progress in Physics, 2010, 73, 056502.	20.1	368
10	Long range interactions in nanoscale science. Reviews of Modern Physics, 2010, 82, 1887-1944.	45.6	359
11	Domain Wall Conductivity in La-Doped<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>. Physical Review Letters, 2010, 105, 197603.	7.8	357
12	Local potential and polarization screening on ferroelectric surfaces. Physical Review B, 2001, 63, .	3.2	334
13	Deterministic control of ferroelastic switching in multiferroic materials. Nature Nanotechnology, 2009, 4, 868-875.	31.5	331
14	CuInP₂S₆ Room Temperature Layered Ferroelectric. Nano Letters, 2015, 15, 3808-3814.	9.1	328
15	Enhanced electric conductivity at ferroelectric vortex cores in BiFeO3. Nature Physics, 2012, 8, 81-88.	16.7	324
16	Impact of different dopants on the switching properties of ferroelectric hafniumoxide. Japanese Journal of Applied Physics, 2014, 53, 08LE02.	1.5	318
17	Suppression of Octahedral Tilts and Associated Changes in Electronic Properties at Epitaxial Oxide Heterostructure Interfaces. Physical Review Letters, 2010, 105, 087204.	7.8	308
18	Electromechanical Imaging and Spectroscopy of Ferroelectric and Piezoelectric Materials: State of the Art and Prospects for the Future. Journal of the American Ceramic Society, 2009, 92, 1629-1647.	3.8	287

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19	Piezoresponse force microscopy and recent advances in nanoscale studies of ferroelectrics. Journal of Materials Science, 2006, 41, 107-116.	3.7	283
20	Probing oxygen vacancy concentration and homogeneity in solid-oxide fuel-cell cathode materials on the subunit-cell level. Nature Materials, 2012, 11, 888-894.	27.5	282
21	Deep Learning of Atomically Resolved Scanning Transmission Electron Microscopy Images: Chemical Identification and Tracking Local Transformations. ACS Nano, 2017, 11, 12742-12752.	14.6	282
22	Bigâ€"deepâ€"smart data in imaging for guiding materials design. Nature Materials, 2015, 14, 973-980.	27.5	281
23	Ferroelectric hafnium oxide: A CMOS-compatible and highly scalable approach to future ferroelectric memories. , 2013, , .		271
24	Direct imaging of the spatial and energy distribution of nucleation centres in ferroelectric materials. Nature Materials, 2008, 7, 209-215.	27.5	250
25	Ferroelectric or non-ferroelectric: Why so many materials exhibit â€œferroelectricityâ€•on the nanoscale. Applied Physics Reviews, 2017, 4, .	11.3	240
26	Ferroelectricity in Strain-Free<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>Thin Films. Physical Review Letters, 2010, 104, 197601.	7.8	233
27	Measuring oxygen reduction/evolution reactions on the nanoscale. Nature Chemistry, 2011, 3, 707-713.	13.6	233
28	Real Space Mapping of Li-Ion Transport in Amorphous Si Anodes with Nanometer Resolution. Nano Letters, 2010, 10, 3420-3425.	9.1	232
29	Differentiating Ferroelectric and Nonferroelectric Electromechanical Effects with Scanning Probe Microscopy. ACS Nano, 2015, 9, 6484-6492.	14.6	231
30	Nanoelectromechanics of piezoresponse force microscopy. Physical Review B, 2004, 70, .	3.2	230
31	Vector Piezoresponse Force Microscopy. Microscopy and Microanalysis, 2006, 12, 206-220.	0.4	228
32	Functional Ion Defects in Transition Metal Oxides. Science, 2013, 341, 858-859.	12.6	227
33	Nanoscale Insight Into Leadâ€Free BNTâ€BTâ€<i>x</i>KNN. Advanced Functional Materials, 2012, 22, 4208-4215.	14.9	225
34	Atomic Polarization and Local Reactivity on Ferroelectric Surfaces:Â A New Route toward Complex Nanostructures. Nano Letters, 2002, 2, 589-593.	9.1	224
35	Dynamic Conductivity of Ferroelectric Domain Walls in BiFeO₃. Nano Letters, 2011, 11, 1906-1912.	9.1	223
36	Switching of ferroelectric polarization in epitaxial BaTiO3 films on silicon without a conducting bottom electrode. Nature Nanotechnology, 2013, 8, 748-754.	31.5	218

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37	Direct observation of ferroelectric field effect andÂvacancy-controlled screening at the BiFeO3/LaxSr1âˆ’xMnO3 interface. Nature Materials, 2014, 13, 1019-1025.	27.5	218
38	Control of Octahedral Tilts and Magnetic Properties of Perovskite Oxide Heterostructures by Substrate Symmetry. Physical Review Letters, 2010, 105, 227203.	7.8	211
39	Nanoscale Electromechanics of Ferroelectric and Biological Systems: A New Dimension in Scanning Probe Microscopy. Annual Review of Materials Research, 2007, 37, 189-238.	9.3	204
40	Domain growth kinetics in lithium niobate single crystals studied by piezoresponse force microscopy. Applied Physics Letters, 2005, 86, 012906.	3.3	196
41	Quantitative mapping of switching behavior in piezoresponse force microscopy. Review of Scientific Instruments, 2006, 77, 073702.	1.3	193
42	Large Resistive Switching in Ferroelectric BiFeO₃ Nanoâ€‘Island Based Switchable Diodes. Advanced Materials, 2013, 25, 2339-2343.	21.0	192
43	Piezoresponse Force Microscopy: A Window into Electromechanical Behavior at the Nanoscale. MRS Bulletin, 2009, 34, 648-657.	3.5	186
44	Very Large Capacitance Enhancement in a Two-Dimensional Electron System. Science, 2011, 332, 825-828.	12.6	185
45	Chemical nature of ferroelastic twin domains in CH3NH3PbI3 perovskite. Nature Materials, 2018, 17, 1013-1019.	27.5	183
46	The joint automated repository for various integrated simulations (JARVIS) for data-driven materials design. Npj Computational Materials, 2020, 6, .	8.7	181
47	A decade of piezoresponse force microscopy: progress, challenges, and opportunities. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2006, 53, 2226-2252.	3.0	170
48	Switchable Induced Polarization in LaAlO₃/SrTiO₃ Heterostructures. Nano Letters, 2012, 12, 1765-1771.	9.1	167
49	Controlling the actuation properties of MXene paper electrodes upon cation intercalation. Nano Energy, 2015, 17, 27-35.	16.0	166
50	Electronic flexoelectricity in low-dimensional systems. Physical Review B, 2008, 77, .	3.2	157
51	Tunable Metallic Conductance in Ferroelectric Nanodomains. Nano Letters, 2012, 12, 209-213.	9.1	153
52	Mapping Octahedral Tilts and Polarization Across a Domain Wall in BiFeO₃ from Z-Contrast Scanning Transmission Electron Microscopy Image Atomic Column Shape Analysis. ACS Nano, 2010, 4, 6071-6079.	14.6	150
53	Band excitation in scanning probe microscopy: sines of change. Journal Physics D: Applied Physics, 2011, 44, 464006.	2.8	150
54	Screening Phenomena on Oxide Surfaces and Its Implications for Local Electrostatic and Transport Measurements. Nano Letters, 2004, 4, 555-560.	9.1	149

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55	Nanoscale Switching Characteristics of Nearly Tetragonal BiFeO₃ Thin Films. Nano Letters, 2010, 10, 2555-2561.	9.1	149
56	Symmetry Relationship and Strain-Induced Transitions between Insulating M1 and M2 and Metallic R phases of Vanadium Dioxide. Nano Letters, 2010, 10, 4409-4416.	9.1	149
57	Ferroelectricity in Siâ€Doped HfO₂ Revealed: A Binary Leadâ€Free Ferroelectric. Advanced Materials, 2014, 26, 8198-8202.	21.0	147
58	Doping-Based Stabilization of the M2 Phase in Free-Standing VO₂ Nanostructures at Room Temperature. Nano Letters, 2012, 12, 6198-6205.	9.1	145
59	Atomic-scale evolution of modulated phases at the ferroelectricâ€“antiferroelectric morphotropic phase boundary controlled by flexoelectric interaction. Nature Communications, 2012, 3, 775.	12.8	145
60	Strongly enhanced oxygen ion transport through samarium-doped CeO2 nanopillars in nanocomposite films. Nature Communications, 2015, 6, 8588.	12.8	145
61	Bias-Dependent Molecular-Level Structure of Electrical Double Layer in Ionic Liquid on Graphite. Nano Letters, 2013, 13, 5954-5960.	9.1	142
62	Tunable quadruple-well ferroelectric van der Waals crystals. Nature Materials, 2020, 19, 43-48.	27.5	140
63	Local probing of ionic diffusion by electrochemical strain microscopy: Spatial resolution and signal formation mechanisms. Journal of Applied Physics, 2010, 108, .	2.5	138
64	Local impedance imaging and spectroscopy of polycrystalline ZnO using contact atomic force microscopy. Applied Physics Letters, 2003, 82, 1869-1871.	3.3	136
65	Domain polarity and temperature induced potential inversion on the BaTiO3(100) surface. Journal of Applied Physics, 2002, 91, 3816-3823.	2.5	133
66	Towards data-driven next-generation transmission electron microscopy. Nature Materials, 2021, 20, 274-279.	27.5	130
67	Intermittency, quasiperiodicity and chaos in probe-induced ferroelectric domain switching. Nature Physics, 2014, 10, 59-66.	16.7	129
68	Surface-screening mechanisms in ferroelectric thin films and their effect on polarization dynamics and domain structures. Reports on Progress in Physics, 2018, 81, 036502.	20.1	129
69	Ferroelectric Lithography of Multicomponent Nanostructures. Advanced Materials, 2004, 16, 795-799.	21.0	127
70	Domain Wall Geometry Controls Conduction in Ferroelectrics. Nano Letters, 2012, 12, 5524-5531.	9.1	125
71	Thermotropic phase boundaries in classic ferroelectrics. Nature Communications, 2014, 5, 3172.	12.8	123
72	Exploring Local Electrostatic Effects with Scanning Probe Microscopy: Implications for Piezoresponse Force Microscopy and Triboelectricity. ACS Nano, 2014, 8, 10229-10236.	14.6	123

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73	Role of Single Defects in Electronic Transport through Carbon Nanotube Field-Effect Transistors. Physical Review Letters, 2002, 89, 216801.	7.8	122
74	A microelectromechanical load sensor for in situ electron and x-ray microscopy tensile testing of nanostructures. Applied Physics Letters, 2005, 86, 013506.	3.3	119
75	Nanoscale Ferroelectricity in Crystalline Î³â€Glycine. Advanced Functional Materials, 2012, 22, 2996-3003.	14.9	119
76	Placing single atoms in graphene with a scanning transmission electron microscope. Applied Physics Letters, 2017, 111, .	3.3	119
77	Exploring Topological Defects in Epitaxial BiFeO₃ Thin Films. ACS Nano, 2011, 5, 879-887.	14.6	118
78	Modeling and measurement of surface displacements in BaTiO3 bulk material in piezoresponse force microscopy. Journal of Applied Physics, 2004, 96, 563-568.	2.5	117
79	Resonance enhancement in piezoresponse force microscopy: Mapping electromechanical activity, contact stiffness, and Q factor. Applied Physics Letters, 2006, 89, 022906.	3.3	117
80	Nanoscale Elastic Changes in 2D Ti₃C₂T_{<i>x</i>} (MXene) Pseudocapacitive Electrodes. Advanced Energy Materials, 2016, 6, 1502290.	19.5	117
81	Tunneling Electroresistance Induced by Interfacial Phase Transitions in Ultrathin Oxide Heterostructures. Nano Letters, 2013, 13, 5837-5843.	9.1	115
82	Surface Domain Structures and Mesoscopic Phase Transition in Relaxor Ferroelectrics. Advanced Functional Materials, 2011, 21, 1977-1987.	14.9	113
83	Domain Wall Conduction and Polarizationâ€Mediated Transport in Ferroelectrics. Advanced Functional Materials, 2013, 23, 2592-2616.	14.9	113
84	Deep learning analysis of defect and phase evolution during electron beam-induced transformations in WS2. Npj Computational Materials, 2019, 5, .	8.7	113
85	Principal component and spatial correlation analysis of spectroscopic-imaging data in scanning probe microscopy. Nanotechnology, 2009, 20, 085714.	2.6	112
86	Collective dynamics underpins Rayleigh behavior in disordered polycrystalline ferroelectrics. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7219-7224.	7.1	112
87	Thermodynamics of electromechanically coupled mixed ionic-electronic conductors: Deformation potential, Vegard strains, and flexoelectric effect. Physical Review B, 2011, 83, .	3.2	110
88	The Role of Electrochemical Phenomena in Scanning Probe Microscopy of Ferroelectric Thin Films. ACS Nano, 2011, 5, 5683-5691.	14.6	109
89	Substrate Clamping Effects on Irreversible Domain Wall Dynamics in Lead Zirconate Titanate Thin Films. Physical Review Letters, 2012, 108, 157604.	7.8	109
90	Materials science in the artificial intelligence age: high-throughput library generation, machine learning, and a pathway from correlations to the underpinning physics. MRS Communications, 2019, 9, 821-838.	1.8	109

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91	Dynamic behaviour in piezoresponse force microscopy. Nanotechnology, 2006, 17, 1615-1628.	2.6	108
92	Materials informatics: From the atomic-level to the continuum. Acta Materialia, 2019, 168, 473-510.	7.9	108
93	Big, Deep, and Smart Data in Scanning Probe Microscopy. ACS Nano, 2016, 10, 9068-9086.	14.6	103
94	Interplay between Ferroelastic and Metalâ€"Insulator Phase Transitions in Strained Quasi-Two-Dimensional VO₂ Nanoplatelets. Nano Letters, 2010, 10, 2003-2011.	9.1	101
95	Interplay of Octahedral Tilts and Polar Order in BiFeO₃ Films. Advanced Materials, 2013, 25, 2497-2504.	21.0	101
96	Directing Matter: Toward Atomic-Scale 3D Nanofabrication. ACS Nano, 2016, 10, 5600-5618.	14.6	99
97	Highly mobile ferroelastic domain walls in compositionally graded ferroelectric thin films. Nature Materials, 2016, 15, 549-556.	27.5	98
98	Mixed electrochemicalâ€“ferroelectric states in nanoscale ferroelectrics. Nature Physics, 2017, 13, 812-818.	16.7	98
99	Temperature dependence of polarization and charge dynamics on the BaTiO3(100) surface by scanning probe microscopy. Applied Physics Letters, 2001, 78, 1116-1118.	3.3	97
100	Probing charge screening dynamics and electrochemical processes at the solidâ€“liquid interface with electrochemical force microscopy. Nature Communications, 2014, 5, 3871.	12.8	97
101	Band Excitation in Scanning Probe Microscopy: Recognition and Functional Imaging. Annual Review of Physical Chemistry, 2014, 65, 519-536.	10.8	97
102	Decoupling Electrochemical Reaction and Diffusion Processes in Ionically-Conductive Solids on the Nanometer Scale. ACS Nano, 2010, 4, 7349-7357.	14.6	96
103	Domain wall conduction in multiaxial ferroelectrics. Physical Review B, 2012, 85, .	3.2	95
104	Electromechanical imaging of biological systems with sub-10nm resolution. Applied Physics Letters, 2005, 87, 053901.	3.3	93
105	Resolution-function theory in piezoresponse force microscopy: Wall imaging, spectroscopy, and lateral resolution. Physical Review B, 2007, 75, .	3.2	93
106	Controlled manipulation of oxygen vacancies using nanoscale flexoelectricity. Nature Communications, 2017, 8, 615.	12.8	93
107	Quantification of flexoelectricity in PbTiO3/SrTiO3 superlattice polar vortices using machine learning and phase-field modeling. Nature Communications, 2017, 8, 1468.	12.8	93
108	Quantification of surface displacements and electromechanical phenomena via dynamic atomic force microscopy. Nanotechnology, 2016, 27, 425707.	2.6	92

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109	Single-domain multiferroic BiFeO3 films. Nature Communications, 2016, 7, 12712.	12.8	92
110	Nanoscale polarization manipulation and imaging of ferroelectric Langmuir-Blodgett polymer films. Applied Physics Letters, 2007, 90, 122904.	3.3	91
111	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.	6.1	89
112	<i>In Situ</i> Observation of Oxygen Vacancy Dynamics and Ordering in the Epitaxial LaCoO₃ System. ACS Nano, 2017, 11, 6942-6949.	14.6	89
113	Beyond Condensed Matter Physics on the Nanoscale: The Role of Ionic and Electrochemical Phenomena in the Physical Functionalities of Oxide Materials. ACS Nano, 2012, 6, 10423-10437.	14.6	88
114	Giant energy density in [001]-textured Pb(Mg1/3Nb2/3)O3-PbZrO3-PbTiO3 piezoelectric ceramics. Applied Physics Letters, 2013, 102, .	3.3	88
115	Effect of phase transition on the surface potential of the BaTiO3 (100) surface by variable temperature scanning surface potential microscopy. Journal of Applied Physics, 2000, 87, 3950-3957.	2.5	87
116	Nanoelectromechanics of piezoelectric indentation and applications to scanning probe microscopies of ferroelectric materials. Philosophical Magazine, 2005, 85, 1017-1051.	1.6	85
117	Potential and Impedance Imaging of Polycrystalline BiFeO₃ Ceramics. Journal of the American Ceramic Society, 2002, 85, 3011-3017.	3.8	83
118	Probing the Role of Single Defects on the Thermodynamics of Electric-Field Induced Phase Transitions. Physical Review Letters, 2008, 100, 155703.	7.8	83
119	Electrochemical strain microscopy: Probing ionic and electrochemical phenomena in solids at the nanometer level. MRS Bulletin, 2012, 37, 651-658.	3.5	83
120	Reduced Coercive Field in BiFeO₃ Thin Films Through Domain Engineering. Advanced Materials, 2011, 23, 669-672.	21.0	82
121	Nanoforging Single Layer MoSe2 Through Defect Engineering with Focused Helium Ion Beams. Scientific Reports, 2016, 6, 30481.	3.3	82
122	Direct Observation of Capacitor Switching Using Planar Electrodes. Advanced Functional Materials, 2010, 20, 3466-3475.	14.9	81
123	Microwave a.c. conductivity of domain walls in ferroelectric thin films. Nature Communications, 2016, 7, 11630.	12.8	81
124	Building Structures Atom by Atom via Electron Beam Manipulation. Small, 2018, 14, e1801771.	10.0	81
125	High Resolution Electromechanical Imaging of Ferroelectric Materials in a Liquid Environment by Piezoresponse Force Microscopy. Physical Review Letters, 2006, 96, 237602.	7.8	80
126	Electromechanical detection in scanning probe microscopy: Tip models and materials contrast. Journal of Applied Physics, 2007, 102, .	2.5	80

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127	Atomically Resolved Mapping of Polarization and Electric Fields Across Ferroelectric/Oxide Interfaces by Zâ€contrast Imaging. Advanced Materials, 2011, 23, 2474-2479.	21.0	79
128	Learning surface molecular structures via machine vision. Npj Computational Materials, 2017, 3, .	8.7	79
129	Fire up the atom forge. Nature, 2016, 539, 485-487.	27.8	79
130	Local Electrochemical Functionality in Energy Storage Materials and Devices by Scanning Probe Microscopies: Status and Perspectives. Advanced Materials, 2010, 22, E193-209.	21.0	78
131	Direct evidence of mesoscopic dynamic heterogeneities at the surfaces of ergodic ferroelectric relaxors. Physical Review B, 2010, 81, .	3.2	77
132	Nanoscale Control of Phase Variants in Strain-Engineered BiFeO₃. Nano Letters, 2011, 11, 3346-3354.	9.1	76
133	Imaging physical phenomena with local probes: From electrons to photons. Reviews of Modern Physics, 2012, 84, 1343-1381.	45.6	76
134	Review of Ferroelectric Domain Imaging by Piezoresponse Force Microscopy. , 2007, , 173-214.		76
135	Ionically-Mediated Electromechanical Hysteresis in Transition Metal Oxides. ACS Nano, 2012, 6, 7026-7033.	14.6	75
136	Carrier density modulation in a germanium heterostructure by ferroelectric switching. Nature Communications, 2015, 6, 6067.	12.8	75
137	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, .	3.2	74
138	Big data and deep data in scanning and electron microscopies: deriving functionality from multidimensional data sets. Advanced Structural and Chemical Imaging, 2015, 1, 6.	4.0	74
139	Enhancing Ion Migration in Grain Boundaries of Hybrid Organicâ€“Inorganic Perovskites by Chlorine. Advanced Functional Materials, 2017, 27, 1700749.	14.9	74
140	Threeâ€State Ferroelastic Switching and Large Electromechanical Responses in PbTiO₃ Thin Films. Advanced Materials, 2017, 29, 1702069.	21.0	74
141	Local Phenomena in Oxides by Advanced Scanning Probe Microscopy. Journal of the American Ceramic Society, 2005, 88, 1077-1098.	3.8	73
142	Intrinsic single-domain switching in ferroelectric materials on a nearly ideal surface. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20204-20209.	7.1	73
143	Piezoresponse force spectroscopy of ferroelectric-semiconductor materials. Journal of Applied Physics, 2007, 102, 114108.	2.5	73
144	Rapid multidimensional data acquisition in scanning probe microscopy applied to local polarization dynamics and voltage dependent contact mechanics. Applied Physics Letters, 2008, 93, .	3.3	73

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145	Atomistic Screening Mechanism of Ferroelectric Surfaces: An In Situ Study of the Polar Phase in Ultrathin BaTiO₃ Films Exposed to H₂O. Nano Letters, 2009, 9, 3720-3725.	9.1	73
146	Li-ion dynamics and reactivity on the nanoscale. Materials Today, 2011, 14, 548-558.	14.2	73
147	Nanoscale electromechanics of paraelectric materials with mobile charges: Size effects and nonlinearity of electromechanical response of SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>films. Physical Review B, 2011, 84, .	3.2	73
148	Deep Data Analysis of Conductive Phenomena on Complex Oxide Interfaces: Physics from Data Mining. ACS Nano, 2014, 8, 6449-6457.	14.6	73
149	Atomicâ€Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision. Small, 2015, 11, 5895-5900.	10.0	73
150	Atom-by-atom fabrication with electron beams. Nature Reviews Materials, 2019, 4, 497-507.	48.7	73
151	Materials contrast in piezoresponse force microscopy. Applied Physics Letters, 2006, 88, 232904.	3.3	71
152	Spatial resolution, information limit, and contrast transfer in piezoresponse force microscopy. Nanotechnology, 2006, 17, 3400-3411.	2.6	71
153	Ultrathin limit and dead-layer effects in local polarization switching of 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, 85, .	3.2	71
154	Scanning impedance microscopy of electroactive interfaces. Applied Physics Letters, 2001, 78, 1306-1308.	3.3	70
155	Mapping Irreversible Electrochemical Processes on the Nanoscale: Ionic Phenomena in Li Ion Conductive Glass Ceramics. Nano Letters, 2011, 11, 4161-4167.	9.1	70
156	Towards nanoscale electrical measurements in liquid by advanced KPFM techniques: a review. Reports on Progress in Physics, 2018, 81, 086101.	20.1	70
157	Building and exploring libraries of atomic defects in graphene: Scanning transmission electron and scanning tunneling microscopy study. Science Advances, 2019, 5, eaaw8989.	10.3	70
158	Quantitative analysis of nanoscale switching in SrBi2Ta2O9 thin filmsby piezoresponse force microscopy. Applied Physics Letters, 2004, 85, 795-797.	3.3	69
159	Nonlinear Phenomena in Multiferroic Nanocapacitors: Joule Heating and Electromechanical Effects. ACS Nano, 2011, 5, 9104-9112.	14.6	69
160	Mesoscopic Metalâ˘Insulator Transition at Ferroelastic Domain Walls in VO₂. ACS Nano, 2010, 4, 4412-4419.	14.6	68
161	Locally Controlled Cu-Ion Transport in Layered Ferroelectric CuInP₂S₆. ACS Applied Materials & Interfaces, 2018, 10, 27188-27194.	8.0	68
162	Deconvolving distribution of relaxation times, resistances and inductance from electrochemical impedance spectroscopy via statistical model selection: Exploiting structural-sparsity regularization and data-driven parameter tuning. Electrochimica Acta, 2019, 313, 570-583.	5.2	68

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163	Pyroelectric response of ferroelectric nanowires: Size effect and electric energy harvesting. Journal of Applied Physics, 2010, 108, .	2.5	67
164	Breaking the Time Barrier in Kelvin Probe Force Microscopy: Fast Free Force Reconstruction Using the G-Mode Platform. ACS Nano, 2017, 11, 8717-8729.	14.6	67
165	Growth of Carbon Nanofibers on Tipless Cantilevers for High Resolution Topography and Magnetic Force Imaging. Nano Letters, 2004, 4, 2157-2161.	9.1	66
166	Bioelectromechanical imaging by scanning probe microscopy: Galvani's experiment at the nanoscale. Ultramicroscopy, 2006, 106, 334-340.	1.9	66
167	Ferroelectric domain wall pinning at a bicrystal grain boundary in bismuth ferrite. Applied Physics Letters, 2008, 93, .	3.3	66
168	Resolution theory, and static and frequency-dependent cross-talk in piezoresponse force microscopy. Nanotechnology, 2010, 21, 405703.	2.6	66
169	Electronic Properties of Isosymmetric Phase Boundaries in Highly Strained Caâ€Doped BiFeO₃. Advanced Materials, 2014, 26, 4376-4380.	21.0	66
170	Influence of a Single Grain Boundary on Domain Wall Motion in Ferroelectrics. Advanced Functional Materials, 2014, 24, 1409-1417.	14.9	66
171	Atomic-scale observation of structural and electronic orders in the layered compound Î±-RuCl3. Nature Communications, 2016, 7, 13774.	12.8	66
172	Size-effect in layered ferrielectric CuInP2S6. Applied Physics Letters, 2016, 109, .	3.3	66
173	Chemical Robotics Enabled Exploration of Stability in Multicomponent Lead Halide Perovskites via Machine Learning. ACS Energy Letters, 2020, 5, 3426-3436.	17.4	66
174	Unraveling Deterministic Mesoscopic Polarization Switching Mechanisms: Spatially Resolved Studies of a Tilt Grain Boundary in Bismuth Ferrite. Advanced Functional Materials, 2009, 19, 2053-2063.	14.9	65
175	Correlated polarization switching in the proximity of a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>180</mml:mn><mml:mo>Â°</mml:mo></mml:mrow></mml:math>domain wall. Physical Review B, 2010, 82, .	3.2	65
176	Electromechanical probing of ionic currents in energy storage materials. Applied Physics Letters, 2010, 96, .	3.3	65
177	Probing Surface and Bulk Electrochemical Processes on the LaAlO₃â€"SrTiO₃ Interface. ACS Nano, 2012, 6, 3841-3852.	14.6	65
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