Stephen Jesse

List of Publications by Year
in descending order

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337 papers	16,707 citations	13099 68 h-index	23533 111 g-index
339 all docs	339 docs citations	339 times ranked	12818 citing authors

#	Article	IF	Citations
1	Nanoscale mapping of ion diffusion in a lithium-ion battery cathode. Nature Nanotechnology, 2010, 5, 749-754.	31.5	513
2	Polarization Control of Electron Tunneling into Ferroelectric Surfaces. Science, 2009, 324, 1421-1425.	12.6	441
3	The band excitation method in scanning probe microscopy for rapid mapping of energy dissipation on the nanoscale. Nanotechnology, 2007, 18, 435503.	2.6	413
4	Switching spectroscopy piezoresponse force microscopy of ferroelectric materials. Applied Physics Letters, 2006, 88, 062908.	3.3	371
5	Deterministic control of ferroelastic switching in multiferroic materials. Nature Nanotechnology, 2009, 4, 868-875.	31.5	331
6	Enhanced electric conductivity at ferroelectric vortex cores in BiFeO3. Nature Physics, 2012, 8, 81-88.	16.7	324
7	In situ measurements and modeling of carbon nanotube array growth kinetics during chemical vapor deposition. Applied Physics A: Materials Science and Processing, 2005, 81, 223-240.	2.3	300
8	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
9	Direct imaging of the spatial and energy distribution of nucleation centres in ferroelectric materials. Nature Materials, 2008, 7, 209-215.	27.5	250
10	Ferroelectric or non-ferroelectric: Why so many materials exhibit â€œferroelectricityâ€•on the nanoscale. Applied Physics Reviews, 2017, 4, .	11.3	240
11	Measuring oxygen reduction/evolution reactions on the nanoscale. Nature Chemistry, 2011, 3, 707-713.	13.6	233
12	Real Space Mapping of Li-Ion Transport in Amorphous Si Anodes with Nanometer Resolution. Nano Letters, 2010, 10, 3420-3425.	9.1	232
13	Differentiating Ferroelectric and Nonferroelectric Electromechanical Effects with Scanning Probe Microscopy. ACS Nano, 2015, 9, 6484-6492.	14.6	231
14	Vector Piezoresponse Force Microscopy. Microscopy and Microanalysis, 2006, 12, 206-220.	0.4	228
15	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
16	Quantitative mapping of switching behavior in piezoresponse force microscopy. Review of Scientific Instruments, 2006, 77, 073702.	1.3	193
17	Chemical nature of ferroelastic twin domains in CH3NH3PbI3 perovskite. Nature Materials, 2018, 17, 1013-1019.	27.5	183
18	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

#	Article	IF	Citations
19	Band excitation in scanning probe microscopy: sines of change. Journal Physics D: Applied Physics, 2011, 44, 464006.	2.8	150
20	Nanoscale Switching Characteristics of Nearly Tetragonal BiFeO₃ Thin Films. Nano Letters, 2010, 10, 2555-2561.	9.1	149
21	Unraveling the Mechanism of Nanoscale Mechanical Reinforcement in Glassy Polymer Nanocomposites. Nano Letters, 2016, 16, 3630-3637.	9.1	142
22	Tunable quadruple-well ferroelectric van der Waals crystals. Nature Materials, 2020, 19, 43-48.	27.5	140
23	Intermittency, quasiperiodicity and chaos in probe-induced ferroelectric domain switching. Nature Physics, 2014, 10, 59-66.	16.7	129
24	In situ growth rate measurements and length control during chemical vapor deposition of vertically aligned multiwall carbon nanotubes. Applied Physics Letters, 2003, 83, 1851-1853.	3.3	127
25	Exploring Local Electrostatic Effects with Scanning Probe Microscopy: Implications for Piezoresponse Force Microscopy and Triboelectricity. ACS Nano, 2014, 8, 10229-10236.	14.6	123
26	Nanoscale Ferroelectricity in Crystalline Î³â€Glycine. Advanced Functional Materials, 2012, 22, 2996-3003.	14.9	119
27	Placing single atoms in graphene with a scanning transmission electron microscope. Applied Physics Letters, 2017, 111, .	3.3	119
28	Resonance enhancement in piezoresponse force microscopy: Mapping electromechanical activity, contact stiffness, and Q factor. Applied Physics Letters, 2006, 89, 022906.	3.3	117
29	Nanoscale Elastic Changes in 2D Ti₃C₂T_x (MXene) Pseudocapacitive Electrodes. Advanced Energy Materials, 2016, 6, 1502290.	19.5	117
30	Atomistic-Scale Simulations of Defect Formation in Graphene under Noble Gas Ion Irradiation. ACS Nano, 2016, 10, 8376-8384.	14.6	113
31	Deep learning analysis of defect and phase evolution during electron beam-induced transformations in WS2. Npj Computational Materials, 2019, 5, .	8.7	113
32	Principal component and spatial correlation analysis of spectroscopic-imaging data in scanning probe microscopy. Nanotechnology, 2009, 20, 085714.	2.6	112
33	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
34	The Role of Electrochemical Phenomena in Scanning Probe Microscopy of Ferroelectric Thin Films. ACS Nano, 2011, 5, 5683-5691.	14.6	109
35	Substrate Clamping Effects on Irreversible Domain Wall Dynamics in Lead Zirconate Titanate Thin Films. Physical Review Letters, 2012, 108, 157604.	7.8	109
36	Dynamic behaviour in piezoresponse force microscopy. Nanotechnology, 2006, 17, 1615-1628.	2.6	108

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37	Big, Deep, and Smart Data in Scanning Probe Microscopy. ACS Nano, 2016, 10, 9068-9086.	14.6	103
38	Directing Matter: Toward Atomic-Scale 3D Nanofabrication. ACS Nano, 2016, 10, 5600-5618.	14.6	99
39	Mixed electrochemicalâ€“ferroelectric states in nanoscale ferroelectrics. Nature Physics, 2017, 13, 812-818.	16.7	98
40	Probing charge screening dynamics and electrochemical processes at the solidâ€“liquid interface with electrochemical force microscopy. Nature Communications, 2014, 5, 3871.	12.8	97
41	Band Excitation in Scanning Probe Microscopy: Recognition and Functional Imaging. Annual Review of Physical Chemistry, 2014, 65, 519-536.	10.8	97
42	Decoupling Electrochemical Reaction and Diffusion Processes in Ionically-Conductive Solids on the Nanometer Scale. ACS Nano, 2010, 4, 7349-7357.	14.6	96
43	Electromechanical imaging of biological systems with sub-10nm resolution. Applied Physics Letters, 2005, 87, 053901.	3.3	93
44	Quantification of surface displacements and electromechanical phenomena via dynamic atomic force microscopy. Nanotechnology, 2016, 27, 425707.	2.6	92
45	Nanoscale polarization manipulation and imaging of ferroelectric Langmuir-Blodgett polymer films. Applied Physics Letters, 2007, 90, 122904.	3.3	91
46	Probing the Role of Single Defects on the Thermodynamics of Electric-Field Induced Phase Transitions. Physical Review Letters, 2008, 100, 155703.	7.8	83
47	Electrochemical strain microscopy: Probing ionic and electrochemical phenomena in solids at the nanometer level. MRS Bulletin, 2012, 37, 651-658.	3.5	83
48	Reduced Coercive Field in BiFeO₃ Thin Films Through Domain Engineering. Advanced Materials, 2011, 23, 669-672.	21.0	82
49	Nanoforging Single Layer MoSe2 Through Defect Engineering with Focused Helium Ion Beams. Scientific Reports, 2016, 6, 30481.	3.3	82
50	Building Structures Atom by Atom via Electron Beam Manipulation. Small, 2018, 14, e1801771.	10.0	81
51	High Resolution Electromechanical Imaging of Ferroelectric Materials in a Liquid Environment by Piezoresponse Force Microscopy. Physical Review Letters, 2006, 96, 237602.	7.8	80
52	Electromechanical detection in scanning probe microscopy: Tip models and materials contrast. Journal of Applied Physics, 2007, 102, .	2.5	80
53	Fire up the atom forge. Nature, 2016, 539, 485-487.	27.8	79
54	Direct evidence of mesoscopic dynamic heterogeneities at the surfaces of ergodic ferroelectric relaxors. Physical Review B, 2010, 81, .	3.2	77

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55	Nanoscale Control of Phase Variants in Strain-Engineered BiFeO₃. Nano Letters, 2011, 11, 3346-3354.	9.1	76
56	Ionically-Mediated Electromechanical Hysteresis in Transition Metal Oxides. ACS Nano, 2012, 6, 7026-7033.	14.6	75
57	Carrier density modulation in a germanium heterostructure by ferroelectric switching. Nature Communications, 2015, 6, 6067.	12.8	75
58	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
59	Enhancing Ion Migration in Grain Boundaries of Hybrid Organicâ€“Inorganic Perovskites by Chlorine. Advanced Functional Materials, 2017, 27, 1700749.	14.9	74
60	Threeâ€€State Ferroelastic Switching and Large Electromechanical Responses in PbTiO₃ Thin Films. Advanced Materials, 2017, 29, 1702069.	21.0	74
61	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
62	Piezoresponse force spectroscopy of ferroelectric-semiconductor materials. Journal of Applied Physics, 2007, 102, 114108.	2.5	73
63	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
64	Li-ion dynamics and reactivity on the nanoscale. Materials Today, 2011, 14, 548-558.	14.2	73
65	Deep Data Analysis of Conductive Phenomena on Complex Oxide Interfaces: Physics from Data Mining. ACS Nano, 2014, 8, 6449-6457.	14.6	73
66	Atomicâ€Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision. Small, 2015, 11, 5895-5900.	10.0	73
67	Atom-by-atom fabrication with electron beams. Nature Reviews Materials, 2019, 4, 497-507.	48.7	73
68	Spatial resolution, information limit, and contrast transfer in piezoresponse force microscopy. Nanotechnology, 2006, 17, 3400-3411.	2.6	71
69	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
70	Mapping Irreversible Electrochemical Processes on the Nanoscale: Ionic Phenomena in Li Ion Conductive Glass Ceramics. Nano Letters, 2011, 11, 4161-4167.	9.1	70
71	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
72	Nonlinear Phenomena in Multiferroic Nanocapacitors: Joule Heating and Electromechanical Effects. ACS Nano, 2011, 5, 9104-9112.	14.6	69

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73	Locally Controlled Cu-Ion Transport in Layered Ferroelectric CuInP₂S₆. ACS Applied Materials & Interfaces, 2018, 10, 27188-27194.	8.0	68
74	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
75	Bioelectromechanical imaging by scanning probe microscopy: Galvani's experiment at the nanoscale. Ultramicroscopy, 2006, 106, 334-340.	1.9	66
76	Resolution theory, and static and frequency-dependent cross-talk in piezoresponse force microscopy. Nanotechnology, 2010, 21, 405703.	2.6	66
77	Influence of a Single Grain Boundary on Domain Wall Motion in Ferroelectrics. Advanced Functional Materials, 2014, 24, 1409-1417.	14.9	66
78	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
79	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
80	Probing Surface and Bulk Electrochemical Processes on the LaAlO₃â€“SrTiO₃ Interface. ACS Nano, 2012, 6, 3841-3852.	14.6	65
81	Open loop Kelvin probe force microscopy with single and multi-frequency excitation. Nanotechnology, 2013, 24, 475702.	2.6	63
82	Identification of phases, symmetries and defects through local crystallography. Nature Communications, 2015, 6, 7801.	12.8	63
83	Electronic transport imaging in a multiwire SnO2 chemical field-effect transistor device. Journal of Applied Physics, 2005, 98, 044503.	2.5	62
84	Defectâ€Mediated Polarization Switching in Ferroelectrics and Related Materials: From Mesoscopic Mechanisms to Atomistic Control. Advanced Materials, 2010, 22, 314-322.	21.0	62
85	Direct Mapping of Ionic Transport in a Si Anode on the Nanoscale: Time Domain Electrochemical Strain Spectroscopy Study. ACS Nano, 2011, 5, 9682-9695.	14.6	61
86	Current and surface charge modified hysteresis loops in ferroelectric thin films. Journal of Applied Physics, 2015, 118, .	2.5	60
87	Local Detection of Activation Energy for Ionic Transport in Lithium Cobalt Oxide. Nano Letters, 2012, 12, 3399-3403.	9.1	58
88	Switching spectroscopy piezoresponse force microscopy of polycrystalline capacitor structures. Applied Physics Letters, 2009, 94, .	3.3	57
89	Watching domains grow: In-situ studies of polarization switching by combined scanning probe and scanning transmission electron microscopy. Journal of Applied Physics, 2011, 110, .	2.5	57
90	Spatially Resolved Mapping of Polarization Switching Behavior in Nanoscale Ferroelectrics. Advanced Materials, 2008, 20, 109-114.	21.0	56

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91	Role of measurement voltage on hysteresis loop shape in Piezoresponse Force Microscopy. Applied Physics Letters, 2012, 101, .	3.3	55
92	Probing Local Ionic Dynamics in Functional Oxides at the Nanoscale. Nano Letters, 2013, 13, 3455-3462.	9.1	55
93	Mechanical Control of Electroresistive Switching. Nano Letters, 2013, 13, 4068-4074.	9.1	55
94	Synergetic effects of K⁺and Mg²⁺ion intercalation on the electrochemical and actuation properties of the two-dimensional Ti₃C₂MXene. Faraday Discussions, 2017, 199, 393-403.	3.2	55
95	Machine learningâ€“enabled identification of material phase transitions based on experimental data: Exploring collective dynamics in ferroelectric relaxors. Science Advances, 2018, 4, eaap8672.	10.3	54
96	Spatially resolved mapping of ferroelectric switching behavior in self-assembled multiferroic nanostructures: strain, size, and interface effects. Nanotechnology, 2007, 18, 405701.	2.6	51
97	Electromechanical imaging of biomaterials by scanning probe microscopy. Journal of Structural Biology, 2006, 153, 151-159.	2.8	50
98	First-Order Reversal Curve Probing of Spatially Resolved Polarization Switching Dynamics in Ferroelectric Nanocapacitors. ACS Nano, 2012, 6, 491-500.	14.6	50
99	Dual harmonic Kelvin probe force microscopy at the grapheneâ€“liquid interface. Applied Physics Letters, 2014, 104, .	3.3	50
100	Local bias-induced phase transitions. Materials Today, 2008, 11, 16-27.	14.2	49
101	Intrinsic Nucleation Mechanism and Disorder Effects in Polarization Switching on Ferroelectric Surfaces. Physical Review Letters, 2009, 102, 017601.	7.8	49
102	Direct Probing of Charge Injection and Polarizationâ€Controlled Ionic Mobility on Ferroelectric LiNbO₃ Surfaces. Advanced Materials, 2014, 26, 958-963.	21.0	49
103	Complete information acquisition in dynamic force microscopy. Nature Communications, 2015, 6, 6550.	12.8	49
104	Automated and Autonomous Experiments in Electron and Scanning Probe Microscopy. ACS Nano, 2021, 15, 12604-12627.	14.6	49
105	Time-Resolved Electronic Phase Transitions in Manganites. Physical Review Letters, 2009, 102, 087201.	7.8	48
106	Space- and Time-Resolved Mapping of Ionic Dynamic and Electroresistive Phenomena in Lateral Devices. ACS Nano, 2013, 7, 6806-6815.	14.6	48
107	Surface micro-structuring of silicon by excimer-laser irradiation in reactive atmospheres. Applied Surface Science, 2000, 168, 251-257.	6.1	47
108	Real space mapping of polarization dynamics and hysteresis loop formation in relaxor-ferroelectric PbMg1/3Nb2/3O3â€“PbTiO3 solid solutions. Journal of Applied Physics, 2010, 108, .	2.5	47

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109	Combined Atomic Force Microscope-Based Topographical Imaging and Nanometer-Scale Resolved Proximal Probe Thermal Desorption/Electrospray Ionizationâ€“Mass Spectrometry. ACS Nano, 2011, 5, 5526-5531.	14.6	47
110	Full data acquisition in Kelvin Probe Force Microscopy: Mapping dynamic electric phenomena in real space. Scientific Reports, 2016, 6, 30557.	3.3	47
111	Giant negative electrostriction and dielectric tunability in a van der Waals layered ferroelectric. Physical Review Materials, 2019, 3, .	2.4	47
112	Controlling Polarization Dynamics in a Liquid Environment: From Localized to Macroscopic Switching in Ferroelectrics. Physical Review Letters, 2007, 98, 247603.	7.8	46
113	Compositional disorder, polar nanoregions and dipole dynamics in Pb(Mg_{1/3}Nb_{2/3})O₃-based relaxor ferroelectrics. Zeitschrift FÃ¼r Kristallographie, 2011, 226, 99-107.	1.1	46
114	Direct atomic fabrication and dopant positioning in Si using electron beams with active real-time image-based feedback. Nanotechnology, 2018, 29, 255303.	2.6	46
115	Designing piezoelectric films for micro electromechanical systems. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2011, 58, 1782-1792.	3.0	45
116	Local thermomechanical characterization of phase transitions using band excitation atomic force acoustic microscopy with heated probe. Applied Physics Letters, 2008, 93, 073104.	3.3	43
117	Quantification of in-contact probe-sample electrostatic forces with dynamic atomic force microscopy. Nanotechnology, 2017, 28, 065704.	2.6	43
118	Deep neural networks for understanding noisy data applied to physical property extraction in scanning probe microscopy. Npj Computational Materials, 2019, 5, .	8.7	43
119	Probing the temperature dependence of the mechanical properties of polymers at the nanoscale with band excitation thermal scanning probe microscopy. Nanotechnology, 2009, 20, 395709.	2.6	42
120	Controlling magnetoelectric coupling by nanoscale phase transformation in strain engineered bismuth ferrite. Nanoscale, 2012, 4, 3175.	5.6	42
121	Domain Wall Motion Across Various Grain Boundaries in Ferroelectric Thin Films. Journal of the American Ceramic Society, 2015, 98, 1848-1857.	3.8	42
122	Towards local electromechanical probing of cellular and biomolecular systems in a liquid environment. Nanotechnology, 2007, 18, 424020.	2.6	41
123	Direct Mapping of Ion Diffusion Times on LiCoO2 Surfaces with Nanometer Resolution. Journal of the Electrochemical Society, 2011, 158, A982.	2.9	41
124	Quantitative Description of Crystal Nucleation and Growth from in Situ Liquid Scanning Transmission Electron Microscopy. ACS Nano, 2015, 9, 11784-11791.	14.6	41
125	Phases and Interfaces from Real Space Atomically Resolved Data: Physics-Based Deep Data Image Analysis. Nano Letters, 2016, 16, 5574-5581.	9.1	40
126	Defect-induced asymmetry of local hysteresis loops on BiFeO3 surfaces. Journal of Materials Science, 2009, 44, 5095-5101.	3.7	38

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127	Kelvin probe force microscopy in liquid using electrochemical force microscopy. Beilstein Journal of Nanotechnology, 2015, 6, 201-214.	2.8	38
128	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.	14.6	38
129	Exploring order parameters and dynamic processes in disordered systems via variational autoencoders. Science Advances, 2021, 7, .	10.3	38
130	Double-Layer Mediated Electromechanical Response of Amyloid Fibrils in Liquid Environment. ACS Nano, 2010, 4, 689-698.	14.6	37
131	Probing Local Bias-Induced Transitions Using Photothermal Excitation Contact Resonance Atomic Force Microscopy and Voltage Spectroscopy. ACS Nano, 2015, 9, 1848-1857.	14.6	37
132	Manifold learning of four-dimensional scanning transmission electron microscopy. Npj Computational Materials, 2019, 5, .	8.7	37
133	Fast Scanning Probe Microscopy via Machine Learning: Nonâ€Rectangular Scans with Compressed Sensing and Gaussian Process Optimization. Small, 2020, 16, e2002878.	10.0	37
134	Spectroscopic imaging in piezoresponse force microscopy: New opportunities for studying polarization dynamics in ferroelectrics and multiferroics. MRS Communications, 2012, 2, 61-73.	1.8	36
135	Multifrequency spectrum analysis using fully digital G Mode-Kelvin probe force microscopy. Nanotechnology, 2016, 27, 105706.	2.6	36
136	Time resolved surface photovoltage measurements using a big data capture approach to KPFM. Nanotechnology, 2018, 29, 445703.	2.6	36
137	Disorder Identification in Hysteresis Data: Recognition Analysis of the Random-Bondâ€“Random-Field Ising Model. Physical Review Letters, 2009, 103, 157203.	7.8	35
138	Spatial distribution of relaxation behavior on the surface of a ferroelectric relaxor in the ergodic phase. Applied Physics Letters, 2009, 95, 142902.	3.3	35
139	Spatially resolved probing of Preisach density in polycrystalline ferroelectric thin films. Journal of Applied Physics, 2010, 108, .	2.5	35
140	Deterministic arbitrary switching of polarization in a ferroelectric thin film. Nature Communications, 2014, 5, 4971.	12.8	35
141	Paving the way to nanoionics: atomic origin of barriers for ionic transport through interfaces. Scientific Reports, 2015, 5, 17229.	3.3	35
142	Big data in reciprocal space: Sliding fast Fourier transforms for determining periodicity. Applied Physics Letters, 2015, 106, .	3.3	35
143	Doping transition-metal atoms in graphene for atomic-scale tailoring of electronic, magnetic, and quantum topological properties. Carbon, 2021, 173, 205-214.	10.3	35
144	Correlative Multimodal Probing of Ionically-Mediated Electromechanical Phenomena in Simple Oxides. Scientific Reports, 2013, 3, 2924.	3.3	34

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145	Effect of Doping on Surface Reactivity and Conduction Mechanism in Samarium-Doped Ceria Thin Films. ACS Nano, 2014, 8, 12494-12501.	14.6	34
146	Mapping internal structure of coal by confocal micro-Raman spectroscopy and scanning microwave microscopy. Fuel, 2014, 126, 32-37.	6.4	34
147	Compressed Sensing of Scanning Transmission Electron Microscopy (STEM) With Nonrectangular Scans. Microscopy and Microanalysis, 2018, 24, 623-633.	0.4	34
148	Electron-beam introduction of heteroatomic Ptâ€“Si structures in graphene. Carbon, 2020, 161, 750-757.	10.3	34
149	Morphology Mapping of Phase-Separated Polymer Films Using Nanothermal Analysis. Macromolecules, 2010, 43, 6724-6730.	4.8	33
150	Poly(Îµ-caprolactone)-Banded Spherulites and Interaction with MC3T3-E1 Cells. Langmuir, 2012, 28, 4382-4395.	3.5	33
151	Nanoscale mapping of heterogeneity of the polarization reversal in lead-free relaxorâ€“ferroelectric ceramic composites. Nanoscale, 2016, 8, 2168-2176.	5.6	33
152	Evidence for possible flexoelectricity in tobacco mosaic viruses used as nanotemplates. Applied Physics Letters, 2006, 88, 153902.	3.3	32
153	Quantitative determination of tip parameters in piezoresponse force microscopy. Applied Physics Letters, 2007, 90, 212905.	3.3	32
154	Local polarization switching in the presence of surface-charged defects: Microscopic mechanisms and piezoresponse force spectroscopy observations. Physical Review B, 2008, 78, .	3.2	32
155	Functional recognition imaging using artificial neural networks: applications to rapid cellular identification via broadband electromechanical response. Nanotechnology, 2009, 20, 405708.	2.6	32
156	Open-loop band excitation Kelvin probe force microscopy. Nanotechnology, 2012, 23, 125704.	2.6	32
157	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, .	1.2	32
158	Co-registered Topographical, Band Excitation Nanomechanical, and Mass Spectral Imaging Using a Combined Atomic Force Microscopy/Mass Spectrometry Platform. ACS Nano, 2015, 9, 4260-4269.	14.6	31
159	Domain pinning near a single-grain boundary in tetragonal and rhombohedral lead zirconate titanate films. Physical Review B, 2015, 91, .	3.2	31
160	Feature extraction via similarity search: application to atom finding and denoising in electron and scanning probe microscopy imaging. Advanced Structural and Chemical Imaging, 2018, 4, 3.	4.0	31
161	Mapping mesoscopic phase evolution during E-beam induced transformations via deep learning of atomically resolved images. Npj Computational Materials, 2018, 4, .	8.7	31
162	Piezoresponse amplitude and phase quantified for electromechanical characterization. Journal of Applied Physics, 2020, 128, .	2.5	31

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163	Spatially Resolved Spectroscopic Mapping of Polarization Reversal in Polycrystalline Ferroelectric Films: Crossing the Resolution Barrier. Physical Review Letters, 2009, 103, 057601.	7.8	30
164	Collective dynamics in nanostructured polycrystalline ferroelectric thin films using local time-resolved measurements and switching spectroscopy. Acta Materialia, 2010, 58, 67-75.	7.9	30
165	Ferroelastic domain wall dynamics in ferroelectric bilayers. Acta Materialia, 2010, 58, 5316-5325.	7.9	30
166	The partially reversible formation of Li-metal particles on a solid Li electrolyte: applications toward nanobatteries. Nanotechnology, 2012, 23, 325402.	2.6	30
167	Dynamic piezoresponse force microscopy: Spatially resolved probing of polarization dynamics in time and voltage domains. Journal of Applied Physics, 2012, 112, .	2.5	29
168	Nanometer-scale mapping of irreversible electrochemical nucleation processes on solid Li-ion electrolytes. Scientific Reports, 2013, 3, 1621.	3.3	29
169	Unraveling the origins of electromechanical response in mixed-phase bismuth ferrite. Physical Review B, 2013, 88, .	3.2	29
170	Quantitative 3D-KPFM imaging with simultaneous electrostatic force and force gradient detection. Nanotechnology, 2015, 26, 175707.	2.6	29
171	Direct-write liquid phase transformations with a scanning transmission electron microscope. Nanoscale, 2016, 8, 15581-15588.	5.6	29
172	Intermittent contact mode piezoresponse force microscopy in a liquid environment. Nanotechnology, 2009, 20, 195701.	2.6	28
173	Chemically induced Jahnâ€“Teller ordering on manganite surfaces. Nature Communications, 2014, 5, 4528.	12.8	28
174	Full information acquisition in piezoresponse force microscopy. Applied Physics Letters, 2015, 107, 263102.	3.3	28
175	Acoustic Detection of Phase Transitions at the Nanoscale. Advanced Functional Materials, 2016, 26, 478-486.	14.9	28
176	Mapping bias-induced phase stability and random fields in relaxor ferroelectrics. Applied Physics Letters, 2009, 95, .	3.3	27
177	Solid-state electrochemistry on the nanometer and atomic scales: the scanning probe microscopy approach. Nanoscale, 2016, 8, 13838-13858.	5.6	27
178	Dynamic behavior of CH3NH3PbI3 perovskite twin domains. Applied Physics Letters, 2018, 113, .	3.3	27
179	High frequency piezoresponse force microscopy in the 1-10MHz regime. Applied Physics Letters, 2007, 91, .	3.3	26
180	Multifrequency Imaging in the Intermittent Contact Mode of Atomic Force Microscopy: Beyond Phase Imaging. Small, 2012, 8, 1264-1269.	10.0	26

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181	Fundamental limitation to the magnitude of piezoelectric response of âŸ¨001âŸ©pc textured K0.5Na0.5NbO3 ceramic. Applied Physics Letters, 2014, 104, .	3.3	26
182	Fabrication, dynamics, and electrical properties of insulated scanning probe microscopy probes for electrical and electromechanical imaging in liquids. Applied Physics Letters, 2007, 91, .	3.3	25
183	Local probing of relaxation time distributions in ferroelectric polymer nanomesas: Time-resolved piezoresponse force spectroscopy and spectroscopic imaging. Applied Physics Letters, 2008, 92, 232903.	3.3	25
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