Stephen Jesse

List of Publications by Year
in descending order

339 papers	17,282 citations	11675 70 h-index	22698 113 g-index
343 all docs	343 docs citations	343 times ranked	14844 citing authors

#	Article	IF	Citations
1	The Atomic Drill Bit: Precision Controlled Atomic Fabrication of 2D Materials. Advanced Materials, 2023, 35, .	24.3	10
2	Automated piezoresponse force microscopy domain tracking during fast thermally stimulated phase transition in CuInP₂S₆ [*]. Nanotechnology, 2023, 34, 325703.	2.7	3
3	Controlling hydrocarbon transport and electron beam induced deposition on single layer graphene: Toward atomic scale synthesis in the scanning transmission electron microscope. Nano Select, 2022, 3, 643-654.	3.8	7
4	Oxygen Vacancy Injection as a Pathway to Enhancing Electromechanical Response in Ferroelectrics. Advanced Materials, 2022, 34, e2106426.	24.3	23
5	Building an Integrated Ecosystem of Computational and Observational Facilities to Accelerate Scientific Discovery. Communications in Computer and Information Science, 2022, , 58-75.	0.0	1
6	Mapping Conductance and Switching Behavior of Graphene Devices In Situ. Small Methods, 2022, 6, e2101245.	9.6	8
7	Strain-Induced asymmetry and on-site dynamics of silicon defects in graphene. Carbon Trends, 2022, 9, 100189.	3.1	0
8	Doping transition-metal atoms in graphene for atomic-scale tailoring of electronic, magnetic, and quantum topological properties. Carbon, 2021, 173, 205-214.	10.7	43
9	Imaging Secondary Electron Emission from a Single Atomic Layer. Small Methods, 2021, 5, e2000950.	9.6	6
10	Signal Origin of Electrochemical Strain Microscopy and Link to Local Chemical Distribution in Solid State Electrolytes. Small Methods, 2021, 5, e2001279.	9.6	11
11	Exploring order parameters and dynamic processes in disordered systems via variational autoencoders. Science Advances, 2021, 7, .	10.9	49
12	van der Waals Epitaxy Growth of Bi2Se3 on a Freestanding Monolayer Graphene Membrane: Implications for Layered Materials and Heterostructures. ACS Applied Nano Materials, 2021, 4, 7607-7613.	5.2	0
13	Atomic-scale Feedback-controlled Electron Beam Fabrication of 2D Materials. Microscopy and Microanalysis, 2021, 27, 3072-3073.	0.4	0
14	Autonomous Experiments in Scanning Probe Microscopy and Spectroscopy: Choosing Where to Explore Polarization Dynamics in Ferroelectrics. ACS Nano, 2021, 15, 11253-11262.	15.3	26
15	Automated and Autonomous Experiments in Electron and Scanning Probe Microscopy. ACS Nano, 2021, 15, 12604-12627.	15.3	64
16	Probing polarization dynamics at specific domain configurations: Computer-vision based automated experiment in piezoresponse force microscopy. Applied Physics Letters, 2021, 119, .	3.2	5
17	Probing Metastable Domain Dynamics via Automated Experimentation in Piezoresponse Force Microscopy. ACS Nano, 2021, 15, 15096-15103.	15.3	6
18	Tracking atomic structure evolution during directed electron beam induced Si-atom motion in graphene via deep machine learning. Nanotechnology, 2021, 32, 035703.	2.7	11

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19	Tunable quadruple-well ferroelectric van der Waals crystals. Nature Materials, 2020, 19, 43-48.	26.6	160
20	Statistical learning of governing equations of dynamics from in-situ electron microscopy imaging data. Materials and Design, 2020, 195, 108973.	7.2	8
21	Nanoscale Mass Spectrometry Multimodal Imaging via Tip-Enhanced Photothermal Desorption. ACS Nano, 2020, 14, 16791-16802.	15.3	6
22	Dynamic Manipulation in Piezoresponse Force Microscopy: Creating Nonequilibrium Phases with Large Electromechanical Response. ACS Nano, 2020, 14, 10569-10577.	15.3	15
23	Fast Scanning Probe Microscopy via Machine Learning: Nonâ€Rectangular Scans with Compressed Sensing and Gaussian Process Optimization. Small, 2020, 16, e2002878.	11.2	41
24	Local Strain and Polarization Mapping in Ferrielectric Materials. ACS Applied Materials & Interfaces, 2020, 12, 38546-38553.	8.3	15
25	Super-resolution and signal separation in contact Kelvin probe force microscopy of electrochemically active ferroelectric materials. Journal of Applied Physics, 2020, 128, .	2.3	7
26	Tensor factorization for elucidating mechanisms of piezoresponse relaxation via dynamic Piezoresponse Force Spectroscopy. Npj Computational Materials, 2020, 6, .	9.1	2
27	Bayesian inference in band excitation scanning probe microscopy for optimal dynamic model selection in imaging. Journal of Applied Physics, 2020, 128, 054105.	2.3	9
28	Ferroelectricity in Si-Doped Hafnia: Probing Challenges in Absence of Screening Charges. Nanomaterials, 2020, 10, 1576.	4.2	19
29	Piezoresponse amplitude and phase quantified for electromechanical characterization. Journal of Applied Physics, 2020, 128, .	2.3	35
30	Accurately Imaging, Tracking and Moving Single Atoms. Microscopy and Microanalysis, 2020, 26, 2556-2557.	0.4	0
31	Twin domains modulate light-matter interactions in metal halide perovskites. APL Materials, 2020, 8, .	4.8	17
32	Strainâ€“Chemical Gradient and Polarization in Metal Halide Perovskites. Advanced Electronic Materials, 2020, 6, 1901235.	5.4	19
33	Electron-beam introduction of heteroatomic Ptâ€“Si structures in graphene. Carbon, 2020, 161, 750-757.	10.7	35
34	Variable voltage electron microscopy: Toward atom-by-atom fabrication in 2D materials. Ultramicroscopy, 2020, 211, 112949.	1.9	15
35	Imaging mechanism for hyperspectral scanning probe microscopy via Gaussian process modelling. Npj Computational Materials, 2020, 6, .	9.1	20
36	To switch or not to switch â€“ a machine learning approach for ferroelectricity. Nanoscale Advances, 2020, 2, 2063-2072.	4.6	13

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37	Doping of Cr in Graphene Using Electron Beam Manipulation for Functional Defect Engineering. ACS Applied Nano Materials, 2020, 3, 10855-10863.	5.2	26
38	Detection of defects in atomic-resolution images of materials using cycle analysis. Advanced Structural and Chemical Imaging, 2020, 6, .	4.0	12
39	Bayesian Microscopy: Model Selection for Extracting Weak Nonlinearities from Scanning Probe Microscopy Data. Microscopy and Microanalysis, 2020, 26, 2126-2127.	0.4	0
40	Spectral Map Reconstruction Using Pan-Sharpening Algorithm: Enhancing Chemical Imaging with AFM-IR. Microscopy and Microanalysis, 2019, 25, 1024-1025.	0.4	2
41	Multi-Model Imaging of Local Chemistry and Ferroic Properties of Hybrid Organic-Inorganic Perovskites. Microscopy and Microanalysis, 2019, 25, 2076-2077.	0.4	3
42	A STEM-based Path Towards Atomic-scale Silicon-based Devices. Microscopy and Microanalysis, 2019, 25, 2290-2291.	0.4	0
43	Compressive Sensing on Diverse STEM Scans: Real-time Feedback, Low-dose and Dynamic Range. Microscopy and Microanalysis, 2019, 25, 1688-1689.	0.4	3
44	Lab on a beamâ€”Big data and artificial intelligence in scanning transmission electron microscopy. MRS Bulletin, 2019, 44, 565-575.	4.2	25
45	From Control of the Electron Beam to Control of Single Atoms. Microscopy and Microanalysis, 2019, 25, 1678-1679.	0.4	0
46	Lightâ€Ferroic Interaction in Hybrid Organicâ€“Inorganic Perovskites. Advanced Optical Materials, 2019, 7, 1901451.	7.9	24
47	A self-driving microscope and the Atomic Forge. MRS Bulletin, 2019, 44, 669-670.	4.2	17
48	Unsupervised Machine Learning to Distill Structural-Property Insights from 4D-STEM. Microscopy and Microanalysis, 2019, 25, 12-13.	0.4	0
49	Few-cycle Regime Atomic Force Microscopy. Scientific Reports, 2019, 9, 12721.	3.4	7
50	Building and exploring libraries of atomic defects in graphene: Scanning transmission electron and scanning tunneling microscopy study. Science Advances, 2019, 5, eaaw8989.	10.9	76
51	Ferroelectric domain engineering of lithium niobate single crystal confined in glass. MRS Communications, 2019, 9, 334-339.	1.8	11
52	Deep learning analysis of defect and phase evolution during electron beam-induced transformations in WS2. Npj Computational Materials, 2019, 5, .	9.1	122
53	Atom-by-atom fabrication with electron beams. Nature Reviews Materials, 2019, 4, 497-507.	40.2	81
54	Application of pan-sharpening algorithm for correlative multimodal imaging using AFM-IR. Npj Computational Materials, 2019, 5, .	9.1	11

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55	Deep neural networks for understanding noisy data applied to physical property extraction in scanning probe microscopy. Npj Computational Materials, 2019, 5, .	9.1	46
56	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.	15.3	42
57	Atomic Mechanisms for the Si Atom Dynamics in Graphene: Chemical Transformations at the Edge and in the Bulk. Advanced Functional Materials, 2019, 29, 1904480.	16.5	25
58	Reply to: On the ferroelectricity of CH3NH3PbI3 perovskites. Nature Materials, 2019, 18, 1051-1053.	26.6	22
59	Manifold learning of four-dimensional scanning transmission electron microscopy. Npj Computational Materials, 2019, 5, .	9.1	37
60	Giant negative electrostriction and dielectric tunability in a van der Waals layered ferroelectric. Physical Review Materials, 2019, 3, .	2.5	50
61	Direct atomic fabrication and dopant positioning in Si using electron beams with active real-time image-based feedback. Nanotechnology, 2018, 29, 255303.	2.7	49
62	Dynamic mechanical control of local vacancies in NiO thin films. Nanotechnology, 2018, 29, 275709.	2.7	8
63	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, .	1.3	35
64	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	32
65	Machine learningâ€“enabled identification of material phase transitions based on experimental data: Exploring collective dynamics in ferroelectric relaxors. Science Advances, 2018, 4, eaap8672.	10.9	57
66	Dynamic Modes in Kelvin Probe Force Microscopy: Band Excitation and G-Mode. Springer Series in Surface Sciences, 2018, , 49-99.	0.0	3
67	Direct Probing of Polarization Charge at Nanoscale Level. Advanced Materials, 2018, 30, 1703675.	24.3	25
68	Graphene Defect Editing, Deposition, and Growth via E-Beam-Induced Organic Reactions in Aberration Corrected STEM. Microscopy and Microanalysis, 2018, 24, 1994-1995.	0.4	1
69	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.	8.3	8
70	Towards Atomic-Scale Fabrication in Silicon. Microscopy and Microanalysis, 2018, 24, 158-159.	0.4	0
71	Compressed Sensing of Scanning Transmission Electron Microscopy (STEM) With Nonrectangular Scans. Microscopy and Microanalysis, 2018, 24, 623-633.	0.4	35
72	Elasticity Modulation Due to Polarization Reversal and Ionic Motion in the Ferroelectric Superionic Conductor KTiOPO₄. ACS Applied Materials & Interfaces, 2018, 10, 32298-32303.	8.3	12

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73	Machine Detection of Enhanced Electromechanical Energy Conversion in PbZr_{0.2}Ti_{0.8}O₃ Thin Films. Advanced Materials, 2018, 30, e1800701.	24.3	24
74	High-veracity functional imaging in scanning probe microscopy via Graph-Bootstrapping. Nature Communications, 2018, 9, 2428.	13.2	13
75	Mapping mesoscopic phase evolution during E-beam induced transformations via deep learning of atomically resolved images. Npj Computational Materials, 2018, 4, .	9.1	31
76	Surface Chemistry Controls Anomalous Ferroelectric Behavior in Lithium Niobate. ACS Applied Materials & Interfaces, 2018, 10, 29153-29160.	8.3	20
77	Locally Controlled Cu-Ion Transport in Layered Ferroelectric CuInP₂S₆. ACS Applied Materials & Interfaces, 2018, 10, 27188-27194.	8.3	71
78	E-beam manipulation of Si atoms on graphene edges with an aberration-corrected scanning transmission electron microscope. Nano Research, 2018, 11, 6217-6226.	10.6	22
79	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.	0.4	0
80	Automated Atom-by-Atom Assembly of Structures in Graphene: The Rise of STEM for Atomic Scale Control. Microscopy and Microanalysis, 2018, 24, 1594-1595.	0.4	0
81	Theory-assisted determination of nano-rippling and impurities in atomic resolution images of angle-mismatched bilayer graphene. 2D Materials, 2018, 5, 041008.	4.5	5
82	Building Structures Atom by Atom via Electron Beam Manipulation. Small, 2018, 14, e1801771.	11.2	88
83	Chemical nature of ferroelastic twin domains in CH3NH3PbI3 perovskite. Nature Materials, 2018, 17, 1013-1019.	26.6	190
84	Dynamic behavior of CH3NH3PbI3 perovskite twin domains. Applied Physics Letters, 2018, 113, .	3.2	27
85	Time resolved surface photovoltage measurements using a big data capture approach to KPFM. Nanotechnology, 2018, 29, 445703.	2.7	36
86	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.	3.7	60
87	Improved spatial resolution for spot sampling in thermal desorption atomic force microscopy â€“ mass spectrometry via rapid heating functions. Nanoscale, 2017, 9, 5708-5717.	5.8	9
88	Mixed electrochemicalâ€“ferroelectric states in nanoscale ferroelectrics. Nature Physics, 2017, 13, 812-818.	11.8	102
89	Ferroelectric or non-ferroelectric: Why so many materials exhibit â€œferroelectricityâ€•on the nanoscale. Applied Physics Reviews, 2017, 4, .	11.7	254
90	Enhancing Ion Migration in Grain Boundaries of Hybrid Organicâ€“Inorganic Perovskites by Chlorine. Advanced Functional Materials, 2017, 27, 1700749.	16.5	80

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91	Direct Imaging of the Relaxation of Individual Ferroelectric Interfaces in a Tensileâ€Strained Film. Advanced Electronic Materials, 2017, 3, 1600508.	5.4	7
92	Precision controlled atomic resolution scanning transmission electron microscopy using spiral scan pathways. Scientific Reports, 2017, 7, 43585.	3.4	26
93	Quantification of in-contact probe-sample electrostatic forces with dynamic atomic force microscopy. Nanotechnology, 2017, 28, 065704.	2.7	46
94	Placing single atoms in graphene with a scanning transmission electron microscope. Applied Physics Letters, 2017, 111, .	3.2	128
95	Atom-by-atom fabrication by electron beam via induced phase transformations. MRS Bulletin, 2017, 42, 653-659.	4.2	18
96	Threeâ€State Ferroelastic Switching and Large Electromechanical Responses in PbTiO₃ Thin Films. Advanced Materials, 2017, 29, 1702069.	24.3	77
97	Breaking the Time Barrier in Kelvin Probe Force Microscopy: Fast Free Force Reconstruction Using the G-Mode Platform. ACS Nano, 2017, 11, 8717-8729.	15.3	70
98	Automated Interpretation and Extraction of Topographic Information from Time of Flight Secondary Ion Mass Spectrometry Data. Scientific Reports, 2017, 7, 17099.	3.4	22
99	Deep Learning of Atomically Resolved Scanning Transmission Electron Microscopy Images: Chemical Identification and Tracking Local Transformations. ACS Nano, 2017, 11, 12742-12752.	15.3	301
100	Decoding Apparent Ferroelectricity in Perovskite Nanofibers. ACS Applied Materials & Interfaces, 2017, 9, 42131-42138.	8.3	6
101	G-mode - Full Information Capture Applied to Scanning Probe Microscopy. Microscopy and Microanalysis, 2017, 23, 184-185.	0.4	1
102	Local Crystallography for Quantitative Analysis of Atomically Resolved Images. Microscopy and Microanalysis, 2016, 22, 948-949.	0.4	0
103	Local Probing of Ferroelectric and Ferroelastic Switching through Stressâ€Mediated Piezoelectric Spectroscopy. Advanced Materials Interfaces, 2016, 3, 1500470.	4.1	17
104	Nanosculpting of complex oxides by massive ionic transfer. Nanotechnology, 2016, 27, 505703.	2.7	1
105	High Performance Computing Tools for Cross Correlation of Multi-Dimensional Data Sets Across Instrument Platforms. Microscopy and Microanalysis, 2016, 22, 288-289.	0.4	0
106	Submicron Spatial Resolution in Thermal Desorption Mass Spectrometry via Rapid Heating Functions using Thermal AFM Probes. Microscopy and Microanalysis, 2016, 22, 368-369.	0.4	1
107	Inverse Problem Solution for Quantitative Investigations of Nanocrystals Formation and Growth. Microscopy and Microanalysis, 2016, 22, 794-795.	0.4	0
108	Quantification of surface displacements and electromechanical phenomena via dynamic atomic force microscopy. Nanotechnology, 2016, 27, 425707.	2.7	94

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109	Rapid mapping of polarization switching through complete information acquisition. Nature Communications, 2016, 7, 13290.	13.2	22
110	Decoupling indirect topographic cross-talk in band excitation piezoresponse force microscopy imaging and spectroscopy. Applied Physics Letters, 2016, 108, .	3.2	17
111	G-mode magnetic force microscopy: Separating magnetic and electrostatic interactions using big data analytics. Applied Physics Letters, 2016, 108, .	3.2	25
112	Correlation between piezoresponse nonlinearity and hysteresis in ferroelectric crystals at the nanoscale. Applied Physics Letters, 2016, 108, .	3.2	4
113	Directing Matter: Toward Atomic-Scale 3D Nanofabrication. ACS Nano, 2016, 10, 5600-5618.	15.3	103
114	Unraveling the Mechanism of Nanoscale Mechanical Reinforcement in Glassy Polymer Nanocomposites. Nano Letters, 2016, 16, 3630-3637.	9.5	149
115	Polarization Control via He-Ion Beam Induced Nanofabrication in Layered Ferroelectric Semiconductors. ACS Applied Materials & Interfaces, 2016, 8, 7349-7355.	8.3	19
116	Solid-state electrochemistry on the nanometer and atomic scales: the scanning probe microscopy approach. Nanoscale, 2016, 8, 13838-13858.	5.8	27
117	Imaging via complete cantilever dynamic detection: general dynamic mode imaging and spectroscopy in scanning probe microscopy. Nanotechnology, 2016, 27, 414003.	2.7	14
118	Big, Deep, and Smart Data in Scanning Probe Microscopy. ACS Nano, 2016, 10, 9068-9086.	15.3	106
119	Direct-write liquid phase transformations with a scanning transmission electron microscope. Nanoscale, 2016, 8, 15581-15588.	5.8	30
120	Phases and Interfaces from Real Space Atomically Resolved Data: Physics-Based Deep Data Image Analysis. Nano Letters, 2016, 16, 5574-5581.	9.5	43
121	Atomistic-Scale Simulations of Defect Formation in Graphene under Noble Gas Ion Irradiation. ACS Nano, 2016, 10, 8376-8384.	15.3	120
122	Exploring Polarization Rotation Instabilities in Superâ€Tetragonal BiFeO₃ Epitaxial Thin Films and Their Technological Implications. Advanced Electronic Materials, 2016, 2, 1600307.	5.4	9
123	Full data acquisition in Kelvin Probe Force Microscopy: Mapping dynamic electric phenomena in real space. Scientific Reports, 2016, 6, 30557.	3.4	48
124	Nanoforging Single Layer MoSe2 Through Defect Engineering with Focused Helium Ion Beams. Scientific Reports, 2016, 6, 30481.	3.4	92
125	Acoustic Detection of Phase Transitions at the Nanoscale. Advanced Functional Materials, 2016, 26, 478-486.	16.5	28
126	Nanoscale Elastic Changes in 2D Ti₃C₂T_x (MXene) Pseudocapacitive Electrodes. Advanced Energy Materials, 2016, 6, 1502290.	22.2	126

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127	Graphene engineering by neon ion beams. Nanotechnology, 2016, 27, 125302.	2.7	23
128	Multifrequency spectrum analysis using fully digital G Mode-Kelvin probe force microscopy. Nanotechnology, 2016, 27, 105706.	2.7	37
129	Nanoscale mapping of heterogeneity of the polarization reversal in lead-free relaxorâ€“ferroelectric ceramic composites. Nanoscale, 2016, 8, 2168-2176.	5.8	36
130	Fire up the atom forge. Nature, 2016, 539, 485-487.	36.2	81
131	Paving the way to nanoionics: atomic origin of barriers for ionic transport through interfaces. Scientific Reports, 2015, 5, 17229.	3.4	36
132	Full information acquisition in piezoresponse force microscopy. Applied Physics Letters, 2015, 107, .	3.2	28
133	Current and surface charge modified hysteresis loops in ferroelectric thin films. Journal of Applied Physics, 2015, 118, .	2.3	63
134	Multidimensional dynamic piezoresponse measurements: Unraveling local relaxation behavior in relaxor-ferroelectrics via big data. Journal of Applied Physics, 2015, 118, .	2.3	17
135	Deep Data Analysis of Atomic Level Structure-Property Relationship in an Iron Superconductor Fe 105 Te 075 Se 025. Microscopy and Microanalysis, 2015, 21, 2345-2346.	0.4	0
136	Sub-nA spatially resolved conductivity profiling of surface and interface defects in ceria films. APL Materials, 2015, 3, 036106.	4.8	3
137	Atomicâ€Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision. Small, 2015, 11, 5895-5900.	11.2	78
138	Quantitative Nanometerâ€Scale Mapping of Dielectric Tunability. Advanced Materials Interfaces, 2015, 2, 1500088.	4.1	7
139	Kelvin probe force microscopy in liquid using electrochemical force microscopy. Beilstein Journal of Nanotechnology, 2015, 6, 201-214.	2.9	38
140	Differentiating Ferroelectric and Nonferroelectric Electromechanical Effects with Scanning Probe Microscopy. ACS Nano, 2015, 9, 6484-6492.	15.3	238
141	A-site stoichiometry and piezoelectric response in thin film PbZr1â^'xTixO3. Journal of Applied Physics, 2015, 117, 204104.	2.3	13
142	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	76
143	Electrocatalysis-induced elasticity modulation in a superionic proton conductor probed by band-excitation atomic force microscopy. Nanoscale, 2015, 7, 20089-20094.	5.8	6
144	Probing Local Bias-Induced Transitions Using Photothermal Excitation Contact Resonance Atomic Force Microscopy and Voltage Spectroscopy. ACS Nano, 2015, 9, 1848-1857.	15.3	37

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145	Carrier density modulation in a germanium heterostructure by ferroelectric switching. Nature Communications, 2015, 6, 6067.	13.2	75
146	Complete information acquisition in dynamic force microscopy. Nature Communications, 2015, 6, 6550.	13.2	50
147	Bias assisted scanning probe microscopy direct write lithography enables local oxygen enrichment of lanthanum cuprates thin films. Nanotechnology, 2015, 26, 325302.	2.7	1
148	Identification of phases, symmetries and defects through local crystallography. Nature Communications, 2015, 6, 7801.	13.2	65
149	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.	15.3	31
150	Defective Interfaces in Yttrium-Doped Barium Zirconate Films and Consequences on Proton Conduction. Nano Letters, 2015, 15, 2343-2349.	9.5	27
151	Domain pinning near a single-grain boundary in tetragonal and rhombohedral lead zirconate titanate films. Physical Review B, 2015, 91, .	3.3	32
152	Domain Wall Motion Across Various Grain Boundaries in Ferroelectric Thin Films. Journal of the American Ceramic Society, 2015, 98, 1848-1857.	3.8	44
153	Quantitative 3D-KPFM imaging with simultaneous electrostatic force and force gradient detection. Nanotechnology, 2015, 26, 175707.	2.7	29
154	Quantitative Description of Crystal Nucleation and Growth from in Situ Liquid Scanning Transmission Electron Microscopy. ACS Nano, 2015, 9, 11784-11791.	15.3	42
155	Band excitation Kelvin probe force microscopy utilizing photothermal excitation. Applied Physics Letters, 2015, 106, .	3.2	18
156	Big data in reciprocal space: Sliding fast Fourier transforms for determining periodicity. Applied Physics Letters, 2015, 106, .	3.2	36
157	Mesoscopic harmonic mapping of electromechanical response in a relaxor ferroelectric. Applied Physics Letters, 2015, 106, 222901.	3.2	9
158	Nanoscale mapping of electromechanical response in ionic conductive ceramics with piezoelectric inclusions. Journal of Applied Physics, 2015, 118, .	2.3	17
159	Research Update: Spatially resolved mapping of electronic structure on atomic level by multivariate statistical analysis. APL Materials, 2014, 2, .	4.8	14
160	Effect of Doping on Surface Reactivity and Conduction Mechanism in Samarium-Doped Ceria Thin Films. ACS Nano, 2014, 8, 12494-12501.	15.3	36
161	Chemically induced Jahnâ€“Teller ordering on manganite surfaces. Nature Communications, 2014, 5, 4528.	13.2	30
162	Second harmonic detection in the electrochemical strain microscopy of Ag-ion conducting glass. Applied Physics Letters, 2014, 105, .	3.2	10

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163	Controlled mechnical modification of manganite surface with nanoscale resolution. Nanotechnology, 2014, 25, 475302.	2.7	8
164	Tuning Susceptibility via Misfit Strain in Relaxed Morphotropic Phase Boundary PbZr_{1â€x}Ti_xO₃ Epitaxial Thin Films. Advanced Materials Interfaces, 2014, 1, 1400098.	4.1	17
165	Fundamental limitation to the magnitude of piezoelectric response of âŸ˙001âŸ©pc textured K0.5Na0.5NbO3 ceramic. Applied Physics Letters, 2014, 104, .	3.2	26
166	Probing charge screening dynamics and electrochemical processes at the solidâ€“liquid interface with electrochemical force microscopy. Nature Communications, 2014, 5, 3871.	13.2	101
167	Intermittency, quasiperiodicity and chaos in probe-induced ferroelectric domain switching. Nature Physics, 2014, 10, 59-66.	11.8	131
168	Water-mediated electrochemical nano-writing on thin ceria films. Nanotechnology, 2014, 25, 075701.	2.7	12
169	Dual harmonic Kelvin probe force microscopy at the grapheneâ€“liquid interface. Applied Physics Letters, 2014, 104, .	3.2	50
170	Exploring Local Electrostatic Effects with Scanning Probe Microscopy: Implications for Piezoresponse Force Microscopy and Triboelectricity. ACS Nano, 2014, 8, 10229-10236.	15.3	127
171	Breaking the limits of structural and mechanical imaging of the heterogeneous structure of coal macerals. Nanotechnology, 2014, 25, 435402.	2.7	20
172	Deterministic arbitrary switching of polarization in a ferroelectric thin film. Nature Communications, 2014, 5, 4971.	13.2	36
173	Direct Probing of Charge Injection and Polarizationâ€Controlled Ionic Mobility on Ferroelectric LiNbO₃ Surfaces. Advanced Materials, 2014, 26, 958-963.	24.3	51
174	Band Excitation in Scanning Probe Microscopy: Recognition and Functional Imaging. Annual Review of Physical Chemistry, 2014, 65, 519-536.	11.3	98
175	Deep Data Analysis of Conductive Phenomena on Complex Oxide Interfaces: Physics from Data Mining. ACS Nano, 2014, 8, 6449-6457.	15.3	73
176	Mapping internal structure of coal by confocal micro-Raman spectroscopy and scanning microwave microscopy. Fuel, 2014, 126, 32-37.	6.6	35
177	Influence of a Single Grain Boundary on Domain Wall Motion in Ferroelectrics. Advanced Functional Materials, 2014, 24, 1409-1417.	16.5	69
178	Spatially-resolved mapping of history-dependent coupled electrochemical and electronical behaviors of electroresistive NiO. Scientific Reports, 2014, 4, 6725.	3.4	12
179	Space- and Time-Resolved Mapping of Ionic Dynamic and Electroresistive Phenomena in Lateral Devices. ACS Nano, 2013, 7, 6806-6815.	15.3	48
180	Probing Local Ionic Dynamics in Functional Oxides at the Nanoscale. Nano Letters, 2013, 13, 3455-3462.	9.5	55

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181	Toward Quantitative Electrochemical Measurements on the Nanoscale by Scanning Probe Microscopy: Environmental and Current Spreading Effects. ACS Nano, 2013, 7, 8175-8182.	15.3	19
182	Mechanical Control of Electroresistive Switching. Nano Letters, 2013, 13, 4068-4074.	9.5	57
183	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.	22.2	19
184	Open loop Kelvin probe force microscopy with single and multi-frequency excitation. Nanotechnology, 2013, 24, 475702.	2.7	64
185	Nanometer-scale mapping of irreversible electrochemical nucleation processes on solid Li-ion electrolytes. Scientific Reports, 2013, 3, 1621.	3.4	29
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