Anton Ievlev

List of Publications by Year in descending order

123 papers	2,907 citations	159358 30 h-index	214527 47 g-index
127 all docs	127 docs citations	127 times ranked	4327 citing authors

#	Article	IF	Citations
1	Chemical nature of ferroelastic twin domains in CH3NH3PbI3 perovskite. Nature Materials, 2018, 17, 1013-1019.	13.3	183
2	Intermittency, quasiperiodicity and chaos in probe-induced ferroelectric domain switching. Nature Physics, 2014, 10, 59-66.	6.5	129
3	In-Plane Heterojunctions Enable Multiphasic Two-Dimensional (2D) MoS₂ Nanosheets As Efficient Photocatalysts for Hydrogen Evolution from Water Reduction. ACS Catalysis, 2016, 6, 6723-6729.	5.5	116
4	Nanoforging Single Layer MoSe2 Through Defect Engineering with Focused Helium Ion Beams. Scientific Reports, 2016, 6, 30481.	1.6	82
5	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
6	Investigation of Electrode Electrochemical Reactions in CH₃NH₃PbBr₃ Perovskite Singleâ€Crystal Fieldâ€Effect Transistors. Advanced Materials, 2019, 31, e1902618.	11.1	74
7	Size-effect in layered ferrielectric CuInP2S6. Applied Physics Letters, 2016, 109, .	1.5	66
8	Investigation of the nanodomain structure formation by piezoelectric force microscopy and Raman confocal microscopy in LiNbO3 and LiTaO3 crystals. Journal of Applied Physics, 2011, 110, 052013.	1.1	65
9	Humidity effects on tip-induced polarization switching in lithium niobate. Applied Physics Letters, 2014, 104, 092908.	1.5	64
10	UV-activated ZnO films on a flexible substrate for room temperature O2 and H2O sensing. Scientific Reports, 2017, 7, 6053.	1.6	61
11	Symmetry Breaking and Electrical Frustration during Tip-Induced Polarization Switching in the Nonpolar Cut of Lithium Niobate Single Crystals. ACS Nano, 2015, 9, 769-777.	7.3	58
12	Nitride or Oxynitride? Elucidating the Compositionâ€“Activity Relationships in Molybdenum Nitride Electrocatalysts for the Oxygen Reduction Reaction. Chemistry of Materials, 2020, 32, 2946-2960.	3.2	57
13	Influence of adsorbed surface layer on domain growth in the field produced by conductive tip of scanning probe microscope in lithium niobate. Journal of Applied Physics, 2011, 110, .	1.1	55
14	Direct Probing of Charge Injection and Polarizationâ€Controlled Ionic Mobility on Ferroelectric LiNbO₃ Surfaces. Advanced Materials, 2014, 26, 958-963.	11.1	49
15	Ionic field effect and memristive phenomena in single-point ferroelectric domain switching. Nature Communications, 2014, 5, 4545.	5.8	48
16	Seeing through Walls at the Nanoscale: Microwave Microscopy of Enclosed Objects and Processes in Liquids. ACS Nano, 2016, 10, 3562-3570.	7.3	47
17	In situ investigation of formation of self-assembled nanodomain structure in lithium niobate after pulse laser irradiation. Applied Physics Letters, 2011, 99, 082901.	1.5	46
18	Deep data analysis via physically constrained linear unmixing: universal framework, domain examples, and a community-wide platform. Advanced Structural and Chemical Imaging, 2018, 4, 6.	4.0	45

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19	Electrostrictive and electrostatic responses in contact mode voltage modulated scanning probe microscopies. Applied Physics Letters, 2014, 104, 232901.	1.5	44
20	Effects of Dopant Ionic Radius on Cerium Reduction in Epitaxial Cerium Oxide Thin Films. Journal of Physical Chemistry C, 2017, 121, 8841-8849.	1.5	44
21	Precursor purity effects on solution-based growth of MAPbBr₃ single crystals towards efficient radiation sensing. CrystEngComm, 2018, 20, 7818-7825.	1.3	43
22	Tip-induced domain growth on the non-polar cuts of lithium niobate single-crystals. Applied Physics Letters, 2015, 106, .	1.5	42
23	Quantitative Description of Crystal Nucleation and Growth from in Situ Liquid Scanning Transmission Electron Microscopy. ACS Nano, 2015, 9, 11784-11791.	7.3	41
24	Nanoscale Control of Oxygen Defects and Metalâ€“Insulator Transition in Epitaxial Vanadium Dioxides. ACS Nano, 2018, 12, 7159-7166.	7.3	41
25	Direct Observation of Photoinduced Ion Migration in Lead Halide Perovskites. Advanced Functional Materials, 2021, 31, 2008777.	7.8	41
26	Stretching Epitaxial La_{0.6}Sr_{0.4}CoO_{3â^Î´} for Fast Oxygen Reduction. Journal of Physical Chemistry C, 2017, 121, 25651-25658.	1.5	38
27	Magnetic order multilayering in FeRh thin films by He-Ion irradiation. Materials Research Letters, 2018, 6, 106-112.	4.1	36
28	Entropic and Enthalpic Effects in Thin Film Blends of Homopolymers and Bottlebrush Polymers. Macromolecules, 2019, 52, 1526-1535.	2.2	35
29	Chemical State Evolution in Ferroelectric Films during Tip-Induced Polarization and Electroresistive Switching. ACS Applied Materials & Interfaces, 2016, 8, 29588-29593.	4.0	33
30	Field enhancement of electronic conductance at ferroelectric domain walls. Nature Communications, 2017, 8, 1318.	5.8	32
31	Nanodomain structures formation during polarization reversal in uniform electric field in strontium barium niobate single crystals. Journal of Applied Physics, 2012, 112, .	1.1	30
32	Exploration of Electrochemical Reactions at Organicâ€“Inorganic Halide Perovskite Interfaces via Machine Learning in In Situ Timeâ€ofâ€Flight Secondary Ion Mass Spectrometry. Advanced Functional Materials, 2020, 30, 2001995.	7.8	30
33	Hysteretic Ion Migration and Remanent Field in Metal Halide Perovskites. Advanced Science, 2020, 7, 2001176.	5.6	29
34	Secondary Ion Mass Spectrometry (SIMS) for Chemical Characterization of Metal Halide Perovskites. Advanced Functional Materials, 2020, 30, 2002201.	7.8	29
35	Correlated Materials Characterization via Multimodal Chemical and Functional Imaging. ACS Nano, 2018, 12, 11798-11818.	7.3	28
36	Quantitative Analysis of the Local Phase Transitions Induced by Laser Heating. ACS Nano, 2015, 9, 12442-12450.	7.3	27

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37	Dynamic behavior of CH3NH3PbI3 perovskite twin domains. Applied Physics Letters, 2018, 113, .	1.5	27
38	Characterization of LiMn2O4 cathodes by electrochemical strain microscopy. Applied Physics Letters, 2016, 108, .	1.5	24
39	The anti-soiling performance of highly reflective superhydrophobic nanoparticle-textured mirrors. Nanoscale, 2018, 10, 14600-14612.	2.8	24
40	Lightâ€Ferroic Interaction in Hybrid Organicâ€“Inorganic Perovskites. Advanced Optical Materials, 2019, 7, 1901451.	3.6	24
41	Magnetic Texture in Insulating Single Crystal High Entropy Oxide Spinel Films. ACS Applied Materials & Interfaces, 2021, 13, 17971-17977.	4.0	24
42	Ferroelectric switching by the grounded scanning probe microscopy tip. Physical Review B, 2015, 91, .	1.1	23
43	Self-Organized Formation of Quasi-Regular Ferroelectric Nanodomain Structure on the Nonpolar Cuts by Grounded SPM Tip. ACS Applied Materials & Interfaces, 2018, 10, 36211-36217.	4.0	23
44	Unraveling the Effects of Strontium Incorporation on Barite Growthâ€”In Situ and Ex Situ Observations Using Multiscale Chemical Imaging. Crystal Growth and Design, 2018, 18, 5521-5533.	1.4	23
45	Non-conventional mechanism of ferroelectric fatigue via cation migration. Nature Communications, 2019, 10, 3064.	5.8	23
46	Ferroic Halide Perovskite Optoelectronics. Advanced Functional Materials, 2021, 31, 2102793.	7.8	23
47	Graphene engineering by neon ion beams. Nanotechnology, 2016, 27, 125302.	1.3	21
48	Automated Interpretation and Extraction of Topographic Information from Time of Flight Secondary Ion Mass Spectrometry Data. Scientific Reports, 2017, 7, 17099.	1.6	21
49	Reply to: On the ferroelectricity of CH3NH3PbI3 perovskites. Nature Materials, 2019, 18, 1051-1053.	13.3	21
50	Chemical Phenomena of Atomic Force Microscopy Scanning. Analytical Chemistry, 2018, 90, 3475-3481.	3.2	20
51	Surface Chemistry Controls Anomalous Ferroelectric Behavior in Lithium Niobate. ACS Applied Materials & Interfaces, 2018, 10, 29153-29160.	4.0	20
52	Toward an understanding of surface layer formation, growth, and transformation at the glassâ€“fluid interface. Geochimica Et Cosmochimica Acta, 2018, 229, 65-84.	1.6	19
53	Strainâ€“Chemical Gradient and Polarization in Metal Halide Perovskites. Advanced Electronic Materials, 2020, 6, 1901235.	2.6	19
54	Multi-purposed Ar gas cluster ion beam processing for graphene engineering. Carbon, 2018, 131, 142-148.	5.4	18

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55	Nanoscale Electrochemical Phenomena of Polarization Switching in Ferroelectrics. ACS Applied Materials & Interfaces, 2018, 10, 38217-38222.	4.0	18
56	Graphene milling dynamics during helium ion beam irradiation. Carbon, 2018, 138, 277-282.	5.4	18
57	Helium Ion Microscopy for Imaging and Quantifying Porosity at the Nanoscale. Analytical Chemistry, 2018, 90, 1370-1375.	3.2	17
58	Identifying and Tuning the In Situ Oxygen-Rich Surface of Molybdenum Nitride Electrocatalysts for Oxygen Reduction. ACS Applied Energy Materials, 2020, 3, 12433-12446.	2.5	17
59	Twin domains modulate light-matter interactions in metal halide perovskites. APL Materials, 2020, 8, .	2.2	17
60	Ferroelectric domain triggers the charge modulation in semiconductors (invited). Journal of Applied Physics, 2014, 116, 066817.	1.1	16
61	Deep data analytics for genetic engineering of diatoms linking genotype to phenotype via machine learning. Npj Computational Materials, 2019, 5, .	3.5	16
62	Advanced characterization of surface-modified nanoparticles and nanofilled antibacterial dental adhesive resins. Scientific Reports, 2020, 10, 9811.	1.6	16
63	Understanding Degradation Mechanisms in SrIrO₃ Oxygen Evolution Electrocatalysts: Chemical and Structural Microscopy at the Nanoscale. Advanced Functional Materials, 2021, 31, 2101542.	7.8	16
64	Buckling Instabilities in Polymer Brush Surfaces via Postpolymerization Modification. Macromolecules, 2017, 50, 8670-8677.	2.2	15
65	Direct Write of 3D Nanoscale Mesh Objects with Platinum Precursor via Focused Helium Ion Beam Induced Deposition. Micromachines, 2020, 11, 527.	1.4	15
66	Toward nanoscale molecular mass spectrometry imaging via physically constrained machine learning on co-registered multimodal data. Npj Computational Materials, 2020, 6, .	3.5	15
67	Rapid Diffusion and Nanosegregation of Hydrogen in Magnesium Alloys from Exposure to Water. ACS Applied Materials & Interfaces, 2017, 9, 38125-38134.	4.0	14
68	Molecular reorganization in bulk bottlebrush polymers: direct observation via nanoscale imaging. Nanoscale, 2018, 10, 18001-18009.	2.8	14
69	Selfâ€Assembled Room Temperature Multiferroic BiFeO₃â€LiFe₅O₈ Nanocomposites. Advanced Functional Materials, 2020, 30, 1906849.	7.8	14
70	Influence of microstructure on replacement and porosity generation during experimental dolomitization of limestones. Geochimica Et Cosmochimica Acta, 2021, 303, 137-158.	1.6	14
71	Local Study of Polarization Reversal Kinetics in Ferroelectric Crystals Using Scanning Probe Microscopy. Ferroelectrics, 2008, 374, 26-32.	0.3	13
72	Self-consistent theory of nanodomain formation on nonpolar surfaces of ferroelectrics. Physical Review B, 2016, 93, .	1.1	13

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73	Role of Decomposition Product Ions in Hysteretic Behavior of Metal Halide Perovskite. ACS Nano, 2021, 15, 9017-9026.	7.3	13
74	Micro-Raman Visualization of Domain Structure in Strontium Barium Niobate Single Crystals. Ferroelectrics, 2012, 439, 33-39.	0.3	12
75	Room-Temperature Activation of InGaZnO Thin-Film Transistors via He⁺ Irradiation. ACS Applied Materials & Interfaces, 2017, 9, 35125-35132.	4.0	12
76	Light-Activated Hybrid Nanocomposite Film for Water and Oxygen Sensing. ACS Applied Materials & Interfaces, 2018, 10, 31745-31754.	4.0	12
77	Ion Migration Studies in Exfoliated 2D Molybdenum Oxide via Ionic Liquid Gating for Neuromorphic Device Applications. ACS Applied Materials & Interfaces, 2018, 10, 22623-22631.	4.0	12
78	Formation of Self-Assembled Domain Structures in Lithium Niobate Modified by Ar Ions Implantation. Ferroelectrics, 2010, 399, 35-42.	0.3	11
79	Data encoding based on the shape of the ferroelectric domains produced by using a scanning probe microscope tip. Nanoscale, 2015, 7, 11040-11047.	2.8	11
80	Elasticity Modulation Due to Polarization Reversal and Ionic Motion in the Ferroelectric Superionic Conductor KTiOPO₄. ACS Applied Materials & Interfaces, 2018, 10, 32298-32303.	4.0	11
81	Unraveling the hysteretic behavior at double cations-double halides perovskite - electrode interfaces. Nano Energy, 2021, 89, 106428.	8.2	11
82	Formation of nanodomain ensembles during polarization reversal in Sr0.61Ba0.39Nb2O6: Ce single crystals. Physics of the Solid State, 2011, 53, 2311-2315.	0.2	10
83	Formation of nanodomain structures during polarization reversal in congruent lithium niobate implanted with ar ions. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 1934-1941.	1.7	10
84	Controls of Microstructure and Chemical Reactivity on the Replacement of Limestone by Fluorite Studied Using Spatially Resolved Small Angle X-ray and Neutron Scattering. ACS Earth and Space Chemistry, 2019, 3, 1998-2016.	1.2	10
85	Application of pan-sharpening algorithm for correlative multimodal imaging using AFM-IR. Npj Computational Materials, 2019, 5, .	3.5	9
86	Local coexistence of VO2 phases revealed by deep data analysis. Scientific Reports, 2016, 6, 29216.	1.6	8
87	Building with ions: towards direct write of platinum nanostructures using in situ liquid cell helium ion microscopy. Nanoscale, 2017, 9, 12949-12956.	2.8	8
88	Multimodal Chemical Imaging for Linking Adhesion with Local Chemistry in Agrochemical Multicomponent Polymeric Coatings. Analytical Chemistry, 2019, 91, 2791-2796.	3.2	8
89	Ionic Gating of Ultrathin and Leaky Ferroelectrics. Advanced Materials Interfaces, 2019, 6, 1801723.	1.9	8
90	Statistical learning of governing equations of dynamics from in-situ electron microscopy imaging data. Materials and Design, 2020, 195, 108973.	3.3	8

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91	Microstructural Evaluation of Phase Instability in Large Bandgap Metal Halide Perovskites. ACS Nano, 2021, 15, 20391-20402.	7.3	8
92	Probing Ternary Solvent Effect in High V_{oc} Polymer Solar Cells Using Advanced AFM Techniques. ACS Applied Materials & Interfaces, 2016, 8, 4730-4738.	4.0	7
93	Subtractive fabrication of ferroelectric thin films with precisely controlled thickness. Nanotechnology, 2018, 29, 155302.	1.3	7
94	Ferroic twin domains in metal halide perovskites. MRS Advances, 2019, 4, 2817-2830.	0.5	7
95	Femtosecond Laser Desorption Postionization MS vs ToF-SIMS Imaging for Uncovering Biomarkers Buried in Geological Samples. Analytical Chemistry, 2021, 93, 15949-15957.	3.2	5
96	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
97	Electric Field Poling of Lithium Niobate Crystals after Proton-Exchanged Channel Waveguide Fabrication. Ferroelectrics, 2012, 441, 9-16.	0.3	4
98	Intrinsic space charge layers and field enhancement in ferroelectric nanojunctions. Applied Physics Letters, 2015, 107, 022903.	1.5	4
99	Plasma exposures of a high-conductivity graphitic foam for plasma facing components. Nuclear Materials and Energy, 2018, 17, 123-128.	0.6	4
100	Intrinsic lithium indium diselenide: Scintillation properties and defect states. Journal of Luminescence, 2019, 205, 346-350.	1.5	4
101	Shape of Local Hysteresis Loops Measured by Means of Piezoresponse Force Microscopy. Ferroelectrics, 2010, 398, 26-33.	0.3	3
102	Chemical Changes in Layered Ferroelectric Semiconductors Induced by Helium Ion Beam. Scientific Reports, 2017, 7, 16619.	1.6	3
103	In situ liquid cell crystallization and imaging of thiamethoxam by helium ion microscopy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, .	0.6	3
104	Multi-Model Imaging of Local Chemistry and Ferroic Properties of Hybrid Organic-Inorganic Perovskites. Microscopy and Microanalysis, 2019, 25, 2076-2077.	0.2	3
105	A Tracer Study on sCO2 Corrosion with Multiple Oxygen-Bearing Impurities. Oxidation of Metals, 2021, 96, 571-587.	1.0	3
106	Imaging of electrical response of NiO x under controlled environment with sub-25-nm resolution. Journal of Photonics for Energy, 2016, 6, 038001.	0.8	2
107	Spectral Map Reconstruction Using Pan-Sharpening Algorithm: Enhancing Chemical Imaging with AFM-IR. Microscopy and Microanalysis, 2019, 25, 1024-1025.	0.2	2
108	Helium Ion Microscopy with Secondary Ion Mass Spectrometry for Nanoscale Chemical Imaging and Analysis of Polyolefins. ACS Applied Polymer Materials, 2021, 3, 3478-3484.	2.0	2

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109	Combined Scanning Probe Microscopy and Confocal Raman Spectroscopy for Functional Imaging of the Layered Materials. Microscopy and Microanalysis, 2016, 22, 218-219.	0.2	1
110	Spatially resolved resistance of NiO nanostructures under humid environment. , 2016, , .		1
111	Functional two/three-dimensional assembly of monolayer WS₂ and nickel oxide. Journal of Photonics for Energy, 2017, 7, 014001.	0.8	1
112	3D Nanostructures Grown via Focused Helium Ion Beam Induced Deposition. Microscopy and Microanalysis, 2018, 24, 332-333.	0.2	1
113	Surface Analysis of Polymers using Helium Ion Microscopy Coupled with Secondary Ion Mass Spectrometry (HIM-SIMS). Microscopy and Microanalysis, 2019, 25, 868-869.	0.2	1
114	Lightâ€“ferroelectric interaction in two-dimensional lead iodide perovskites. Journal of Materials Chemistry A, 0, , .	5.2	1
115	Building with Ions: Development of In-situ Liquid Cell Microscopy for the Helium Ion Microscope.. Microscopy and Microanalysis, 2016, 22, 754-755.	0.2	0
116	Inverse Problem Solution for Quantitative Investigations of Nanocrystals Formation and Growth. Microscopy and Microanalysis, 2016, 22, 794-795.	0.2	0
117	Towards functional assembly of 3D and 2D nanomaterials. Proceedings of SPIE, 2016, , .	0.8	0
118	Multimodal Chemical and Functional Imaging of Nanoscale Transformations in Ferroelectric Thin Films. Microscopy and Microanalysis, 2017, 23, 1620-1621.	0.2	0
119	ToF-SIMS Investigations of Tip-Surface Chemical Interactions in Atomic Force Microscopy on a Combined AFM/ToF-SIMS Platform. Microscopy and Microanalysis, 2017, 23, 2082-2083.	0.2	0
120	Liquid Cell Crystallization and In-situ Imaging of Thiamethoxam by Helium Ion Microscopy. Microscopy and Microanalysis, 2018, 24, 330-331.	0.2	0
121	Multimodal Chemical and Functional Imaging of Nanoscale Transformations Away from Equilibrium. Microscopy and Microanalysis, 2018, 24, 1042-1043.	0.2	0
122	Probing static discharge of polymer surfaces with nanoscale resolution. Nanotechnology, 2018, , .	1.3	0
123	Operando Imaging of Ion Migration in Metal Halide Perovskites. Microscopy and Microanalysis, 2020, 26, 2046-2048.	0.2	0