Olga S Ovchinnikova

List of Publications by Year
in descending order

97	2,313	201674 27	254184 43
papers	citations	h-index	g-index

101	101	101	3712
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Chemical nature of ferroelastic twin domains in CH3NH3PbI3 perovskite. Nature Materials, 2018, 17, 1013-1019.	27.5	183
2	Atomistic-Scale Simulations of Defect Formation in Graphene under Noble Gas Ion Irradiation. ACS Nano, 2016, 10, 8376-8384.	14.6	113
3	Directing Matter: Toward Atomic-Scale 3D Nanofabrication. ACS Nano, 2016, 10, 5600-5618.	14.6	99
4	Deciphering Halogen Competition in Organometallic Halide Perovskite Growth. Journal of the American Chemical Society, 2016, 138, 5028-5035.	13.7	92
5	Quantitative Electromechanical Atomic Force Microscopy. ACS Nano, 2019, 13, 8055-8066.	14.6	84
6	Nanoforging Single Layer MoSe2 Through Defect Engineering with Focused Helium Ion Beams. Scientific Reports, 2016, 6, 30481.	3.3	82
7	Enhancing Ion Migration in Grain Boundaries of Hybrid Organicâ€“Inorganic Perovskites by Chlorine. Advanced Functional Materials, 2017, 27, 1700749.	14.9	74
8	Investigation of Electrode Electrochemical Reactions in CH₃NH₃PbBr₃ Perovskite Singleâ€Crystal Fieldâ€Effect Transistors. Advanced Materials, 2019, 31, e1902618.	21.0	74
9	Engineering the thermal conductivity along an individual silicon nanowire by selective helium ion irradiation. Nature Communications, 2017, 8, 15919.	12.8	65
10	Highly enhanced ferroelectricity in HfO ₂ -based ferroelectric thin film by light ion bombardment. Science, 2022, 376, 731-738.	12.6	58
11	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
12	Ionic Liquid Activation of Amorphous Metalâ€Oxide Semiconductors for Flexible Transparent Electronic Devices. Advanced Functional Materials, 2016, 26, 2820-2825.	14.9	46
13	Atomic Force Microscope Controlled Topographical Imaging and Proximal Probe Thermal Desorption/Ionization Mass Spectrometry Imaging. Analytical Chemistry, 2014, 86, 1083-1090.	6.5	44
14	Deep neural networks for understanding noisy data applied to physical property extraction in scanning probe microscopy. Npj Computational Materials, 2019, 5, .	8.7	43
15	Nanoscale Control of Oxygen Defects and Metalâ€“Insulator Transition in Epitaxial Vanadium Dioxides. ACS Nano, 2018, 12, 7159-7166.	14.6	41
16	Direct Observation of Photoinduced Ion Migration in Lead Halide Perovskites. Advanced Functional Materials, 2021, 31, 2008777.	14.9	41
17	Combined chemical and topographic imaging at atmospheric pressure via microprobe laser desorption/ionization mass spectrometryâ€“atomic force microscopy. Rapid Communications in Mass Spectrometry, 2009, 23, 3781-3786.	1.5	36
18	Molecular Surface Sampling and Chemical Imaging using Proximal Probe Thermal Desorption/Secondary Ionization Mass Spectrometry. Analytical Chemistry, 2011, 83, 598-603.	6.5	36

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19	Time resolved surface photovoltage measurements using a big data capture approach to KPFM. Nanotechnology, 2018, 29, 445703.	2.6	36
20	Thinâ€layer chromatography and mass spectrometry coupled using proximal probe thermal desorption with electrospray or atmospheric pressure chemical ionization. Rapid Communications in Mass Spectrometry, 2010, 24, 1721-1729.	1.5	34
21	Laser microdissection and atmospheric pressure chemical ionization mass spectrometry coupled for multimodal imaging. Rapid Communications in Mass Spectrometry, 2013, 27, 1429-1436.	1.5	33
22	Chemical State Evolution in Ferroelectric Films during Tip-Induced Polarization and Electroresistive Switching. ACS Applied Materials & Interfaces, 2016, 8, 29588-29593.	8.0	33
23	Metal/Ion Interactions Induced pâ€“iâ€“n Junction in Methylammonium Lead Triiodide Perovskite Single Crystals. Journal of the American Chemical Society, 2017, 139, 17285-17288.	13.7	32
24	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
25	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.	14.9	30
26	Hysteretic Ion Migration and Remanent Field in Metal Halide Perovskites. Advanced Science, 2020, 7, 2001176.	11.2	29
27	Secondary Ion Mass Spectrometry (SIMS) for Chemical Characterization of Metal Halide Perovskites. Advanced Functional Materials, 2020, 30, 2002201.	14.9	29
28	Correlated Materials Characterization via Multimodal Chemical and Functional Imaging. ACS Nano, 2018, 12, 11798-11818.	14.6	28
29	Dynamic behavior of CH3NH3PbI3 perovskite twin domains. Applied Physics Letters, 2018, 113, .	3.3	27
30	Lightâ€Ferroic Interaction in Hybrid Organicâ€“Inorganic Perovskites. Advanced Optical Materials, 2019, 7, 1901451.	7.3	24
31	Noble gas ion beams in materials science for future applications and devices. MRS Bulletin, 2017, 42, 660-666.	3.5	23
32	Non-conventional mechanism of ferroelectric fatigue via cation migration. Nature Communications, 2019, 10, 3064.	12.8	23
33	Twoâ€Photon Upâ€Conversion Photoluminescence Realized through Spatially Extended Gap States in Quasiâ€2D Perovskite Films. Advanced Materials, 2019, 31, 1901240.	21.0	23
34	Ferroic Halide Perovskite Optoelectronics. Advanced Functional Materials, 2021, 31, 2102793.	14.9	23
35	Graphene engineering by neon ion beams. Nanotechnology, 2016, 27, 125302.	2.6	21
36	Automated Interpretation and Extraction of Topographic Information from Time of Flight Secondary Ion Mass Spectrometry Data. Scientific Reports, 2017, 7, 17099.	3.3	21

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37	Reply to: On the ferroelectricity of CH3NH3PbI3 perovskites. Nature Materials, 2019, 18, 1051-1053.	27.5	21
38	Chemical Phenomena of Atomic Force Microscopy Scanning. Analytical Chemistry, 2018, 90, 3475-3481.	6.5	20
39	Surface Chemistry Controls Anomalous Ferroelectric Behavior in Lithium Niobate. ACS Applied Materials & Interfaces, 2018, 10, 29153-29160.	8.0	20
40	Polarization Control via He-Ion Beam Induced Nanofabrication in Layered Ferroelectric Semiconductors. ACS Applied Materials & Interfaces, 2016, 8, 7349-7355.	8.0	19
41	Machine learning-based multidomain processing for texture-based image segmentation and analysis. Applied Physics Letters, 2020, 116, .	3.3	19
42	Strainâ€“Chemical Gradient and Polarization in Metal Halide Perovskites. Advanced Electronic Materials, 2020, 6, 1901235.	5.1	19
43	Multi-purposed Ar gas cluster ion beam processing for graphene engineering. Carbon, 2018, 131, 142-148.	10.3	18
44	Nanoscale Electrochemical Phenomena of Polarization Switching in Ferroelectrics. ACS Applied Materials & Interfaces, 2018, 10, 38217-38222.	8.0	18
45	Graphene milling dynamics during helium ion beam irradiation. Carbon, 2018, 138, 277-282.	10.3	18
46	Controlled-Resonant Surface Tapping-Mode Scanning Probe Electrospray Ionization Mass Spectrometry Imaging. Analytical Chemistry, 2014, 86, 3146-3152.	6.5	17
47	Helium Ion Microscopy for Imaging and Quantifying Porosity at the Nanoscale. Analytical Chemistry, 2018, 90, 1370-1375.	6.5	17
48	Twin domains modulate light-matter interactions in metal halide perovskites. APL Materials, 2020, 8, .	5.1	17
49	High Resolution Multimodal Chemical Imaging Platform for Organics and Inorganics. Analytical Chemistry, 2019, 91, 12142-12148.	6.5	16
50	Deep data analytics for genetic engineering of diatoms linking genotype to phenotype via machine learning. Npj Computational Materials, 2019, 5, .	8.7	16
51	Buckling Instabilities in Polymer Brush Surfaces via Postpolymerization Modification. Macromolecules, 2017, 50, 8670-8677.	4.8	15
52	Direct Write of 3D Nanoscale Mesh Objects with Platinum Precursor via Focused Helium Ion Beam Induced Deposition. Micromachines, 2020, 11, 527.	2.9	15
53	Toward nanoscale molecular mass spectrometry imaging via physically constrained machine learning on co-registered multimodal data. Npj Computational Materials, 2020, 6, .	8.7	15
54	Molecular reorganization in bulk bottlebrush polymers: direct observation via nanoscale imaging. Nanoscale, 2018, 10, 18001-18009.	5.6	14

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55	Environmental Gating and Galvanic Effects in Single Crystals of Organicâ€“Inorganic Halide Perovskites. ACS Applied Materials & Interfaces, 2019, 11, 14722-14733.	8.0	14
56	Correlating Crystallographic Orientation and Ferroic Properties of Twin Domains in Metal Halide Perovskites. ACS Nano, 2021, 15, 7139-7148.	14.6	14
57	Strain in Metal Halide Perovskites: The Critical Role of A-Site Cation. ACS Applied Energy Materials, 2021, 4, 2068-2072.	5.1	14
58	Role of Decomposition Product Ions in Hysteretic Behavior of Metal Halide Perovskite. ACS Nano, 2021, 15, 9017-9026.	14.6	13
59	Ion Migration Studies in Exfoliated 2D Molybdenum Oxide via Ionic Liquid Gating for Neuromorphic Device Applications. ACS Applied Materials & Interfaces, 2018, 10, 22623-22631.	8.0	12
60	Elasticity Modulation Due to Polarization Reversal and Ionic Motion in the Ferroelectric Superionic Conductor KTiOPO₄. ACS Applied Materials & Interfaces, 2018, 10, 32298-32303.	8.0	11
61	Unraveling the hysteretic behavior at double cations-double halides perovskite - electrode interfaces. Nano Energy, 2021, 89, 106428.	16.0	11
62	Tuning spin-orbit coupling towards enhancing photocurrent in hybrid organic-inorganic perovskites by using mixed organic cations. Organic Electronics, 2020, 81, 105671.	2.6	10
63	Ferroelectric and Charge Transport Properties in Strain-Engineered Two-Dimensional Lead Iodide Perovskites. Chemistry of Materials, 2021, 33, 4077-4088.	6.7	10
64	Improved spatial resolution for spot sampling in thermal desorption atomic force microscopy â€“ mass spectrometry via rapid heating functions. Nanoscale, 2017, 9, 5708-5717.	5.6	9
65	Application of pan-sharpening algorithm for correlative multimodal imaging using AFM-IR. Npj Computational Materials, 2019, 5, .	8.7	9
66	Building with ions: towards direct write of platinum nanostructures using in situ liquid cell helium ion microscopy. Nanoscale, 2017, 9, 12949-12956.	5.6	8
67	Photothermoelastic contrast in nanoscale infrared spectroscopy. Applied Physics Letters, 2018, 112, 033105.	3.3	8
68	Multimodal Chemical Imaging for Linking Adhesion with Local Chemistry in Agrochemical Multicomponent Polymeric Coatings. Analytical Chemistry, 2019, 91, 2791-2796.	6.5	8
69	Microstructural Evaluation of Phase Instability in Large Bandgap Metal Halide Perovskites. ACS Nano, 2021, 15, 20391-20402.	14.6	8
70	Subtractive fabrication of ferroelectric thin films with precisely controlled thickness. Nanotechnology, 2018, 29, 155302.	2.6	7
71	Ferroic twin domains in metal halide perovskites. MRS Advances, 2019, 4, 2817-2830.	0.9	7
72	Structures of Partially Fluorinated Bottlebrush Polymers in Thin Films. ACS Applied Polymer Materials, 2020, 2, 209-219.	4.4	7

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73	Nanoscale Mass Spectrometry Multimodal Imaging via Tip-Enhanced Photothermal Desorption. ACS Nano, 2020, 14, 16791-16802.	14.6	6
74	Quantitative Measurement of Li-Ion Concentration and Diffusivity in Solid-State Electrolyte. ACS Applied Energy Materials, 2021, 4, 784-790.	5.1	6
75	Enhancing hyperspectral EELS analysis of complex plasmonic nanostructures with pan-sharpening. Journal of Chemical Physics, 2021, 154, 014202.	3.0	5
76	Nanoscale friction of CVD single-layer MoS2 with controlled defect formation. Surfaces and Interfaces, 2021, 26, 101437.	3.0	5
77	Photoinduced iodide repulsion and halides-demixing in layered perovskites. Materials Today Nano, 2022, 18, 100197.	4.6	5
78	In situ multimodal imaging for nanoscale visualization of tribofilm formation. Journal of Applied Physics, 2020, 127, 154303.	2.5	4
79	Correlated Electrical and Chemical Nanoscale Properties in Potassiumâ€Passivated, Tripleâ€Cation Perovskite Solar Cells. Advanced Materials Interfaces, 2020, 7, 2000515.	3.7	4
80	Chemical Changes in Layered Ferroelectric Semiconductors Induced by Helium Ion Beam. Scientific Reports, 2017, 7, 16619.	3.3	3
81	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, .	1.2	3
82	Multi-Model Imaging of Local Chemistry and Ferroic Properties of Hybrid Organic-Inorganic Perovskites. Microscopy and Microanalysis, 2019, 25, 2076-2077.	0.4	3
83	Beyond NMF: Advanced Signal Processing and Machine Learning Methodologies for Hyperspectral Analysis in EELS. Microscopy and Microanalysis, 2021, 27, 322-324.	0.4	3
84	Spectral Map Reconstruction Using Pan-Sharpening Algorithm: Enhancing Chemical Imaging with AFM-IR. Microscopy and Microanalysis, 2019, 25, 1024-1025.	0.4	2
85	Helium Ion Microscopy with Secondary Ion Mass Spectrometry for Nanoscale Chemical Imaging and Analysis of Polyolefins. ACS Applied Polymer Materials, 2021, 3, 3478-3484.	4.4	2
86	Building an edge computing infrastructure for rapid multi-dimensional electron microscopy. Microscopy and Microanalysis, 2021, 27, 56-57.	0.4	2
87	3D Nanostructures Grown via Focused Helium Ion Beam Induced Deposition. Microscopy and Microanalysis, 2018, 24, 332-333.	0.4	1
88	Surface Analysis of Polymers using Helium Ion Microscopy Coupled with Secondary Ion Mass Spectrometry (HIM-SIMS). Microscopy and Microanalysis, 2019, 25, 868-869.	0.4	1
89	Lossless Deep Image Compression at the Edge for 3D Electron Microscopy. Microscopy and Microanalysis, 2021, 27, 472-473.	0.4	1
90	Ferroic Halide Perovskite Optoelectronics (Adv. Funct. Mater. 36/2021). Advanced Functional Materials, 2021, 31, 2170263.	14.9	1

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91	Lightâ€“ferroelectric interaction in two-dimensional lead iodide perovskites. Journal of Materials Chemistry A, 0, , .	10.3	1
92	Building with Ions: Development of In-situ Liquid Cell Microscopy for the Helium Ion Microscope.. Microscopy and Microanalysis, 2016, 22, 754-755.	0.4	0
93	Building with Ions in the Helium Ion Microscope. Microscopy and Microanalysis, 2017, 23, 260-261.	0.4	0
94	Liquid Cell Crystallization and In-situ Imaging of Thiamethoxam by Helium Ion Microscopy. Microscopy and Microanalysis, 2018, 24, 330-331.	0.4	0
95	Helium Ion Microscopy Imaging of Bottlebrush Copolymers. Microscopy and Microanalysis, 2019, 25, 908-909.	0.4	0
96	Operando Imaging of Ion Migration in Metal Halide Perovskites. Microscopy and Microanalysis, 2020, 26, 2046-2048.	0.4	0
97	Nanomechanical sampling of material for nanoscale mass spectrometry chemical analysis. Analytical and Bioanalytical Chemistry, 2021, 413, 2747-2754.	3.7	0