Alexander Tselev

List of Publications by Year in Descending Order

131 papers	4,071 citations	35 h-index	59 g-index
142 ext. papers	4,477 ext. citations	7.3 avg, IF	5.12 L-index

#	Paper	IF	Citations
131	Tunable Microwave Conductance of Nanodomains in Ferroelectric PbZr 0.2 Ti 0.8 O 3 Thin Film. *Advanced Electronic Materials*, **2022**, 8, 2100952	6.4	0
130	Multiferroic properties of barium strontium titanate ceramics doped with gadolinium and iron. *Ferroelectrics*, **2021**, 574, 109-114	0.6	
129	Selective patterning of out-of-plane piezoelectricity in MoTe2 via focused ion beam. *Nano Energy*, **2021**, 79, 105451	17.1	10
128	Local electronic transport across probe/ionic conductor interface in scanning probe microscopy. *Ultramicroscopy*, **2021**, 220, 113147	3.1	3
127	Statics and dynamics of ferroelectric domains in molecular multiaxial ferroelectric (Me3NOH)2[KCo(CN)6]. *Journal of Materials Chemistry C*, **2021**, 9, 10741-10748	7.1	3
126	Exploring Charged Defects in Ferroelectrics by the Switching Spectroscopy Piezoresponse Force Microscopy.. *Small Methods*, **2021**, e2101289	12.8	2
125	Piezoresponse amplitude and phase quantified for electromechanical characterization. *Journal of Applied Physics*, **2020**, 128, 171105	2.5	10
124	Operando Scanning Electron and Microwave Microscopies in Plasmas: A Comparative Analysis. *Microscopy and Microanalysis*, **2020**, 26, 2498-2499	0.5	
123	Tracking ion intercalation into layered Ti3C2 MXene films across length scales. *Energy and Environmental Science*, **2020**, 13, 2549-2558	35.4	54
122	Nanoscale Mapping of the Double Layer Potential at the Graphene-Electrolyte Interface. *Nano Letters*, **2020**, 20, 1336-1344	11.5	14
121	Local electromechanical response in doped ceria: Rigorous analysis of the phase and amplitude. *IEEE Transactions on Dielectrics and Electrical Insulation*, **2020**, 27, 1478-1485	2.3	3
120	Near-Field Microwave Microscopy: Subsurface Imaging for In Situ Characterization. *IEEE Microwave Magazine*, **2020**, 21, 72-86	1.2	4
119	Probing Electrified Liquid-Solid Interfaces with Scanning Electron Microscopy. *ACS Applied Materials & Interfaces*, **2020**, 12, 56650-56657	9.5	3
118	Correlative Confocal Raman and Scanning Probe Microscopy in the Ionically Active Particles of LiMnO Cathodes. *Materials*, **2019**, 12,	3.5	8
117	Mn-Doped BaTiOCeramics: Thermal and Electrical Properties for Multicaloric Applications. *Materials*, **2019**, 12,	3.5	3
116	Giant negative electrostriction and dielectric tunability in a van der Waals layered ferroelectric. *Physical Review Materials*, **2019**, 3,	3.2	25
115	Learning from Imperfections: Predicting Structure and Thermodynamics from Atomic Imaging of Fluctuations. *ACS Nano*, **2019**, 13, 718-727	16.7	19

114	Functional material properties of oxide thin films probed by atomic force microscopy on the nanoscale **2018**, 181-201		
113	A self-forming nanocomposite concept for ZnO-based thermoelectrics. *Journal of Materials Chemistry A*, **2018**, 6, 13386-13396	13	12
112	Surface reconstructions and modified surface states in La1−xCaxMnO3. *Physical Review Materials*, **2018**, 2,	3.2	7
111	An atomic force microscopy mode for nondestructive electromechanical studies and its application to diphenylalanine peptide nanotubes. *Ultramicroscopy*, **2018**, 185, 49-54	3.1	13
110	Polarization of the Graphene-Liquid Electrolyte Interface Probed by SEM. *Microscopy and Microanalysis*, **2018**, 24, 354-355	0.5	
109	Near-Field Probe Microscopy of Plasma Processing.. *Applied Physics Letters*, **2018**, 113,	3.4	6
108	In Aqua Electrochemistry Probed by XPEEM: Experimental Setup, Examples, and Challenges. *Topics in Catalysis*, **2018**, 61, 2195-2206	2.3	13
107	Electromechanical properties of electrostrictive CeO2:Gd membranes: Effects of frequency and temperature. *Applied Physics Letters*, **2017**, 110, 142902	3.4	17
106	Quantification of in-contact probe-sample electrostatic forces with dynamic atomic force microscopy. *Nanotechnology*, **2017**, 28, 065704	3.4	37
105	Enhancement of local piezoelectric properties of a perforated ferroelectric thin film visualized via piezoresponse force microscopy. *Journal Physics D: Applied Physics*, **2017**, 50, 425303	3	2
104	Acoustic Detection of Phase Transitions at the Nanoscale. *Advanced Functional Materials*, **2016**, 26, 478-486	13.6	25
103	Growth Mode Transition in Complex Oxide Heteroepitaxy: Atomically Resolved Studies. *Crystal Growth and Design*, **2016**, 16, 2708-2716	3.5	12
102	Seeing through Walls at the Nanoscale: Microwave Microscopy of Enclosed Objects and Processes in Liquids. *ACS Nano*, **2016**, 10, 3562-70	16.7	39
101	Local coexistence of VO2 phases revealed by deep data analysis. *Scientific Reports*, **2016**, 6, 29216	4.9	6
100	Quantification of surface displacements and electromechanical phenomena via dynamic atomic force microscopy. *Nanotechnology*, **2016**, 27, 425707	3.4	80
99	Microwave a.c. conductivity of domain walls in ferroelectric thin films. *Nature Communications*, **2016**, 7, 11630	17.4	63
98	Polarization Control via He-Ion Beam Induced Nanofabrication in Layered Ferroelectric Semiconductors. *ACS Applied Materials & Interfaces*, **2016**, 8, 7349-55	9.5	17
97	High-resolution dielectric characterization of minerals: A step towards understanding the basic interactions between microwaves and rocks. *International Journal of Mineral Processing*, **2016**, 151, 8-21		25

96	Surface Control of Epitaxial Manganite Films via Oxygen Pressure. *ACS Nano*, **2015**, 9, 4316-27	16.7	26
95	Dimensionality Controlled Octahedral Symmetry-Mismatch and Functionalities in Epitaxial LaCoO/SrTiO Heterostructures. *Nano Letters*, **2015**, 15, 4677-84	11.5	58
94	Big data in reciprocal space: Sliding fast Fourier transforms for determining periodicity. *Applied Physics Letters*, **2015**, 106, 091601	3.4	29
93	Giant elastic tunability in strained BiFeO3 near an electrically induced phase transition. *Nature Communications*, **2015**, 6, 8985	17.4	35
92	Ion transport and softening in a polymerized ionic liquid. *Nanoscale*, **2015**, 7, 947-55	7.7	14
91	Patterning: Atomic-Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision (Small 44/2015). *Small*, **2015**, 11, 5854-5854	11	2
90	Current and surface charge modified hysteresis loops in ferroelectric thin films. *Journal of Applied Physics*, **2015**, 118, 072013	2.5	49
89	Atomic-Level Sculpting of Crystalline Oxides: Toward Bulk Nanofabrication with Single Atomic Plane Precision. *Small*, **2015**, 11, 5895-900	11	53
88	Controlled Nanopatterning of a Polymerized Ionic Liquid in a Strong Electric Field. *Advanced Functional Materials*, **2015**, 25, 805-811	15.6	11
87	Quantitative Nanometer-Scale Mapping of Dielectric Tunability. *Advanced Materials Interfaces*, **2015**, 2, 1500088	4.6	6
86	Kelvin probe force microscopy in liquid using electrochemical force microscopy. *Beilstein Journal of Nanotechnology*, **2015**, 6, 201-14	3	28
85	Atomic-Level Fabrication of Crystalline Oxides in STEM. *Microscopy and Microanalysis*, **2015**, 21, 939-940	0.5	1
84	Differentiating Ferroelectric and Nonferroelectric Electromechanical Effects with Scanning Probe Microscopy. *ACS Nano*, **2015**, 9, 6484-92	16.7	191
83	Atomic-scale electrochemistry on the surface of a manganite by scanning tunneling microscopy. *Applied Physics Letters*, **2015**, 106, 143107	3.4	12
82	Nanoscale lubrication of ionic surfaces controlled via a strong electric field. *Scientific Reports*, **2015**, 5, 8049	4.9	16
81	Big data and deep data in scanning and electron microscopies: deriving functionality from multidimensional data sets. *Advanced Structural and Chemical Imaging*, **2015**, 1, 6	3.9	63
80	The Ehrlich-Schwoebel barrier on an oxide surface: a combined Monte-Carlo and in situ scanning tunneling microscopy approach. *Nanotechnology*, **2015**, 26, 455705	3.4	5
79	Probing local bias-induced transitions using photothermal excitation contact resonance atomic force microscopy and voltage spectroscopy. *ACS Nano*, **2015**, 9, 1848-57	16.7	35

78	Humidity effect on nanoscale electrochemistry in solid silver ion conductors and the dual nature of its locality. *Nano Letters*, **2015**, 15, 1062-9	11.5	24
77	Electromigration and Diffusion Researches in Scanning Probe Microscopy of Solid Electrolytes. *Ukrainian Journal of Physics*, **2015**, 60, 1027-1035	0.4	
76	Probing charge screening dynamics and electrochemical processes at the solid-liquid interface with electrochemical force microscopy. *Nature Communications*, **2014**, 5, 3871	17.4	73
75	Dual harmonic Kelvin probe force microscopy at the graphene□quid interface. *Applied Physics Letters*, **2014**, 104, 133103	3.4	42
74	Self-consistent modeling of electrochemical strain microscopy of solid electrolytes. *Nanotechnology*, **2014**, 25, 445701	3.4	21
73	Big-data reflection high energy electron diffraction analysis for understanding epitaxial film growth processes. *ACS Nano*, **2014**, 8, 10899-908	16.7	22
72	Breaking the limits of structural and mechanical imaging of the heterogeneous structure of coal macerals. *Nanotechnology*, **2014**, 25, 435402	3.4	12
71	Mapping internal structure of coal by confocal micro-Raman spectroscopy and scanning microwave microscopy. *Fuel*, **2014**, 126, 32-37	7.1	30
70	Defect thermodynamics and kinetics in thin strained ferroelectric films: The interplay of possible mechanisms. *Physical Review B*, **2014**, 89,	3.3	25
69	Spatially-resolved mapping of history-dependent coupled electrochemical and electronical behaviors of electroresistive NiO. *Scientific Reports*, **2014**, 4, 6725	4.9	10
68	Near field microwave microscopy for nanoscale characterization, imaging and patterning of graphene **2014**,		1
67	Electrostrictive and electrostatic responses in contact mode voltage modulated scanning probe microscopies. *Applied Physics Letters*, **2014**, 104, 232901	3.4	37
66	Nonlinear space charge dynamics in mixed ionic-electronic conductors: Resistive switching and ferroelectric-like hysteresis of electromechanical response. *Journal of Applied Physics*, **2014**, 116, 066808	2.5	24
65	Effect of silver doping on the surface of La5/8Ca3/8MnO3 epitaxial films. *Applied Physics Letters*, **2014**, 105, 101602	3.4	6
64	Toward quantitative electrochemical measurements on the nanoscale by scanning probe microscopy: environmental and current spreading effects. *ACS Nano*, **2013**, 7, 8175-82	16.7	18
63	Oxygen control of atomic structure and physical properties of SrRuO3 surfaces. *ACS Nano*, **2013**, 7, 4403-13	16.7	18
62	Open loop Kelvin probe force microscopy with single and multi-frequency excitation. *Nanotechnology*, **2013**, 24, 475702	3.4	53
61	Nanometer-scale mapping of irreversible electrochemical nucleation processes on solid Li-ion electrolytes. *Scientific Reports*, **2013**, 3, 1621	4.9	28

60	In situ X-ray microdiffraction studies inside individual VO2 microcrystals. *Acta Materialia*, **2013**, 61, 2751-2762	4	26
59	Spatially resolved mapping of oxygen reduction/evolution reaction on solid-oxide fuel cell cathodes with sub-10 nm resolution. *ACS Nano*, **2013**, 7, 3808-14	16.7	24
58	Interplay of octahedral tilts and polar order in BiFeO3 films. *Advanced Materials*, **2013**, 25, 2497-504	24	94
57	Near-field microwave microscopy of high- oxides grown on graphene with an organic seeding layer. *Applied Physics Letters*, **2013**, 103, 243105	3.4	11
56	Scanning Near-Field Microwave Microscopy of VO2 and Chemical Vapor Deposition Graphene. *Advanced Functional Materials*, **2013**, 23, 2635-2645	15.6	20
55	Graphene etching by a Near-Field Scanning Microwave Microscope **2013**,		4
54	Free-standing ferroelectric nanotubes processed via soft-template infiltration. *Advanced Materials*, **2012**, 24, 1160-5	24	36
53	Probing local electromechanical effects in highly conductive electrolytes. *ACS Nano*, **2012**, 6, 10139-46	16.7	12
52	Effects of lateral and substrate constraint on the piezoresponse of ferroelectric nanostructures. *Applied Physics Letters*, **2012**, 101, 112901	3.4	7
51	Near-field microwave scanning probe imaging of conductivity inhomogeneities in CVD graphene. *Nanotechnology*, **2012**, 23, 385706	3.4	40
50	Doping-based stabilization of the M2 phase in free-standing VO nanostructures at room temperature. *Nano Letters*, **2012**, 12, 6198-205	11.5	120
49	Nanoscale Ferroelectricity in Crystalline Glycine. *Advanced Functional Materials*, **2012**, 22, 2996-3003	15.6	94
48	Synthesis and frequency-dependent dielectric properties of epitaxial La1.875Sr0.125NiO4thin films. *Journal Physics D: Applied Physics*, **2012**, 45, 305302	3	8
47	Unconventional Antiferroelectric Phase Stabilization in Thin Film BiFeO3 by Interface-Induced Rotoelectric Coupling Effect. *Microscopy and Microanalysis*, **2012**, 18, 412-413	0.5	
46	The search for superconductivity at van Hove singularities in carbon nanotubes. *Superconductor Science and Technology*, **2012**, 25, 124005	3.1	10
45	Nonlinear phenomena in multiferroic nanocapacitors: joule heating and electromechanical effects. *ACS Nano*, **2011**, 5, 9104-12	16.7	65
44	The role of electrochemical phenomena in scanning probe microscopy of ferroelectric thin films. *ACS Nano*, **2011**, 5, 5683-91	16.7	101
43	Li-ion dynamics and reactivity on the nanoscale. *Materials Today*, **2011**, 14, 548-558	21.8	68

42	Direct mapping of ionic transport in a Si anode on the nanoscale: time domain electrochemical strain spectroscopy study. *ACS Nano*, **2011**, 5, 9682-95	16.7	59
41	Electromechanical actuation and current-induced metastable states in suspended single-crystalline VO□nanoplatelets. *Nano Letters*, **2011**, 11, 3065-73	11.5	47
40	Lattice-Symmetry-Driven Phase Competition in Vanadium Dioxide. *Materials Research Society Symposia Proceedings*, **2011**, 1292, 67		1
39	Real space mapping of Li-ion transport in amorphous Si anodes with nanometer resolution. *Nano Letters*, **2010**, 10, 3420-5	11.5	215
38	Mesoscopic metal-insulator transition at ferroelastic domain walls in VO2. *ACS Nano*, **2010**, 4, 4412-9	16.7	63
37	Interplay between ferroelastic and metal-insulator phase transitions in strained quasi-two-dimensional VO2 nanoplatelets. *Nano Letters*, **2010**, 10, 2003-11	11.5	91
36	Symmetry relationship and strain-induced transitions between insulating M1 and M2 and metallic R phases of vanadium dioxide. *Nano Letters*, **2010**, 10, 4409-16	11.5	125
35	Carbon nanotubes as nanoscale probes of the superconducting proximity effect in Pd-Nb junctions. *Physical Review B*, **2009**, 80,	3.3	12
34	Selective growth of well-aligned semiconducting single-walled carbon nanotubes. *Nano Letters*, **2009**, 9, 800-5	11.5	382
33	Origins of 1f□noise in individual semiconducting carbon nanotube field-effect transistors. *Physical Review B*, **2008**, 77,	3.3	38
32	Microwave impedance spectroscopy of dense carbon nanotube bundles. *Nano Letters*, **2008**, 8, 152-6	11.5	35
31	Exploring the magnetically induced field effect in carbon nanotube-based devices. *Physica E: Low-Dimensional Systems and Nanostructures*, **2008**, 40, 1010-1013	3	5
30	Unveiling the Magnetically Induced Field-Effect in Carbon Nanotubes Devices. *Springer Proceedings in Physics*, **2008**, 111-113	0.2	
29	Magnetically induced field effect in carbon nanotube devices. *Nano Letters*, **2007**, 7, 960-4	11.5	47
28	Broadband dielectric microwave microscopy on micron length scales. *Review of Scientific Instruments*, **2007**, 78, 044701	1.7	36
27	Dielectrophoresis-Based Assembly and High-Frequency Characterization of Carbon Nanotube Bundles. *Materials Research Society Symposia Proceedings*, **2007**, 990, 1		
26	Zero-bias anomaly and possible superconductivity in single-walled carbon nanotubes. *Physical Review B*, **2006**, 74,	3.3	20
25	Mechanism of NO2 detection in carbon nanotube field effect transistor chemical sensors. *Applied Physics Letters*, **2006**, 88, 123112	3.4	135

24	A photolithographic process for fabrication of devices with isolated single-walled carbon nanotubes. *Nanotechnology*, **2004**, 15, 1475-1478	3.4	32
23	Evidence for power-law frequency dependence of intrinsic dielectric response in the CaCu3Ti4O12. *Physical Review B*, **2004**, 70,	3.3	103
22	Near-field microwave microscope with improved sensitivity and spatial resolution. *Review of Scientific Instruments*, **2003**, 74, 3167-3170	1.7	21
21	Formation of unusual intermetallic phases by vacuum PLD. *Applied Surface Science*, **2002**, 197-198, 475-480	6.7	12
20	Transition layers in metal bilayers produced by pulsed laser deposition in vacuum. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2002**, 20, 1557-1565	2.9	3
19	Structural and magnetic phase transformation in metastable Fe□r alloys induced by ion irradiation. *Journal of Applied Physics*, **2002**, 92, 572-577	2.5	18
18	X-ray investigation of metastable crystalline phases in co-deposited Fe□r alloy nanometer films. *Journal of Alloys and Compounds*, **2002**, 334, 159-166	5.7	18
17	Thermally stimulated crystalline phase transformations in metastable Fe□r alloy films prepared by pulsed laser deposition. *Journal of Alloys and Compounds*, **2002**, 347, 171-177	5.7	10
16	Structural peculiarities of metal alloy and multilayer films synthesized from laser erosion plasma **2001**,		2
15	Comparative study of interfaces of Fe□l multilayers prepared by direct and crossed-beam pulsed laser deposition. *Thin Solid Films*, **2001**, 391, 47-56	2.2	16
14	Giant magnetoresistance and magnetism of heterogeneous CoCu produced by ion-beam techniques. *Sensors and Actuators A: Physical*, **2001**, 91, 169-172	3.9	1
13	Cross-beam pulsed laser deposition: General characteristic. *Review of Scientific Instruments*, **2001**, 72, 2665-2672	1.7	47
12	Thermally stimulated solid state reactions in Fe□l multilayers prepared by pulsed laser deposition. *Journal of Alloys and Compounds*, **2001**, 320, 114-125	5.7	9
11	Production of Thin Films of Metastable Materials by Cross-Beam Pulsed Laser Deposition. *Materials Science Forum*, **2000**, 343-346, 231-236	0.4	1
10	Metastable Phase Formation in Fe-Al Thin Films Cocondensed by Cross-Beam Pulsed Laser Deposition. *Materials Science Forum*, **2000**, 343-346, 249-254	0.4	1
9	Spatio-energetical characteristics of laser plasma in cross-beam pulsed laser deposition. *Applied Surface Science*, **1999**, 138-139, 12-16	6.7	8
8	Features of the film-growth conditions by cross-beam pulsed-laser deposition. *Applied Physics A: Materials Science and Processing*, **1999**, 69, 353-358	2.6	24
7	Structural investigations of laser-deposited Fe/Al multilayers. *Applied Physics A: Materials Science and Processing*, **1999**, 68, 497-503	2.6	22

6	Fabrication of magnetic nanostructures by direct laser interference lithography on supersaturated metal mixtures. *Applied Physics A: Materials Science and Processing*, **1999**, 69, S819-S822	2.6	14
5	CoPd alloy films for magneto-optical recording. *Journal of Magnetism and Magnetic Materials*, **1999**, 193, 174-176	2.8	12
4	Magnetooptical properties of alloy films CoPd with perpendicular magnetic anisotropy. *Journal of Magnetism and Magnetic Materials*, **1999**, 203, 244-246	2.8	2
3	Cross-beam pulsed laser deposition of ultrathin multilayer metal films **1999**,		7
2	Magneto-optical properties of CoPd alloy films with perpendicular magnetic anisotropy. *Journal of Magnetism and Magnetic Materials*, **1998**, 185, 258-264	2.8	14
1	Structure of Laser-Deposited Fe/Al Multilayers. *Materials Science Forum*, **1998**, 287-288, 455-458	0.4	6