

Oleg Kolosov

List of Publications by Year in descending order

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127
papers

4,196
citations

147801

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128289

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g-index

132
all docs

132
docs citations

132
times ranked

4471
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrasonic force microscopy for nanometer resolution subsurface imaging. Applied Physics Letters, 1994, 64, 178-180.	3.3	344
2	Nonlinear Detection of Ultrasonic Vibrations in an Atomic Force Microscope. Japanese Journal of Applied Physics, 1993, 32, L1095-L1098.	1.5	279
3	Nanoscale Visualization and Control of Ferroelectric Domains by Atomic Force Microscopy. Physical Review Letters, 1995, 74, 4309-4312.	7.8	233
4	Optical investigation of the natural electron doping in thin MoS ₂ films deposited on dielectric substrates. Scientific Reports, 2013, 3, 3489.	3.3	144
5	Imaging the Elastic Nanostructure of Ge Islands by Ultrasonic Force Microscopy. Physical Review Letters, 1998, 81, 1046-1049.	7.8	139
6	Heterodyne force microscopy of PMMA/rubber nanocomposites: nanomapping of viscoelastic response at ultrasonic frequencies. Journal Physics D: Applied Physics, 2000, 33, 2347-2355.	2.8	136
7	2021 roadmap for sodium-ion batteries. JPhys Energy, 2021, 3, 031503.	5.3	125
8	Ultrasound induced lubricity in microscopic contact. Applied Physics Letters, 1997, 71, 1177-1179.	3.3	95
9	A microstructural study of transparent metal oxide gas barrier films. Thin Solid Films, 1999, 355-356, 500-505.	1.8	94
10	Î²-Amyloid Fibrils in Alzheimer Disease Are Not Inert When Bound to Copper Ions but Can Degrade Hydrogen Peroxide and Generate Reactive Oxygen Species. Journal of Biological Chemistry, 2014, 289, 12052-12062.	3.4	93
11	Direct Nanoscale Imaging of Ballistic and Diffusive Thermal Transport in Graphene Nanostructures. Nano Letters, 2012, 12, 2906-2911.	9.1	87
12	Domain structure and polarization reversal in ferroelectrics studied by atomic force microscopy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1995, 13, 1095.	1.6	81
13	Structural, optical and electrostatic properties of single and few-layers MoS ₂ : effect of substrate. 2D Materials, 2015, 2, 015005.	4.4	80
14	Measurements of stiff-material compliance on the nanoscale using ultrasonic force microscopy. Physical Review B, 2000, 61, 13995-14006.	3.2	79
15	Nanoscale spatial resolution probes for scanning thermal microscopy of solid state materials. Journal of Applied Physics, 2012, 112, .	2.5	76
16	A Novel Retro-Inverso Peptide Inhibitor Reduces Amyloid Deposition, Oxidation and Inflammation and Stimulates Neurogenesis in the APP ^{swE} /PS1 ^{E9} Mouse Model of Alzheimer's Disease. PLoS ONE, 2013, 8, e54769.	2.5	76
17	Analysis of Subsurface Imaging and Effect of Contact Elasticity in the Ultrasonic Force Microscope. Japanese Journal of Applied Physics, 1994, 33, 3197-3203.	1.5	70
18	Mapping surface elastic properties of stiff and compliant materials on the nanoscale using ultrasonic force microscopy. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2000, 80, 2299-2323.	0.6	62

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19	ZnO-based Thin Film Transistors Employing Aluminum Titanate Gate Dielectrics Deposited by Spray Pyrolysis at Ambient Air. ACS Applied Materials & Interfaces, 2015, 7, 7334-7341.	8.0	62
20	Field-Effect Control of Graphene- Fullerene Thermoelectric Nanodevices. Nano Letters, 2017, 17, 7055-7061.	9.1	61
21	Nanometer-scale mechanical imaging of aluminum damascene interconnect structures in a low-dielectric-constant polymer. Journal of Applied Physics, 2002, 91, 4549-4555.	2.5	59
22	Laser picosecond acoustics in isotropic and anisotropic materials. Ultrasonics, 2000, 38, 470-474.	3.9	58
23	Crossover from hydrodynamic to acoustic drag on quartz tuning forks in normal and superfluid ^4He . Physical Review B, 2012, 85, .	3.2	57
24	Nanoscale Interfacial Interactions of Graphene with Polar and Nonpolar Liquids. Langmuir, 2013, 29, 7735-7742.	3.5	51
25	Retro-inverso peptide inhibitor nanoparticles as potent inhibitors of aggregation of the Alzheimer's $\text{A}\beta$ peptide. Nanomedicine: Nanotechnology, Biology, and Medicine, 2017, 13, 723-732.	3.3	47
26	Geometrically Enhanced Thermoelectric Effects in Graphene Nanoconstrictions. Nano Letters, 2018, 18, 7719-7725.	9.1	46
27	Analysis of excitation and coherent amplitude enhancement of surface acoustic waves by the phase velocity scanning method. Journal of Applied Physics, 1993, 74, 6511-6522.	2.5	40
28	Measurement of debonding in cracked nanocomposite films by ultrasonic force microscopy. Applied Physics Letters, 2002, 80, 1180-1182.	3.3	39
29	Waveguide ultrasonic force microscopy at 60 MHz. Applied Physics Letters, 2000, 76, 1836-1838.	3.3	38
30	Realization of Vertically Aligned, Ultrahigh Aspect Ratio InAsSb Nanowires on Graphite. Nano Letters, 2015, 15, 4348-4355.	9.1	37
31	Nucleation and growth of gas barrier aluminium oxide on surfaces of poly(ethylene terephthalate) and polypropylene: effects of the polymer surface properties. Journal of Polymer Science, Part B: Polymer Physics, 2000, 38, 3151-3162.	2.1	35
32	Scale-Up of Room-Temperature Constructive Quantum Interference from Single Molecules to Self-Assembled Molecular-Electronic Films. Journal of the American Chemical Society, 2020, 142, 8555-8560.	13.7	34
33	Structural changes to epitaxial (0001) holmium layers during hydrogen loading. Journal Physics D: Applied Physics, 2000, 33, 894-900.	2.8	30
34	Improving accuracy of nanothermal measurements via spatially distributed scanning thermal microscope probes. Journal of Applied Physics, 2018, 124, .	2.5	30
35	The use of acoustic microscopy for biological tissue characterization. Ultrasound in Medicine and Biology, 1987, 13, 477-483.	1.5	29
36	Surface morphology and crystallinity of biaxially stretched PET films on the nanoscale. Polymer, 2000, 41, 4285-4289.	3.8	29

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37	Nanosecond switching in GeSe phase change memory films by atomic force microscopy. Applied Physics Letters, 2014, 104, .	3.3	29
38	Mapping nanoscale thermal transfer in-liquid environmentâ€”immersion scanning thermal microscopy. Nanotechnology, 2013, 24, 465706.	2.6	28
39	Physical mechanisms of megahertz vibrations and nonlinear detection in ultrasonic force and related microscopies. Journal of Applied Physics, 2014, 115, 144304.	2.5	27
40	Solution processed lanthanum aluminate gate dielectrics for use in metal oxide-based thin film transistors. Applied Physics Letters, 2015, 106, 203507.	3.3	27
41	Ultrasonic force microscopy for nanomechanical characterization of early and late-stage amyloid- β^2 peptide aggregation. Scientific Reports, 2014, 4, 4004.	3.3	27
42	GaSb quantum dot morphology for different growth temperatures and the dissolution effect of the GaAs capping layer. Journal Physics D: Applied Physics, 2010, 43, 065402.	2.8	26
43	Nonlinear detection of ultrasonic vibration of AFM cantilevers in and out of contact with the sample. Nanotechnology, 2001, 12, 53-59.	2.6	24
44	Material sensitive scanning probe microscopy of subsurface semiconductor nanostructures via beam exit Ar ion polishing. Nanotechnology, 2011, 22, 185702.	2.6	24
45	Characterization of surface damage via surface acoustic waves. Nanotechnology, 1996, 7, 295-301.	2.6	23
46	Frequency-dependent drag from quantum turbulence produced by quartz tuning forks in superfluid ^4He . Physical Review B, 2014, 89, .	3.2	23
47	Charged nano-domes and bubbles in epitaxial graphene. Nanotechnology, 2014, 25, 165704.	2.6	23
48	Subsurface imaging of two-dimensional materials at the nanoscale. Nanotechnology, 2017, 28, 085706.	2.6	23
49	Nanoscale resolution scanning thermal microscopy using carbon nanotube tipped thermal probes. Physical Chemistry Chemical Physics, 2014, 16, 1174-1181.	2.8	22
50	Structural and Electrical Characterization of SiO_2 Gate Dielectrics Deposited from Solutions at Moderate Temperatures in Air. ACS Applied Materials & Interfaces, 2017, 9, 529-536.	8.0	22
51	Ultrasonic force microscopy: Detection and imaging of ultra-thin molecular domains. Ultramicroscopy, 2011, 111, 267-272.	1.9	21
52	Nanothermal characterization of amorphous and crystalline phases in chalcogenide thin films with scanning thermal microscopy. Journal of Applied Physics, 2014, 116, 134904.	2.5	21
53	Scanning thermal microscopy with heat conductive nanowire probes. Ultramicroscopy, 2016, 162, 42-51.	1.9	21
54	Solution-Processed Neodymium Oxide/ZnO Thin-Film Transistors with Electron Mobility in Excess of $65 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$. Advanced Electronic Materials, 2017, 3, 1700025.	5.1	20

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55	Acoustic Microscopy for Imaging and Characterization. MRS Bulletin, 1996, 21, 30-35.	3.5	19
56	AFM and UFM surface characterization of rubber-toughened poly(methyl methacrylate) samples. Journal of Applied Polymer Science, 2001, 82, 2790-2798.	2.6	19
57	Probing nanoscale graphene-liquid interfacial interactions via ultrasonic force spectroscopy. Nanoscale, 2014, 6, 10806-10816.	5.6	19
58	High-Accuracy Analysis of Nanoscale Semiconductor Layers Using Beam-Exit Ar-Ion Polishing and Scanning Probe Microscopy. ACS Applied Materials & Interfaces, 2013, 5, 3241-3245.	8.0	17
59	Direct mapping of local Seebeck coefficient in 2D material nanostructures via scanning thermal gate microscopy. 2D Materials, 2020, 7, 041004.	4.4	17
60	Direct Measurement of the Critical Velocity Above Which a Tuning Fork Generates Turbulence in Superfluid Helium. Journal of Low Temperature Physics, 2010, 158, 456-461.	1.4	16
61	Electromechanical Sensing of Substrate Charge Hidden under Atomic 2D Crystals. Nano Letters, 2014, 14, 3400-3404.	9.1	16
62	Ferroelectric semiconductor junctions based on graphene/In ₂ Se ₃ /graphene van der Waals heterostructures. 2D Materials, 2021, 8, 045020.	4.4	16
63	Three-Dimensional Nanomechanical Mapping of Amorphous and Crystalline Phase Transitions in Phase-Change Materials. ACS Applied Materials & Interfaces, 2013, 5, 11441-11445.	8.0	15
64	Nanoscale Thermal Transport in 2D Nanostructures from Cryogenic to Room Temperature. Advanced Electronic Materials, 2019, 5, 1900331.	5.1	15
65	Anomalous Low Thermal Conductivity of Atomically Thin InSe Probed by Scanning Thermal Microscopy. Advanced Functional Materials, 2021, 31, 2008967.	14.9	15
66	Tribology and ultrasonic hysteresis at local scales. Applied Surface Science, 2003, 210, 54-60.	6.1	14
67	Measuring the Prong Velocity of Quartz Tuning Forks Used to Probe Quantum Fluids. Journal of Low Temperature Physics, 2010, 161, 536-547.	1.4	14
68	Formation of Two-Dimensional Micelles on Graphene: Multi-Scale Theoretical and Experimental Study. ACS Nano, 2017, 11, 3404-3412.	14.6	14
69	Electroactive Silk Fibroin Films for Electrochemically Enhanced Delivery of Drugs. Macromolecular Materials and Engineering, 2020, 305, 2000130.	3.6	14
70	Nanoscale Imaging of Mechanical Properties by Ultrasonic Force Microscopy (UFM). Acoustical Imaging, 1996, , 665-668.	0.2	13
71	Large-Area Heterostructures from Graphene and Encapsulated Colloidal Quantum Dots via the Langmuir-Blodgett Method. ACS Applied Materials & Interfaces, 2018, 10, 6805-6809.	8.0	12
72	Nanoscale Mapping of Thermal and Mechanical Properties of Bare and Metal-Covered Self-Assembled Block Copolymer Thin Films. ACS Applied Polymer Materials, 2020, 2, 487-496.	4.4	12

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73	Quantifying thermal transport in buried semiconductor nanostructures via cross-sectional scanning thermal microscopy. <i>Nanoscale</i> , 2021, 13, 10829-10836.	5.6	12
74	Elastic Imaging with Nanoscale and Atomic Resolution by Ultrasonic Force Microscopy (UFM). <i>Springer Series in Materials Science</i> , 1994, , 345-348.	0.6	12
75	High precision tuning fork sensor for liquid property measurements. , 0, , .		11
76	A Versatile Nanopatterning Technique Based on Controlled Undercutting and Liftoff. <i>Advanced Materials</i> , 2011, 23, 5039-5044.	21.0	11
77	Nanomechanical morphology of amorphous, transition, and crystalline domains in phase change memory thin films. <i>Applied Surface Science</i> , 2014, 314, 151-157.	6.1	11
78	Graphitic platform for self-catalysed InAs nanowires growth by molecular beam epitaxy. <i>Nanoscale Research Letters</i> , 2014, 9, 321.	5.7	11
79	A Quasiparticle Detector for Imaging Quantum Turbulence in Superfluid $^3\text{He-B}$. <i>Journal of Low Temperature Physics</i> , 2014, 175, 725-738.	1.4	11
80	Measurements of Vortex Line Density Generated by a Quartz Tuning Fork in Superfluid ^4He . <i>Journal of Low Temperature Physics</i> , 2016, 183, 208-214.	1.4	11
81	Efficient heating of single-molecule junctions for thermoelectric studies at cryogenic temperatures. <i>Applied Physics Letters</i> , 2019, 115, 073103.	3.3	11
82	Microscale evaluation of the viscoelastic properties of polymer gel for artificial muscles using transmission acoustic microscopy. <i>Journal of Applied Physics</i> , 1993, 74, 6407-6412.	2.5	10
83	Elastic measurements of layered nanocomposite materials by Brillouin spectroscopy. <i>Ultrasonics</i> , 2000, 38, 459-465.	3.9	10
84	Self-catalysed growth of InAs nanowires on bare Si substrates by droplet epitaxy. <i>Physica Status Solidi - Rapid Research Letters</i> , 2014, 8, 658-662.	2.4	10
85	Nanomechanical mapping of graphene layers and interfaces in suspended graphene nanostructures grown via carbon diffusion. <i>Thin Solid Films</i> , 2014, 550, 472-479.	1.8	10
86	Mechanical Properties of Advanced Gas-Cooled Reactor Stainless Steel Cladding After Irradiation. <i>Journal of Materials Engineering and Performance</i> , 2018, 27, 2081-2088.	2.5	10
87	Controlling Interfacial Reduction Kinetics and Suppressing Electrochemical Oscillations in $\text{Li}_{4\text{Ti}_5\text{O}_{12}}$ Thin-Film Anodes. <i>Advanced Functional Materials</i> , 2021, 31, 2105354.	14.9	10
88	Characterization of surface damage via contact probes. <i>Nanotechnology</i> , 1996, 7, 288-294.	2.6	9
89	Combinatorial Exploration of Polymeric Transport Agents for Targeted Delivery of Bioactives to Human Tissues. <i>Macromolecular Rapid Communications</i> , 2004, 25, 178-188.	3.9	9
90	New Solid State Oil Condition Sensor for Real Time Engine Oil Condition Monitoring. , 2006, , .		9

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91	Thermal transport in epitaxial Si _{1-x} Ge _x alloy nanowires with varying composition and morphology. <i>Nanotechnology</i> , 2017, 28, 505704.	2.6	9
92	Multidimensional SPM applied for nanoscale conductance mapping. <i>Journal of Materials Research</i> , 2013, 28, 3311-3321.	2.6	8
93	Response of a Mechanical Oscillator in Solid 4He. <i>Journal of Low Temperature Physics</i> , 2014, 175, 140-146.	1.4	8
94	A simplified model to estimate thermal resistance between carbon nanotube and sample in scanning thermal microscopy. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 494004.	2.8	8
95	Local probing of thermal properties at submicron depths with megahertz photothermal vibrations. <i>Applied Physics Letters</i> , 2003, 82, 622-624.	3.3	7
96	Multiparametric Oil Condition Sensor Based on the Tuning Fork Technology for Automotive Applications. , 2005, , 289-298.		7
97	Nanoscale mapping of in situ actuating microelectromechanical systems with AFM. <i>Journal of Materials Research</i> , 2015, 30, 429-441.	2.6	7
98	Experimental evidence of disorder enhanced electron-phonon scattering in graphene devices. <i>Carbon</i> , 2021, 178, 632-639.	10.3	7
99	Microcracks of the thin-film head alumina: "L" cracks and "U" cracks. <i>IEEE Transactions on Magnetics</i> , 1996, 32, 3696-3698.	2.1	6
100	Cavitation Bubbles Generated by Vibrating Quartz Tuning Fork in Liquid ^4He Close to the λ_1 . <i>Journal of Low Temperature Physics</i> , 2017, 187, 376-382.	1.4	6
101	Thermoelectric properties of organic thin films enhanced by π - π stacking. <i>JPhys Energy</i> , 2022, 4, 024002.	5.3	6
102	Acoustic Imaging of Plate Thickness and Sound Velocity during Tensile Testing at Low Temperature. <i>Japanese Journal of Applied Physics</i> , 1994, 33, 6373-6378.	1.5	5
103	Kolosov Replies:. <i>Physical Review Letters</i> , 1996, 76, 4292-4292.	7.8	5
104	Anisotropic elastic characterization of surfaces from 2 MHz to 20 GHz. <i>Ultrasonics</i> , 1998, 36, 317-321.	3.9	5
105	Tungstate sharpening: A versatile method for extending the profile of ultra sharp tungsten probes. <i>Review of Scientific Instruments</i> , 2013, 84, 035107.	1.3	5
106	Adjustable Acoustic Knife Edge for Anisotropic and Dark-Field Acoustic Imaging. <i>Japanese Journal of Applied Physics</i> , 1994, 33, 329-333.	1.5	4
107	Early stages of growth and nanostructure of Pb(Zr,Ti)O ₃ thin films observed by atomic force microscopy. <i>Thin Solid Films</i> , 1998, 336, 281-285.	1.8	4
108	Nanoscale elastic imaging: a new metrology tool for low-k dielectric integration. , 0, , .		4

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109	Micro-Acoustic-Trap ($\hat{\mu}$ AT) for microparticle assembly in 3D. Ultrasonics Sonochemistry, 2019, 57, 193-202.	8.2	4
110	Scanning Probe Spectroscopy of WS ₂ /Graphene Van Der Waals Heterostructures. Nanomaterials, 2020, 10, 2494.	4.1	4
111	Low thermal conductivity in franckeite heterostructures. Nanoscale, 2022, 14, 2593-2598.	5.6	4
112	Surface and interfacial interactions of multilayer graphitic structures with local environment. Thin Solid Films, 2015, 585, 31-39.	1.8	3
113	Multimode probing of superfluid 4He by tuning forks. Applied Physics Letters, 2019, 115, .	3.3	3
114	Correlation of shear forces and heat conductance in nanoscale junctions. Physical Review B, 2019, 100, .	3.2	3
115	Complementary sample preparation strategies (PVD/BEXP) combining with multifunctional SPM for the characterizations of battery interfacial properties. MethodsX, 2021, 8, 101250.	1.6	3
116	Nanoscale Control of Ferroelectric Domain Structure by AFM. Materials Research Society Symposia Proceedings, 1994, 357, 363.	0.1	2
117	Mapping nanoscale dynamic properties of suspended and supported multi-layer graphene membranes via contact resonance and ultrasonic scanning probe microscopies. Nanotechnology, 2020, 31, 415702.	2.6	2
118	Ultrasonic Force Microscopies. Nanoscience and Technology, 2013, , 261-292.	1.5	2
119	Synthesis, characterisation, and feasibility studies on the use of vanadium tellurate($\langle \text{scp} \rangle \text{vi} \langle / \text{scp} \rangle$) as a cathode material for aqueous rechargeable Zn-ion batteries. RSC Advances, 2022, 12, 12211-12218.	3.6	2
120	Heat flow in atomic bottlenecks. Nature Nanotechnology, 2017, 12, 402-403.	31.5	1
121	Evaluation of a Point-spread-function of Focusing Systems Using Spherical Reflector. , 1993, , 547-550.		1
122	Solution-processed thin film transistors incorporating YSZ gate dielectrics processed at 400 $\hat{\epsilon}$ % $\hat{\text{A}}$ $\hat{\text{C}}$. APL Materials, 2022, 10, .	5.1	1
123	Virtual spaces for IFETS and IFETS-East-Euro learning communities. , 2005, , .		0
124	Transparent gold nanowire electrodes. , 2011, , .		0
125	Ultrasonic Force Microscopy of Biopolymers at Frequencies Above 100 MHz. Springer Series in Materials Science, 1994, , 349-353.	0.6	0
126	Application of SPM for the Analysis of Microcracks of Thin-Film Head Alumina. , 1997, , 663-668.		0

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127	Investigation of Local Mechanical Properties of Al-Cu-Li Alloys by Acoustic Microscope. Communications - Scientific Letters of the University of Zilina, 2003, 5, 26-28.	0.6	0