

# Oleg Kolosov

## List of Publications by Year in descending order

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127  
papers

4,196  
citations

147801

31  
h-index

128289

60  
g-index

132  
all docs

132  
docs citations

132  
times ranked

4471  
citing authors

#	ARTICLE	IF	CITATIONS
1	Low thermal conductivity in franckeite heterostructures. <i>Nanoscale</i> , 2022, 14, 2593-2598.	5.6	4
2	Thermoelectric properties of organic thin films enhanced by $\pi$ - $\pi$ stacking. <i>JPhys Energy</i> , 2022, 4, 024002.	5.3	6
3	Solution-processed thin film transistors incorporating YSZ gate dielectrics processed at 400% $\text{\AA}$ C. <i>APL Materials</i> , 2022, 10, .	5.1	1
4	Synthesis, characterisation, and feasibility studies on the use of vanadium tellurate( $\text{VTeO}_6$ ) as a cathode material for aqueous rechargeable Zn-ion batteries. <i>RSC Advances</i> , 2022, 12, 12211-12218.	3.6	2
5	Experimental evidence of disorder enhanced electron-phonon scattering in graphene devices. <i>Carbon</i> , 2021, 178, 632-639.	10.3	7
6	Complementary sample preparation strategies (PVD/BEXP) combining with multifunctional SPM for the characterizations of battery interfacial properties. <i>MethodsX</i> , 2021, 8, 101250.	1.6	3
7	Anomalous Low Thermal Conductivity of Atomically Thin InSe Probed by Scanning Thermal Microscopy. <i>Advanced Functional Materials</i> , 2021, 31, 2008967.	14.9	15
8	Quantifying thermal transport in buried semiconductor nanostructures via cross-sectional scanning thermal microscopy. <i>Nanoscale</i> , 2021, 13, 10829-10836.	5.6	12
9	2021 roadmap for sodium-ion batteries. <i>JPhys Energy</i> , 2021, 3, 031503.	5.3	125
10	Ferroelectric semiconductor junctions based on graphene/ $\text{In}_2\text{Se}_3$ /graphene van der Waals heterostructures. <i>2D Materials</i> , 2021, 8, 045020.	4.4	16
11	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
12	Nanoscale Mapping of Thermal and Mechanical Properties of Bare and Metal-Covered Self-Assembled Block Copolymer Thin Films. <i>ACS Applied Polymer Materials</i> , 2020, 2, 487-496.	4.4	12
13	Scanning Probe Spectroscopy of $\text{WS}_2$ /Graphene Van Der Waals Heterostructures. <i>Nanomaterials</i> , 2020, 10, 2494.	4.1	4
14	Electroactive Silk Fibroin Films for Electrochemically Enhanced Delivery of Drugs. <i>Macromolecular Materials and Engineering</i> , 2020, 305, 2000130.	3.6	14
15	Mapping nanoscale dynamic properties of suspended and supported multi-layer graphene membranes via contact resonance and ultrasonic scanning probe microscopies. <i>Nanotechnology</i> , 2020, 31, 415702.	2.6	2
16	Scale-Up of Room-Temperature Constructive Quantum Interference from Single Molecules to Self-Assembled Molecular-Electronic Films. <i>Journal of the American Chemical Society</i> , 2020, 142, 8555-8560.	13.7	34
17	Direct mapping of local Seebeck coefficient in 2D material nanostructures via scanning thermal gate microscopy. <i>2D Materials</i> , 2020, 7, 041004.	4.4	17
18	Nanoscale Thermal Transport in 2D Nanostructures from Cryogenic to Room Temperature. <i>Advanced Electronic Materials</i> , 2019, 5, 1900331.	5.1	15

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19	Efficient heating of single-molecule junctions for thermoelectric studies at cryogenic temperatures. Applied Physics Letters, 2019, 115, 073103.	3.3	11
20	Multimode probing of superfluid 4He by tuning forks. Applied Physics Letters, 2019, 115, .	3.3	3
21	Micro-Acoustic-Trap ( $\mu$ AT) for microparticle assembly in 3D. Ultrasonics Sonochemistry, 2019, 57, 193-202.	8.2	4
22	Correlation of shear forces and heat conductance in nanoscale junctions. Physical Review B, 2019, 100, .	3.2	3
23	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
24	Geometrically Enhanced Thermoelectric Effects in Graphene Nanoconstrictions. Nano Letters, 2018, 18, 7719-7725.	9.1	46
25	Improving accuracy of nanothermal measurements via spatially distributed scanning thermal microscope probes. Journal of Applied Physics, 2018, 124, .	2.5	30
26	Mechanical Properties of Advanced Gas-Cooled Reactor Stainless Steel Cladding After Irradiation. Journal of Materials Engineering and Performance, 2018, 27, 2081-2088.	2.5	10
27	Subsurface imaging of two-dimensional materials at the nanoscale. Nanotechnology, 2017, 28, 085706.	2.6	23
28	Formation of Two-Dimensional Micelles on Graphene: Multi-Scale Theoretical and Experimental Study. ACS Nano, 2017, 11, 3404-3412.	14.6	14
29	Heat flow in atomic bottlenecks. Nature Nanotechnology, 2017, 12, 402-403.	31.5	1
30	Solution-Processed Neodymium Oxide/ZnO Thin-Film Transistors with Electron Mobility in Excess of 65 cm <sup>2</sup> V <sup>-1</sup> s <sup>-1</sup> . Advanced Electronic Materials, 2017, 3, 1700025.	5.1	20
31	Structural and Electrical Characterization of SiO <sub>2</sub> Gate Dielectrics Deposited from Solutions at Moderate Temperatures in Air. ACS Applied Materials & Interfaces, 2017, 9, 529-536.	8.0	22
32	Field-Effect Control of Graphene-Fullerene Thermoelectric Nanodevices. Nano Letters, 2017, 17, 7055-7061.	9.1	61
33	A simplified model to estimate thermal resistance between carbon nanotube and sample in scanning thermal microscopy. Journal Physics D: Applied Physics, 2017, 50, 494004.	2.8	8
34	Thermal transport in epitaxial Si <sub>1-x</sub> Ge <sub>x</sub> alloy nanowires with varying composition and morphology. Nanotechnology, 2017, 28, 505704.	2.6	9
35	Cavitation Bubbles Generated by Vibrating Quartz Tuning Fork in Liquid $^4\text{He}$ Close to the $\lambda$ . Journal of Low Temperature Physics, 2017, 187, 376-382.	1.4	6
36	Retro-inverso peptide inhibitor nanoparticles as potent inhibitors of aggregation of the Alzheimer's A $\beta$ peptide. Nanomedicine: Nanotechnology, Biology, and Medicine, 2017, 13, 723-732.	3.3	47

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37	Scanning thermal microscopy with heat conductive nanowire probes. Ultramicroscopy, 2016, 162, 42-51.	1.9	21
38	Measurements of Vortex Line Density Generated by a Quartz Tuning Fork in Superfluid $^4\text{He}$ . Journal of Low Temperature Physics, 2016, 183, 208-214.	1.4	11
39	Nanoscale mapping of in situ actuating microelectromechanical systems with AFM. Journal of Materials Research, 2015, 30, 429-441.	2.6	7
40	Structural, optical and electrostatic properties of single and few-layers MoS <sub>2</sub> : effect of substrate. 2D Materials, 2015, 2, 015005.	4.4	80
41	Realization of Vertically Aligned, Ultrahigh Aspect Ratio InAsSb Nanowires on Graphite. Nano Letters, 2015, 15, 4348-4355.	9.1	37
42	Surface and interfacial interactions of multilayer graphitic structures with local environment. Thin Solid Films, 2015, 585, 31-39.	1.8	3
43	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
44	Solution processed lanthanum aluminate gate dielectrics for use in metal oxide-based thin film transistors. Applied Physics Letters, 2015, 106, 203507.	3.3	27
45	Physical mechanisms of megahertz vibrations and nonlinear detection in ultrasonic force and related microscopies. Journal of Applied Physics, 2014, 115, 144304.	2.5	27
46	Frequency-dependent drag from quantum turbulence produced by quartz tuning forks in superfluid $^4\text{He}$ . Physical Review B, 2014, 89, .	3.2	23
47	Self-catalysed growth of InAs nanowires on bare Si substrates by droplet epitaxy. Physica Status Solidi - Rapid Research Letters, 2014, 8, 658-662.	2.4	10
48	Response of a Mechanical Oscillator in Solid $^4\text{He}$ . Journal of Low Temperature Physics, 2014, 175, 140-146.	1.4	8
49	Charged nano-domes and bubbles in epitaxial graphene. Nanotechnology, 2014, 25, 165704.	2.6	23
50	$\beta$ -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
51	Nanosecond switching in GeSe phase change memory films by atomic force microscopy. Applied Physics Letters, 2014, 104, .	3.3	29
52	Nanoscale resolution scanning thermal microscopy using carbon nanotube tipped thermal probes. Physical Chemistry Chemical Physics, 2014, 16, 1174-1181.	2.8	22
53	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
54	Probing nanoscale graphene-liquid interfacial interactions via ultrasonic force spectroscopy. Nanoscale, 2014, 6, 10806-10816.	5.6	19

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55	Electromechanical Sensing of Substrate Charge Hidden under Atomic 2D Crystals. Nano Letters, 2014, 14, 3400-3404.	9.1	16
56	Nanomechanical morphology of amorphous, transition, and crystalline domains in phase change memory thin films. Applied Surface Science, 2014, 314, 151-157.	6.1	11
57	Graphitic platform for self-catalysed InAs nanowires growth by molecular beam epitaxy. Nanoscale Research Letters, 2014, 9, 321.	5.7	11
58	A Quasiparticle Detector for Imaging Quantum Turbulence in Superfluid $^3\text{He-B}$ . Journal of Low Temperature Physics, 2014, 175, 725-738.	1.4	11
59	Nanomechanical mapping of graphene layers and interfaces in suspended graphene nanostructures grown via carbon diffusion. Thin Solid Films, 2014, 550, 472-479.	1.8	10
60	Ultrasonic force microscopy for nanomechanical characterization of early and late-stage amyloid- $\beta^2$ peptide aggregation. Scientific Reports, 2014, 4, 4004.	3.3	27
61	Tungstate sharpening: A versatile method for extending the profile of ultra sharp tungsten probes. Review of Scientific Instruments, 2013, 84, 035107.	1.3	5
62	Nanoscale Interfacial Interactions of Graphene with Polar and Nonpolar Liquids. Langmuir, 2013, 29, 7735-7742.	3.5	51
63	Mapping nanoscale thermal transfer in-liquid environment—immersion scanning thermal microscopy. Nanotechnology, 2013, 24, 465706.	2.6	28
64	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
65	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
66	Optical investigation of the natural electron doping in thin MoS <sub>2</sub> films deposited on dielectric substrates. Scientific Reports, 2013, 3, 3489.	3.3	144
67	Multidimensional SPM applied for nanoscale conductance mapping. Journal of Materials Research, 2013, 28, 3311-3321.	2.6	8
68	A Novel Retro-Inverso Peptide Inhibitor Reduces Amyloid Deposition, Oxidation and Inflammation and Stimulates Neurogenesis in the APP <sup>swe</sup> /PS1 <sup>E9</sup> Mouse Model of Alzheimer's Disease. PLoS ONE, 2013, 8, e54769.	2.5	76
69	Ultrasonic Force Microscopies. Nanoscience and Technology, 2013, , 261-292.	1.5	2
70	Nanoscale spatial resolution probes for scanning thermal microscopy of solid state materials. Journal of Applied Physics, 2012, 112, .	2.5	76
71	Crossover from hydrodynamic to acoustic drag on quartz tuning forks in normal and superfluid $^4\text{He}$ . Physical Review B, 2012, 85, .	3.2	57
72	Direct Nanoscale Imaging of Ballistic and Diffusive Thermal Transport in Graphene Nanostructures. Nano Letters, 2012, 12, 2906-2911.	9.1	87

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73	Material sensitive scanning probe microscopy of subsurface semiconductor nanostructures via beam exit Ar ion polishing. <i>Nanotechnology</i> , 2011, 22, 185702.	2.6	24
74	Transparent gold nanowire electrodes. , 2011, , .		0
75	A Versatile Nanopatterning Technique Based on Controlled Undercutting and Liftoff. <i>Advanced Materials</i> , 2011, 23, 5039-5044.	21.0	11
76	Ultrasonic force microscopy: Detection and imaging of ultra-thin molecular domains. <i>Ultramicroscopy</i> , 2011, 111, 267-272.	1.9	21
77	Direct Measurement of the Critical Velocity Above Which a Tuning Fork Generates Turbulence in Superfluid Helium. <i>Journal of Low Temperature Physics</i> , 2010, 158, 456-461.	1.4	16
78	Measuring the Prong Velocity of Quartz Tuning Forks Used to Probe Quantum Fluids. <i>Journal of Low Temperature Physics</i> , 2010, 161, 536-547.	1.4	14
79	GaSb quantum dot morphology for different growth temperatures and the dissolution effect of the GaAs capping layer. <i>Journal Physics D: Applied Physics</i> , 2010, 43, 065402.	2.8	26
80	New Solid State Oil Condition Sensor for Real Time Engine Oil Condition Monitoring. , 2006, , .		9
81	Multiparametric Oil Condition Sensor Based on the Tuning Fork Technology for Automotive Applications. , 2005, , 289-298.		7
82	Virtual spaces for IFETS and IFETS-East-Euro learning communities. , 2005, , .		0
83	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
84	Tribology and ultrasonic hysteresis at local scales. <i>Applied Surface Science</i> , 2003, 210, 54-60.	6.1	14
85	Local probing of thermal properties at submicron depths with megahertz photothermal vibrations. <i>Applied Physics Letters</i> , 2003, 82, 622-624.	3.3	7
86	Investigation of Local Mechanical Properties of Al-Cu-Li Alloys by Acoustic Microscope. <i>Communications - Scientific Letters of the University of Zilina</i> , 2003, 5, 26-28.	0.6	0
87	Nanometer-scale mechanical imaging of aluminum damascene interconnect structures in a low-dielectric-constant polymer. <i>Journal of Applied Physics</i> , 2002, 91, 4549-4555.	2.5	59
88	Measurement of debonding in cracked nanocomposite films by ultrasonic force microscopy. <i>Applied Physics Letters</i> , 2002, 80, 1180-1182.	3.3	39
89	AFM and UFM surface characterization of rubber-toughened poly(methyl methacrylate) samples. <i>Journal of Applied Polymer Science</i> , 2001, 82, 2790-2798.	2.6	19
90	Nonlinear detection of ultrasonic vibration of AFM cantilevers in and out of contact with the sample. <i>Nanotechnology</i> , 2001, 12, 53-59.	2.6	24

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91	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
92	Surface morphology and crystallinity of biaxially stretched PET films on the nanoscale. Polymer, 2000, 41, 4285-4289.	3.8	29
93	Laser picosecond acoustics in isotropic and anisotropic materials. Ultrasonics, 2000, 38, 470-474.	3.9	58
94	Elastic measurements of layered nanocomposite materials by Brillouin spectroscopy. Ultrasonics, 2000, 38, 459-465.	3.9	10
95	Structural changes to epitaxial (0001) holmium layers during hydrogen loading. Journal Physics D: Applied Physics, 2000, 33, 894-900.	2.8	30
96	Waveguide ultrasonic force microscopy at 60 MHz. Applied Physics Letters, 2000, 76, 1836-1838.	3.3	38
97	Measurements of stiff-material compliance on the nanoscale using ultrasonic force microscopy. Physical Review B, 2000, 61, 13995-14006.	3.2	79
98	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
99	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
100	A microstructural study of transparent metal oxide gas barrier films. Thin Solid Films, 1999, 355-356, 500-505.	1.8	94
101	Anisotropic elastic characterization of surfaces from 2 MHz to 20 GHz. Ultrasonics, 1998, 36, 317-321.	3.9	5
102	Early stages of growth and nanostructure of Pb(Zr,Ti)O <sub>3</sub> thin films observed by atomic force microscopy. Thin Solid Films, 1998, 336, 281-285.	1.8	4
103	Imaging the Elastic Nanostructure of Ge Islands by Ultrasonic Force Microscopy. Physical Review Letters, 1998, 81, 1046-1049.	7.8	139
104	Ultrasound induced lubricity in microscopic contact. Applied Physics Letters, 1997, 71, 1177-1179.	3.3	95
105	Application of SPM for the Analysis of Microcracks of Thin-Film Head Alumina. , 1997, , 663-668.		0
106	Acoustic Microscopy for Imaging and Characterization. MRS Bulletin, 1996, 21, 30-35.	3.5	19
107	Microcracks of the thin-film head alumina: "L" cracks and "U" cracks. IEEE Transactions on Magnetics, 1996, 32, 3696-3698.	2.1	6
108	Kolosov Replies:. Physical Review Letters, 1996, 76, 4292-4292.	7.8	5

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109	Characterization of surface damage via surface acoustic waves. Nanotechnology, 1996, 7, 295-301.	2.6	23
110	Characterization of surface damage via contact probes. Nanotechnology, 1996, 7, 288-294.	2.6	9
111	Nanoscale Imaging of Mechanical Properties by Ultrasonic Force Microscopy (UFM). Acoustical Imaging, 1996, , 665-668.	0.2	13
112	Nanoscale Visualization and Control of Ferroelectric Domains by Atomic Force Microscopy. Physical Review Letters, 1995, 74, 4309-4312.	7.8	233
113	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
114	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
115	Acoustic Imaging of Plate Thickness and Sound Velocity during Tensile Testing at Low Temperature. Japanese Journal of Applied Physics, 1994, 33, 6373-6378.	1.5	5
116	Adjustable Acoustic Knife Edge for Anisotropic and Dark-Field Acoustic Imaging. Japanese Journal of Applied Physics, 1994, 33, 329-333.	1.5	4
117	Ultrasonic force microscopy for nanometer resolution subsurface imaging. Applied Physics Letters, 1994, 64, 178-180.	3.3	344
118	Nanoscale Control of Ferroelectric Domain Structure by AFM. Materials Research Society Symposia Proceedings, 1994, 357, 363.	0.1	2
119	Elastic Imaging with Nanoscale and Atomic Resolution by Ultrasonic Force Microscopy (UFM). Springer Series in Materials Science, 1994, , 345-348.	0.6	12
120	Ultrasonic Force Microscopy of Biopolymers at Frequencies Above 100 MHz. Springer Series in Materials Science, 1994, , 349-353.	0.6	0
121	Nonlinear Detection of Ultrasonic Vibrations in an Atomic Force Microscope. Japanese Journal of Applied Physics, 1993, 32, L1095-L1098.	1.5	279
122	Microscale evaluation of the viscoelastic properties of polymer gel for artificial muscles using transmission acoustic microscopy. Journal of Applied Physics, 1993, 74, 6407-6412.	2.5	10
123	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
124	Evaluation of a Point-spread-function of Focusing Systems Using Spherical Reflector. , 1993, , 547-550.		1
125	The use of acoustic microscopy for biological tissue characterization. Ultrasound in Medicine and Biology, 1987, 13, 477-483.	1.5	29
126	Nanoscale elastic imaging: a new metrology tool for low-k dielectric integration. , 0, , .		4

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127	High precision tuning fork sensor for liquid property measurements. , 0, , .		11