Andrei A Kolmakov

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papers

8,875
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5.99
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ext. citations

avg, IF

L-index

#	Paper	IF	Citations
127	Enhanced gas sensing by individual SnO2 nanowires and nanobelts functionalized with Pd catalyst particles. <i>Nano Letters</i> , 2005 , 5, 667-73	11.5	1205
126	CHEMICAL SENSING AND CATALYSIS BY ONE-DIMENSIONAL METAL-OXIDE NANOSTRUCTURES. Annual Review of Materials Research, 2004 , 34, 151-180	12.8	942
125	Detection of CO and O2 Using Tin Oxide Nanowire Sensors. <i>Advanced Materials</i> , 2003 , 15, 997-1000	24	941
124	Interactions between engineered nanoparticles (ENPs) and plants: phytotoxicity, uptake and accumulation. <i>Science of the Total Environment</i> , 2010 , 408, 3053-61	10.2	777
123	Gas sensor based on metal-insulator transition in VO2 nanowire thermistor. <i>Nano Letters</i> , 2009 , 9, 2322	?-6 1.5	347
122	A gradient microarray electronic nose based on percolating SnO(2) nanowire sensing elements. <i>Nano Letters</i> , 2007 , 7, 3182-8	11.5	244
121	Toward the nanoscopic "electronic nose": hydrogen vs carbon monoxide discrimination with an array of individual metal oxide nano- and mesowire sensors. <i>Nano Letters</i> , 2006 , 6, 1584-8	11.5	221
120	Highly selective gas sensor arrays based on thermally reduced graphene oxide. <i>Nanoscale</i> , 2013 , 5, 542	6 - 34	219
119	Control of Catalytic Reactions at the Surface of a Metal Oxide Nanowire by Manipulating Electron Density Inside It. <i>Nano Letters</i> , 2004 , 4, 403-407	11.5	214
118	Phytotoxicity, accumulation and transport of silver nanoparticles by Arabidopsis thaliana. <i>Nanotoxicology</i> , 2013 , 7, 323-37	5.3	204
117	Graphene oxide windows for in situ environmental cell photoelectron spectroscopy. <i>Nature Nanotechnology</i> , 2011 , 6, 651-7	28.7	177
116	Electronic control of chemistry and catalysis at the surface of an individual tin oxide nanowire. Journal of Physical Chemistry B, 2005 , 109, 1923-9	3.4	151
115	ESCA Microscopy at ELETTRA: what it is like to perform spectromicroscopy experiments on a third generation synchrotron radiation source. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1997 , 84, 73-83	1.7	132
114	Symmetry relationship and strain-induced transitions between insulating M1 and M2 and metallic R phases of vanadium dioxide. <i>Nano Letters</i> , 2010 , 10, 4409-16	11.5	125
113	Percolating SnO2 nanowire network as a stable gas sensor: Direct comparison of long-term performance versus SnO2 nanoparticle films. <i>Sensors and Actuators B: Chemical</i> , 2009 , 139, 699-703	8.5	122
112	Doping-based stabilization of the M2 phase in free-standing VO[hanostructures at room temperature. <i>Nano Letters</i> , 2012 , 12, 6198-205	11.5	120
111	Drop-casted self-assembling graphene oxide membranes for scanning electron microscopy on wet and dense gaseous samples. <i>ACS Nano</i> , 2011 , 5, 10047-54	16.7	95

(2005-2010)

110	Interplay between ferroelastic and metal-insulator phase transitions in strained quasi-two-dimensional VO2 nanoplatelets. <i>Nano Letters</i> , 2010 , 10, 2003-11	11.5	91	
109	Current rectification in a single GaN nanowire with a well-defined pl junction. <i>Applied Physics Letters</i> , 2003 , 83, 1578-1580	3.4	84	
108	Topotactic Thermal Oxidation of Sn Nanowires: Intermediate Suboxides and CoreBhell Metastable Structures. <i>Nano Letters</i> , 2003 , 3, 1125-1129	11.5	81	
107	Highly sensitive gas sensor based on integrated titania nanosponge arrays. <i>Applied Physics Letters</i> , 2006 , 88, 102904	3.4	80	
106	Spectromicroscopy for addressing the surface and electron transport properties of individual 1-d nanostructures and their networks. <i>ACS Nano</i> , 2008 , 2, 1993-2000	16.7	79	
105	Fabrication, Testing, and Simulation of All-Solid-State Three-Dimensional Li-Ion Batteries. <i>ACS Applied Materials & Discourse (Materials & Discourse)</i> 1, 123 (1997) 1, 124 (1997) 1, 125 (1997) 1, 126 (1997) 1, 127 (1997) 1, 1	9.5	76	
104	Evidence of the self-heating effect on surface reactivity and gas sensing of metal bxide nanowire chemiresistors. <i>Nanotechnology</i> , 2008 , 19, 355502	3.4	72	
103	Coupling nanowire chemiresistors with MEMS microhotplate gas sensing platforms. <i>Applied Physics Letters</i> , 2007 , 91, 063118	3.4	7º	
102	Photoelectron spectroscopy of wet and gaseous samples through graphene membranes. <i>Nanoscale</i> , 2014 , 6, 14394-403	7.7	68	
101	In situ monitoring of the growth, intermediate phase transformations and templating of single crystal VO2 nanowires and nanoplatelets. <i>ACS Nano</i> , 2011 , 5, 3373-84	16.7	67	
100	Mesoscopic metal-insulator transition at ferroelastic domain walls in VO2. ACS Nano, 2010 , 4, 4412-9	16.7	63	
99	Artefact formation in scanning photoelectron emission microscopy. <i>Ultramicroscopy</i> , 1998 , 75, 35-51	3.1	63	
98	Scanning tunneling microscopy of gold clusters on TiO2(110): CO oxidation at elevated pressures. <i>Surface Science</i> , 2001 , 490, L597-L601	1.8	63	
97	Imaging gold clusters on TiO2(110) at elevated pressures and temperatures. <i>Catalysis Letters</i> , 2000 , 70, 93-97	2.8	61	
96	Functionalizing nanowires with catalytic nanoparticles for gas sensing application. <i>Journal of Nanoscience and Nanotechnology</i> , 2008 , 8, 111-21	1.3	59	
95	Electronic transport imaging in a multiwire SnO2 chemical field-effect transistor device. <i>Journal of Applied Physics</i> , 2005 , 98, 044503	2.5	58	
94	Characterization of surface defects on MgO thin films by ultraviolet photoelectron and metastable impact electron spectroscopies. <i>Journal of Chemical Physics</i> , 2000 , 113, 7564-7570	3.9	57	
93	Landing of size-selected Agn+ clusters on single crystal TiO2 (110)-(1x1) surfaces at room temperature. <i>Journal of Chemical Physics</i> , 2005 , 122, 81102	3.9	56	

92	Encoding morphology in oxide nanostructures during their growth. <i>Nano Letters</i> , 2005 , 5, 2019-22	11.5	53
91	Single-nanobelt electronic nose: engineering and tests of the simplest analytical element. <i>ACS Nano</i> , 2010 , 4, 4487-94	16.7	52
90	Electromechanical actuation and current-induced metastable states in suspended single-crystalline VO[hanoplatelets. <i>Nano Letters</i> , 2011 , 11, 3065-73	11.5	47
89	Enabling Photoemission Electron Microscopy in Liquids via Graphene-Capped Microchannel Arrays. <i>Nano Letters</i> , 2017 , 17, 1034-1041	11.5	43
88	Electron transparent graphene windows for environmental scanning electron microscopy in liquids and dense gases. <i>Nanotechnology</i> , 2012 , 23, 505704	3.4	43
87	In situ scanning tunneling microscopy of oxide-supported metal clusters: nucleation, growth, and thermal evolution of individual particles. <i>Chemical Record</i> , 2002 , 2, 446-57	6.6	41
86	In situ scanning tunneling microscopy of individual supported metal clusters at reactive gas pressures from 10 B to 104 Pa. <i>Review of Scientific Instruments</i> , 2003 , 74, 2444-2450	1.7	41
85	From Microparticles to Nanowires and Back: Radical Transformations in Plated Li Metal Morphology Revealed via in Situ Scanning Electron Microscopy. <i>Nano Letters</i> , 2018 , 18, 1644-1650	11.5	40
84	Seeing through Walls at the Nanoscale: Microwave Microscopy of Enclosed Objects and Processes in Liquids. <i>ACS Nano</i> , 2016 , 10, 3562-70	16.7	39
83	Extraordinary performance of semiconducting metal oxide gas sensors using dielectric excitation. <i>Nature Electronics</i> , 2020 , 3, 280-289	28.4	38
82	Recent approaches for bridging the pressure gap in photoelectron microspectroscopy. <i>Topics in Catalysis</i> , 2016 , 59, 448-468	2.3	38
81	Photoelectron Spectromicroscopic Study of the Spreading Behavior of MoO3 on Titania and Alumina Model Supports <i>Journal of Physical Chemistry B</i> , 1997 , 101, 10004-10011	3.4	37
80	In situ SEM study of lithium intercalation in individual V2O5 nanowires. <i>Nanoscale</i> , 2015 , 7, 3022-7	7.7	35
79	Some recent trends in the fabrication, functionalisation and characterisation of metal oxide nanowire gas sensors. <i>International Journal of Nanotechnology</i> , 2008 , 5, 450	1.5	33
78	Insights into capacity loss mechanisms of all-solid-state Li-ion batteries with Al anodes. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 20552-20559	13	32
77	The nucleation sites of Ag clusters grown by vapor deposition on a TiO2(110)-1¶ surface. <i>Surface Science</i> , 2005 , 575, 60-68	1.8	31
76	Low-temperature thermal reduction of graphene oxide: In situ correlative structural, thermal desorption, and electrical transport measurements. <i>Applied Physics Letters</i> , 2018 , 112, 053103	3.4	30
75	Au on Ag/Si(111)-(3B)R30th A spectromicroscopy study of a bimetal-silicon interface. <i>Physical Review B</i> , 1997 , 56, 5003-5013	3.3	30

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74	Nanoengineered chemiresistors: the interplay between electron transport and chemisorption properties of morphologically encoded SnO2nanowires. <i>Nanotechnology</i> , 2007 , 18, 055707	3.4	30
73	Formation, deposition and examination of size selected metal clusters on semiconductor surfaces: An experimental setup. <i>International Journal of Mass Spectrometry</i> , 2006 , 254, 202-209	1.9	29
72	Metal oxide "nanosponges" as chemical sensors: highly sensitive detection of hydrogen with nanosponge titania. <i>Angewandte Chemie - International Edition</i> , 2007 , 46, 4298-301	16.4	28
71	Interfacial Electrochemistry in Liquids Probed with Photoemission Electron Microscopy. <i>Journal of the American Chemical Society</i> , 2017 , 139, 18138-18141	16.4	27
7°	In situ X-ray microdiffraction studies inside individual VO2 microcrystals. <i>Acta Materialia</i> , 2013 , 61, 2751	-2 .7462	26
69	Pinning mass-selected Agn clusters on the TiO2(110)-1x1 surface via deposition at high kinetic energy. <i>Journal of Chemical Physics</i> , 2005 , 123, 204701	3.9	26
68	Graphene Microcapsule Arrays for Combinatorial Electron Microscopy and Spectroscopy in Liquids. <i>ACS Applied Materials & District Aces</i> , 2017 , 9, 26492-26502	9.5	24
67	Intrinsic device-to-device variation in graphene field-effect transistors on a Si/SiO2 substrate as a platform for discriminative gas sensing. <i>Applied Physics Letters</i> , 2014 , 104, 013114	3.4	24
66	Contactless monitoring of the diameter-dependent conductivity of GaAs nanowires. <i>Nano Research</i> , 2010 , 3, 706-713	10	22
65	The electrical characterization of a multi-electrode odor detection sensor array based on the single SnO2 nanowire. <i>Thin Solid Films</i> , 2011 , 520, 898-903	2.2	21
64	Scanning Electron Microscopy for in Situ Monitoring of Semiconductor Liquid Interfacial Processes: Electron Assisted Reduction of Ag Ions from Aqueous Solution on the Surface of TiO2 Rutile Nanowire Journal of Physical Chemistry C, 2010, 114, 17233-17237	3.8	21
63	Stateful characterization of resistive switching TiO with electron beam induced currents. <i>Nature Communications</i> , 2017 , 8, 1972	17.4	20
62	Scanning Near-Field Microwave Microscopy of VO2 and Chemical Vapor Deposition Graphene. <i>Advanced Functional Materials</i> , 2013 , 23, 2635-2645	15.6	20
61	Na 1s photoabsorption of free and deposited NaCl clusters: Development of bond length with cluster size. <i>Physical Review B</i> , 2001 , 64,	3.3	20
60	Growth of Au on TiO2(110) on a Cluster-by-Cluster Basis. <i>Japanese Journal of Applied Physics</i> , 2003 , 42, 4795-4798	1.4	16
59	Nanoscale Mapping of the Double Layer Potential at the Graphene-Electrolyte Interface. <i>Nano Letters</i> , 2020 , 20, 1336-1344	11.5	14
58	Toward Clean Suspended CVD Graphene. <i>RSC Advances</i> , 2016 , 6, 83954-83962	3.7	14
57	Heat dissipation from suspended self-heated nanowires: gas sensor prospective. <i>Nanotechnology</i> , 2013 , 24, 444009	3.4	13

56	Ag on Au/Si(111):mInterfacial interactions on a submicrometer scale. <i>Physical Review B</i> , 1997 , 55, 4101	-43.94	13
55	In Aqua Electrochemistry Probed by XPEEM: Experimental Setup, Examples, and Challenges. <i>Topics in Catalysis</i> , 2018 , 61, 2195-2206	2.3	13
54	Multi-environment Nanocalorimeter with Electrical Contacts for Use in the Scanning Electron Microscope. <i>Materials Horizons</i> , 2017 , 4, 1128-1134	14.4	12
53	Geometric structure of (NaCl)4 clusters studied with XANES at the chlorine L-edge and at the sodium K-edge. <i>Chemical Physics Letters</i> , 2002 , 356, 23-28	2.5	12
52	Synthesis of Au nanoclusters supported upon a TiO2 nanotube array. <i>Journal of Materials Research</i> , 2005 , 20, 1093-1096	2.5	12
51	Innershell absorption spectroscopy on CdS: Free clusters and nanocrystals. <i>Journal of Chemical Physics</i> , 2001 , 114, 489	3.9	12
50	Photoabsorption of NaCl clusters at the Na K-edge: Development of the bond length with the cluster size. <i>Journal of Chemical Physics</i> , 2001 , 115, 1319-1323	3.9	12
49	Metal Oxide Nanospongeslas Chemical Sensors: Highly Sensitive Detection of Hydrogen with Nanosponge Titania. <i>Angewandte Chemie</i> , 2007 , 119, 4376-4379	3.6	11
48	Polarized Raman Scattering from a Single, Segmented SnO2 Wire. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 17270-17277	3.8	9
47	Copper phthalocyanine quasi-1D nanostructures: growth morphologies and gas sensing properties. Journal of Nanoscience and Nanotechnology, 2008 , 8, 212-21	1.3	9
46	Application of spectromicroscopy tools to explore local origins of sensor activity in quasi-1D oxide nanostructures. <i>Nanotechnology</i> , 2006 , 17, 4014-8	3.4	9
45	The effect of morphology and surface doping on sensitization of quasi-1D metal oxide nanowire gas sensors 2006 ,		9
44	Electron and X-ray Focused Beam-Induced Cross-Linking in Liquids: Toward Rapid Continuous 3D Nanoprinting and Interfacing using Soft Materials. <i>ACS Nano</i> , 2020 , 14, 12982-12992	16.7	9
43	Spectromicroscopic evidence of Ge-GaSe chemical reactions: Not a Schottky system. <i>Physical Review B</i> , 1997 , 55, R4899-R4902	3.3	8
42	Scanning photoelectron microscopy of a interface: Au coadsorbed on. <i>Surface Science</i> , 1997 , 377-379, 145-149	1.8	8
41	Design and Application of Variable Temperature Setup for Scanning Electron Microscopy in Gases and Liquids at Ambient Conditions. <i>Microscopy and Microanalysis</i> , 2015 , 21, 765-70	0.5	7
40	Ultrathin Gas Permeable Oxide Membranes for Chemical Sensing: Nanoporous TaDITest Study. <i>Materials</i> , 2015 , 8, 6677-6684	3.5	7
39	Interface dynamics and electromigration of the system AuAgSi(111) using photoelectron emission microscopy. <i>Surface Science</i> , 1997 , 377-379, 969-974	1.8	7

(2020-2000)

38	Argon coated alkali halide clusters: the effect of the coating on the ionization and fragmentation dynamics. <i>Chemical Physics Letters</i> , 2000 , 319, 465-471	2.5	7
37	Imaging and Analysis of Encapsulated Objects through Self-Assembled Electron and Optically Transparent Graphene Oxide Membranes. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1600734	4.6	6
36	Characterization of individual SnO2 nanobelts with STM. Surface Science, 2008, 602, L112-L114	1.8	6
35	Innershell photoionisation spectroscopy of NaCl clusters. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1999 , 101-103, 199-203	1.7	6
34	Local coexistence of VO2 phases revealed by deep data analysis. Scientific Reports, 2016, 6, 29216	4.9	6
33	Near-Field Probe Microscopy of Plasma Processing Applied Physics Letters, 2018, 113,	3.4	6
32	Radiation damage of liquid electrolyte during focused X-ray beam photoelectron spectroscopy. <i>Surface Science</i> , 2020 , 697, 121608	1.8	5
31	Self-heated Nanowire Sensors: Opportunities, Optimization and Limitations 2009,		5
30	Spectromicroscopy and thermal evolution of an bimetallic interface. Surface Science, 1997, 389, 241-250) 1.8	5
29	Effect of a Composition Discontinuity on the Evolution of a Bimetal Interface Studied by Photoemission Microscopy: Au Patch Deposited on a Ag/Si(111) Surface. <i>Surface Review and Letters</i> , 1998 , 05, 605-613	1.1	5
28	Spectromicroscopy study of an Ni+Ag/Si(111) interface. Surface and Interface Analysis, 2000, 30, 479-483	3 1.5	4
27	Local geometry and electronic structure of free NaCl clusters. <i>Physics of the Solid State</i> , 2000 , 42, 1942-	1 <i>9:</i> \$5	4
26	Spatially Resolved Potential and Li-Ion Distributions Reveal Performance-Limiting Regions in Solid-State Batteries. <i>ACS Energy Letters</i> ,3944-3951	20.1	4
25	Bio-inspired gas sensing: boosting performance with sensor optimization guided by "machine learning". <i>Faraday Discussions</i> , 2020 , 223, 161-182	3.6	3
24	Multisensor Micro-Arrays Based on Metal Oxide Nanowires for Electronic Nose Applications 2013 , 465-5	502	3
23	A novel model for (percolating) nanonet chemical sensors for microarray-based E-nose applications 2009 ,		3
22	Aggregation of small CsI clusters inside Ar clusters: ionization and fragmentation under soft X-ray excitation. <i>European Physical Journal D</i> , 1999 , 9, 277-281	1.3	3
21	Probing Electrified Liquid-Solid Interfaces with Scanning Electron Microscopy. <i>ACS Applied Materials & Materials (Materials Applied Materials Applied Materials Applied Materials Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials Applied Materials (Materials Applied Materials Appli</i>	9.5	3

20	Operando photoelectron emission spectroscopy and microscopy at Elettra soft X-ray beamlines: From model to real functional systems. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2019 , 146902	1.7	3
19	Nanostructures: Sensor and Catalytic Properties. <i>Nanostructure Science and Technology</i> , 2008 , 305-344	0.9	3
18	Membrane-Based Environmental Cells for SEM in Liquids78-105		2
17	Chemical Sensing and Catalysis by One-Dimensional Metal-Oxide Nanostructures. <i>ChemInform</i> , 2004 , 35, no		2
16	Comparative XPS and SEM Spatiotemporal Potential Mapping of Ionic Liquid Polarization in a Coplanar Electrochemical Device. <i>Analytical Chemistry</i> , 2021 , 93, 13268-13273	7.8	2
15	Graphene windows enable photoelectron microscopies of liquid samples <i>Microscopy and Microanalysis</i> , 2018 , 24, 68-71	0.5	1
14	Lattice-Symmetry-Driven Phase Competition in Vanadium Dioxide. <i>Materials Research Society Symposia Proceedings</i> , 2011 , 1292, 67		1
13	Chemical Sensors from Lead Metallophthalocyanine Whiskers 2007,		1
12	Addressable graphene encapsulation of wet specimens on a chip for optical, electron, infrared and X-ray based spectromicroscopy studies. <i>Lab on A Chip</i> , 2021 , 21, 4618-4628	7.2	1
11	3-Dimensional Hydrogel Printing via Electron Crosslinking. <i>Microscopy and Microanalysis</i> , 2018 , 24, 348-	3495	1
10	SEM and Auger Electron Spectroscopy of Liquid Water through Graphene Membrane. <i>Microscopy and Microanalysis</i> , 2017 , 23, 880-881	0.5	
9	Graphene Membrane Encapsulation Platform for Multi-technique Spectromicroscopy of Wet Objects. <i>Microscopy and Microanalysis</i> , 2020 , 26, 2228-2229	0.5	
8	Operando Scanning Electron and Microwave Microscopies in Plasmas: A Comparative Analysis. <i>Microscopy and Microanalysis</i> , 2020 , 26, 2498-2499	0.5	
7	Radiation Damage on Liquid Electrolyte during Spatially Resolved Soft X-ray Photoemission Measurements. <i>Microscopy and Microanalysis</i> , 2019 , 25, 730-731	0.5	
6	Combinatorial Microscopy in Liquids with Low Energy Electrons. <i>Microscopy and Microanalysis</i> , 2017 , 23, 186-187	0.5	
5	Ag + Au bilayers on Si(111) studied with scanning photoemission microscopy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1998 , 88-91, 991-995	1.7	
4	Low Cost Integrated Sensors Utilizing Patterned Nano-Structured Titania Arrays Fabricated Using a Simple Process. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 828, 313		
3	Observation of small metastable multiply charged CsI clusters embedded inside rare gas clusters. European Physical Journal D, 1999 , 9, 273-276	1.3	

LIST OF PUBLICATIONS

Electron Beam Printed Hydrogels as a Hydration Source for Graphene Encapsulated Specimens. Microscopy and Microanalysis, **2021**, 27, 2240-2241

0.5

Polarization of the Graphene-Liquid Electrolyte Interface Probed by SEM. *Microscopy and Microanalysis*, **2018**, 24, 354-355

0.5