Leonid Trakhtenberg

List of Publications by Year
in descending order

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103	647	687363	839539
papers	citations	13 h-index	18 g-index

104	104	104	308
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Temperature dependence of cryochemical H-tunneling reactions. Journal of Chemical Physics, 2000, 113, 1992-2002.	3.0	36
2	Inhomogeneous Charge Distribution in Semiconductor Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 16286-16292.	3.1	29
3	Preliminary Study of the Interaction of Metal Nanoparticle-containing Poly-p-xylylene films With Ammonia. Analytical Communications, 1997, 34, 113-114.	2.2	24
4	Quantum Cryochemical Reactivity of Solids. Advances in Chemical Physics, 2007, , 349-437.	0.3	23
5	Vibrationâ€assisted intermolecular hydrogen tunneling in photoreactive doped molecular crystals: Effect of temperature and pressure. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1998, 102, 498-503.	0.9	21
6	Nanotransport controlled by means of the ratchet effect. Physics-Uspekhi, 2020, 63, 311-326.	2.2	20
7	Symmetry of deterministic ratchets. Physical Review E, 2019, 100, 022115.	2.1	19
8	Green's function method in the theory of Brownian motors. Physics-Uspekhi, 2019, 62, 496-509.	2.2	18
9	Structure and physicochemical properties of nanostructured metal oxide films for use as the sensitive layer in gas sensors. Russian Journal of Physical Chemistry B, 2015, 9, 733-742.	1.3	17
10	Green light activated hydrogen sensing of nanocrystalline composite ZnO-In2O3 films at room temperature. Scientific Reports, 2017, 7, 12204.	3.3	17
11	Gas Semiconducting Sensors Based on Metal Oxide Nanocomposites. Journal of Materials Science Research, 2012, 1, .	0.1	15
12	Symmetry of Pulsating Ratchets. JETP Letters, 2018, 107, 506-511.	1.4	15
13	Conductivity of SnO2-In2O3 nanocrystalline composite films. Russian Journal of Physical Chemistry A, 2010, 84, 1554-1559.	0.6	13
14	Sensor effect theory for the detection of reducing gases. Russian Journal of Physical Chemistry A, 2012, 86, 1281-1287.	0.6	13
15	Sensor Properties of Nanostructured Systems Based on Indium Oxide with Co3O4 or ZrO2 Additives. Russian Journal of Physical Chemistry B, 2018, 12, 129-134.	1.3	13
16	Temperature and pressure dependences of tunneling rate constant: Density-functional theory potential-energy surface for H-atom transfer in the fluorene-acridine system. Journal of Chemical Physics, 2005, 123, 114508.	3.0	12
17	Pressure and Temperature Dependence of H-Atom Tunneling in the Debye Approximation. Barrier Preparation and Media Reorganization. Journal of Physical Chemistry A, 2007, 111, 9509-9515.	2.5	12
18	Structural properties of metal oxide nanocomposites: Effect of preparation method. Russian Journal of Physical Chemistry B, 2016, 10, 543-546.	1.3	12

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19	Theory of slightly fluctuating ratchets. JETP Letters, 2017, 105, 542-547.	1.4	12
20	Quantum chemistry of ferroelectric solids: Electronic structures and peculiar behavior of zero-dimensional K3H(SO4)2-like materials. International Journal of Quantum Chemistry, 2002, 88, 463-471.	2.0	11
21	Sensor Effect in Oxide Films with a Large Concentration of Conduction Electrons. Journal of Physical Chemistry C, 2017, 121, 6940-6945.	3.1	11
22	High-temperature ratchets driven by deterministic and stochastic fluctuations. Physical Review E, 2019, 99, 012103.	2.1	11
23	Tunnel modes and kinetic properties of glasses at low and high temperatures. Journal of Physics C: Solid State Physics, 1986, 19, 5529-5553.	1.5	10
24	Theory of Atom Tunneling Reactions in the Solid Phase. Springer Series on Atomic, Optical, and Plasma Physics, 2004, , 33-58.	0.2	10
25	Adsorption of hydrogen on palladium film nanostructures. Russian Journal of Physical Chemistry A, 2008, 82, 1415-1418.	0.6	10
26	Synthesis and Conductometric Property of Sol-Gel-Derived ZnO/PVP Nano Hybrid Films. Journal of Materials Engineering and Performance, 2013, 22, 911-915.	2.5	10
27	Absorption of Infrared Radiation by an Electronic Subsystem of Semiconductor Nanoparticles. Journal of Physical Chemistry C, 2016, 120, 23851-23857.	3.1	10
28	Polychronic Kinetics of Chemical Reactions with the Blending of Rate Constants. Journal of Physical Chemistry B, 1997, 101, 10024-10027.	2.6	9
29	The sensor properties of SnO2 Â· In2O3 nanocomposite oxides in the detection of hydrogen in air. Russian Journal of Physical Chemistry A, 2010, 84, 2116-2121.	0.6	9
30	Anomalous values of âŒ©Åœ2âŒª before and after annihilation of the first spin contaminant in UHF wave function. Journal of Structural Chemistry, 2005, 46, 195-203.	1.0	8
31	X-ray fluorescence analysis with sample excitation using radiation from a secondary target. X-Ray Spectrometry, 2007, 36, 270-274.	1.4	8
32	Sensor properties of the nanostructured In2O3-CeO2 system in detection of reducing gases. Russian Journal of Physical Chemistry A, 2014, 88, 503-508.	0.6	8
33	Features of the electrical and photoelectrical properties of nanocrystalline indium and zinc oxide films. Russian Journal of Physical Chemistry B, 2016, 10, 810-815.	1.3	8
34	The sensor properties of Fe2O3 Â· In2O3 films: The detection of low ozone concentrations in air. Russian Journal of Physical Chemistry A, 2008, 82, 1721-1725.	0.6	7
35	Small CeO2 clusters on the surface of semiconductor nanoparticles. Russian Journal of Physical Chemistry A, 2015, 89, 1059-1064.	0.6	7
36	Crown Ethers: Selective Sorbents of Radioactive and Heavy Metals. Russian Journal of Physical Chemistry B, 2021, 15, 140-152.	1.3	7

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37	Metal-Containing Polymers: Cryochemical Synthesis, Structure, and Physicochemical Properties. , 2004, , 37-74.		6
38	Drift of particles caused by fluctuations of their sizes. JETP Letters, 2017, 105, 335-340.	1.4	6
39	Peculiarities in the low-temperature specific heat related to nanoscale structural inhomogeneity in fine-crystalline YBa2Cu3O6.93 high-T c superconductors. JETP Letters, 2017, 105, 241-245.	1.4	6
40	Conductivity of composites containing ferromagnetic nanoparticles: The role of a magnetic field. Journal of Experimental and Theoretical Physics, 2010, 111, 1010-1018.	0.9	5
41	Adsorption of oxygen and hydrogen at the surface of nanostructured SnO2 film. Nanotechnologies in Russia, 2012, 7, 122-126.	0.7	5
42	Effect of electric field on the magnetic characteristics of a ferromagnetic nanosemiconductor. Journal of Experimental and Theoretical Physics, 2016, 123, 1068-1072.	0.9	5
43	Effect of the composition and structure of metal oxide nanocomposites on the sensor process when detecting reducing gases. Russian Journal of Physical Chemistry A, 2017, 91, 1609-1620.	0.6	5
44	Suppression of the superconducting gap near d-wave nodes caused by the structural disorder in fine-crystalline YBa2Cu3Oy high-Tc superconductors. JETP Letters, 2017, 106, 378-383.	1.4	5
45	Sorption of Metal Ions from Aqueous Solutions by Crown Ethers. Russian Journal of Physical Chemistry B, 2020, 14, 492-497.	1.3	5
46	ZnO Nanocomposite Film-Based Sensors for Ethanol in Air. Russian Journal of Physical Chemistry B, 2020, 14, 298-301.	1.3	5
47	Effect of Composition and Structure of Metal Oxide Composites Nanostructured on Their Conductive and Sensory Properties. Russian Journal of Physical Chemistry B, 2021, 15, 1072-1083.	1.3	5
48	Mechanism of the conductivity and sensor response of nanostructured In2O3+ZnO films. Russian Journal of Physical Chemistry A, 2013, 87, 1731-1738.	0.6	4
49	Remagnetization of a ferromagnetic nanoparticle induced by the current of polarized electrons. JETP Letters, 2014, 99, 210-213.	1.4	4
50	Change in the magnetic moment of a ferromagnetic nanoparticle under polarized current. Physics of the Solid State, 2016, 58, 266-272.	0.6	4
51	Absorption of Ultrashort Electromagnetic Pulses by ITO Nanoparticles. Journal of Physical Chemistry C, 2017, 121, 28581-28586.	3.1	4
52	Polarization Effects in Organic Dipole Photomotors. Theoretical and Experimental Chemistry, 2019, 55, 232-239.	0.8	4
53	Theory of Sensitivity of Nanoscale-Structured Layers of Metal Oxides to Reducing Gases. Russian Journal of Physical Chemistry B, 2019, 13, 190-195.	1.3	4
54	Structure and Sensing Properties of Nanostructured SnO2â€“In2O3 Composites Synthesized by the Impregnation Method. Russian Journal of Physical Chemistry B, 2019, 13, 763-768.	1.3	4

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55	Symmetry of Brownian Photomotors. Russian Journal of Physical Chemistry B, 2020, 14, 332-335.	1.3	4
56	Exactly solvable model of a slightly fluctuating ratchet. Physical Review E, 2021, 104, 014133.	2.1	4
57	Effect of the Method for Producing the ZnOâ€“In2O3 Composite on its Sensor Activity in Hydrogen Detection. Russian Journal of Physical Chemistry B, 2021, 15, 1084-1086.	1.3	4
58	Polychronous kinetics with nonstationary rate constants. Effect of a medium. Russian Chemical Bulletin, 1997, 46, 448-455.	1.5	3
59	Sensors based on SnO2 + In2O3 composite films for detecting CO in air. Russian Journal of Physical Chemistry A, 2011, 85, 1021-1025.	0.6	3
60	Tunneling proton transfer in biological systems. Role of temperature and pressure. Russian Journal of Physical Chemistry A, 2012, 86, 1399-1406.	0.6	3
61	Oxygen Chemisorption on the Surface of an In2O3 (011) Nanocrystal. Inorganic Materials, 2020, 56, 1138-1146.	0.8	3
62	Temperature dependence of the rate constants of cryochemical reactions. Russian Chemical Bulletin, 1999, 48, 1882-1890.	1.5	2
63	Hydrogen Atom Tunneling in a Fluoreneâ€“Acridine System: Effect of the Reactant Reorganization. Russian Journal of Electrochemistry, 2003, 39, 37-43.	0.9	2
64	Sensor effect mechanisms in tin dioxide-based conductometric sensors for detection of reducing gases. Russian Journal of General Chemistry, 2009, 79, 2024-2032.	0.8	2
65	Charge transfer in composites â€œdielectric + metal nanoparticlesâ€: Effect of electric and magnetic fields. International Journal of Quantum Chemistry, 2012, 112, 2904-2914.	2.0	2
66	Near-surface transport of semiconductor nanoclusters upon cyclic photoexcitation. Russian Journal of Physical Chemistry A, 2016, 90, 1484-1488.	0.6	2
67	Conductivity of nanostructured India oxide films containing Co3O4 or ZrO2. Russian Journal of Physical Chemistry B, 2017, 11, 846-849.	1.3	2
68	Semiconductor Nanoparticle in an Electric Field. JETP Letters, 2018, 108, 637-640.	1.4	2
69	Influence of Matrix Nature on the Structural Characteristics of In2O3â€“CeO2 and SnO2â€“CeO2 Composites Fabricated by the Impregnation Method. Russian Journal of Physical Chemistry B, 2018, 12, 709-713.	1.3	2
70	Light-Driven Reciprocating Hostâ€“Guest Molecular Machines. JETP Letters, 2021, 113, 738-744.	1.4	2
71	Adiabatic Ratchet Effect in Systems with Discrete Variables. JETP Letters, 2020, 112, 316-322.	1.4	2
72	Sorbents Based on Crown Ethers for Purification of Aqueous Solutions from Metal Ions. Russian Journal of Physical Chemistry B, 2020, 14, 1036-1041.	1.3	2

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73	Electric Resistance of Binary Oxides CeO2â€“In2O3 Structured at the Nanolevel. Russian Journal of Physical Chemistry B, 2020, 14, 1063-1066.	1.3	2
74	Comparative Study of the Physical Properties of Fine-Crystalline Mechanoactivated and Solâ€“Gel Samples of YBa2Cu3O6.92 High-Temperature Superconductors. Russian Journal of Physical Chemistry B, 2020, 14, 986-989.	1.3	2
75	Synthesis of Aluminum Oxide Nanostructures on the Silicon Surface. High Energy Chemistry, 2005, 39, 330-332.	0.9	1
76	Modeling of the diffusion-kinetics-controlled adsorption of cations on a sorbent surface. Russian Journal of Physical Chemistry A, 2006, 80, 1617-1621.	0.6	1
77	The role of intermolecular vibrations and reorganization of a reaction system in tunneling reactions with H atom transfer. A Debye model for the medium. Russian Chemical Bulletin, 2008, 57, 1093-1105.	1.5	1
78	Simulation of the sorption of cations on the surface of a selective sorbent with allowance for the possibility of their desorption. Russian Journal of Physical Chemistry A, 2009, 83, 1807-1809.	0.6	1
79	Conductivity in a system of ferromagnetic nanoclusters: the influence of a magnetic field. Russian Journal of Physical Chemistry B, 2010, 4, 502-509.	1.3	1
80	Fluctuation effects in the solid-phase kinetics of diffusion-controlled radiation-chemical processes: A Monte Carlo simulation. High Energy Chemistry, 2010, 44, 261-267.	0.9	1
81	Influence of the load sign on characteristics of micro- and nanoscale steps in strain rate of Î³-irradiated polytetrafluoroethylene. Physics of the Solid State, 2014, 56, 2485-2492.	0.6	1
82	Single electronic traps in tin and zinc oxides. Nanotechnologies in Russia, 2014, 9, 151-156.	0.7	1
83	Simulation of the dielectric and conductive properties of metal-containing nanostructured composites. Russian Journal of Physical Chemistry B, 2015, 9, 748-753.	1.3	1
84	Sensory properties of oxide films with high concentrations of conduction electrons. Russian Journal of Physical Chemistry A, 2017, 91, 572-576.	0.6	1
85	Investigating the sensor response of ceria-containing binary metal oxide nanocomposites. Russian Journal of Physical Chemistry A, 2017, 91, 1976-1980.	0.6	1
86	Effect of electron transition kinetics on the photomotor velocity. Russian Journal of Physical Chemistry A, 2017, 91, 1951-1956.	0.6	1
87	Synthesis of Metallic Janus Nanoparticles by Aerosol Spraying. Russian Journal of Physical Chemistry B, 2018, 12, 929-932.	1.3	1
88	Physicochemical and Electrophysical Properties of Metal/Semiconductor Containing Nanostructured Composites. Russian Journal of Physical Chemistry A, 2018, 92, 1087-1098.	0.6	1
89	Schottky Anomalies in the Low-Temperature Specific Heat of YBa2Cu3Oy HTSC. Journal of Experimental and Theoretical Physics, 2019, 128, 616-623.	0.9	1
90	Superconductivity Initiated by Electric Field in High-Temperature Superconductor at T > Tc. Physics of the Solid State, 2020, 62, 1300-1304.	0.6	1

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91	Atomic excitation by a simultaneous collision with another atom and with a photon. Soviet Physics Journal (English Translation of Izvestiia Vysshykh Uchebnykh Zavedenii, Fizika), 1972, 15, 1293-1297.	0.0	0
92	The optical and gas-sensitive properties of opal-like structures based on SnO2. Russian Journal of Physical Chemistry A, 2012, 86, 987-991.	0.6	0
93	H-atom tunneling in biological reactions. Doklady Biochemistry and Biophysics, 2012, 442, 4-6.	0.9	0
94	Tunneling transfer of atomic particles in chemical and biological reactions: The role of intermolecular vibrations and media reorganization. Russian Journal of Physical Chemistry A, 2014, 88, 1837-1848.	0.6	0
95	Sensory properties of nanostructured wide-band-gap semiconductor oxides: Effect of temperature and size of nanoparticles. Nanotechnologies in Russia, 2014, 9, 157-162.	0.7	0
96	Electronic structure of semiconductor and metal nanoparticles. Nanotechnologies in Russia, 2014, 9, 339-345.	0.7	0
97	Photoabsorption by the electron subsystem of a semiconductor nanoparticle. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2016, 121, 689-695.	0.6	0
98	Influence of an External Electric Field on the Charge and Field Distributions in a Metal Tip. Journal of Experimental and Theoretical Physics, 2020, 130, 198-203.	0.9	0
99	Conductance and Photoconductance of Indium Oxide-Zinc Oxide Composites in the Hydrogen-Containing Atmosphere. IFMBE Proceedings, 2020, , 405-408.	0.3	0
100	Formation of Fermi Arcs at T $$ ll $$ Tc in the Vicinity of d-Wave Nodes of Structurally Inhomogeneous YBa2Cu3O6.92 HTSCs. Physics of the Solid State, 2021, 63, 1244-1252.	0.6	0
101	Purification of Aqueous Solutions Containing Salts of Heavy Metals and Ballast Ions. Russian Journal of Physical Chemistry B, 2022, 16, 138-140.	1.3	0
102	Modeling the Jump-like Diffusion Motion of a Brownian Motor by a Game- Theory Approach: Deterministic and Stochastic Models. Nonlinear Phenomena in Complex Systems, 2022, , 41-50.	0.3	0
103	A Nonempirical Study of Oxygen Adsorption on the (011) In2O3 Surface. Inorganic Materials, 2022, 58, 278-283.	0.8	0