

# Leonid Trakhtenberg

## List of Publications by Year in descending order

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103  
papers

647  
citations

686830

13  
h-index

839053

18  
g-index

104  
all docs

104  
docs citations

104  
times ranked

308  
citing authors

#	ARTICLE	IF	CITATIONS
1	Purification of Aqueous Solutions Containing Salts of Heavy Metals and Ballast Ions. Russian Journal of Physical Chemistry B, 2022, 16, 138-140.	0.2	0
2	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.	0.1	0
3	A Nonempirical Study of Oxygen Adsorption on the (011) In <sub>2</sub> O <sub>3</sub> Surface. Inorganic Materials, 2022, 58, 278-283.	0.2	0
4	Crown Ethers: Selective Sorbents of Radioactive and Heavy Metals. Russian Journal of Physical Chemistry B, 2021, 15, 140-152.	0.2	7
5	Light-Driven Reciprocating Host-Guest Molecular Machines. JETP Letters, 2021, 113, 738-744.	0.4	2
6	Exactly solvable model of a slightly fluctuating ratchet. Physical Review E, 2021, 104, 014133.	0.8	4
7	Formation of Fermi Arcs at $T \ll T_c$ in the Vicinity of d-Wave Nodes of Structurally Inhomogeneous YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.92</sub> HTSCs. Physics of the Solid State, 2021, 63, 1244-1252.	0.2	0
8	Effect of the Method for Producing the ZnO-In <sub>2</sub> O <sub>3</sub> Composite on its Sensor Activity in Hydrogen Detection. Russian Journal of Physical Chemistry B, 2021, 15, 1084-1086.	0.2	4
9	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.	0.2	5
10	Oxygen Chemisorption on the Surface of an In <sub>2</sub> O <sub>3</sub> (011) Nanocrystal. Inorganic Materials, 2020, 56, 1138-1146.	0.2	3
11	Sorption of Metal Ions from Aqueous Solutions by Crown Ethers. Russian Journal of Physical Chemistry B, 2020, 14, 492-497.	0.2	5
12	Superconductivity Initiated by Electric Field in High-Temperature Superconductor at $T > T_c$ . Physics of the Solid State, 2020, 62, 1300-1304.	0.2	1
13	ZnO Nanocomposite Film-Based Sensors for Ethanol in Air. Russian Journal of Physical Chemistry B, 2020, 14, 298-301.	0.2	5
14	Symmetry of Brownian Photomotors. Russian Journal of Physical Chemistry B, 2020, 14, 332-335.	0.2	4
15	Nanotransport controlled by means of the ratchet effect. Physics-Uspexhi, 2020, 63, 311-326.	0.8	20
16	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.	0.2	0
17	Adiabatic Ratchet Effect in Systems with Discrete Variables. JETP Letters, 2020, 112, 316-322.	0.4	2
18	Sorbents Based on Crown Ethers for Purification of Aqueous Solutions from Metal Ions. Russian Journal of Physical Chemistry B, 2020, 14, 1036-1041.	0.2	2

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19	Conductance and Photoconductance of Indium Oxide-Zinc Oxide Composites in the Hydrogen-Containing Atmosphere. IFMBE Proceedings, 2020, , 405-408.	0.2	0
20	Electric Resistance of Binary Oxides $\text{CeO}_2\text{-In}_2\text{O}_3$ Structured at the Nanolevel. Russian Journal of Physical Chemistry B, 2020, 14, 1063-1066.	0.2	2
21	Comparative Study of the Physical Properties of Fine-Crystalline Mechanoactivated and Sol-Gel Samples of $\text{YBa}_2\text{Cu}_3\text{O}_{6.92}$ High-Temperature Superconductors. Russian Journal of Physical Chemistry B, 2020, 14, 986-989.	0.2	2
22	Symmetry of deterministic ratchets. Physical Review E, 2019, 100, 022115.	0.8	19
23	Green's function method in the theory of Brownian motors. Physics-Uspekhi, 2019, 62, 496-509.	0.8	18
24	Polarization Effects in Organic Dipole Photomotors. Theoretical and Experimental Chemistry, 2019, 55, 232-239.	0.2	4
25	Schottky Anomalies in the Low-Temperature Specific Heat of $\text{YBa}_2\text{Cu}_3\text{O}_y$ HTSC. Journal of Experimental and Theoretical Physics, 2019, 128, 616-623.	0.2	1
26	Theory of Sensitivity of Nanoscale-Structured Layers of Metal Oxides to Reducing Gases. Russian Journal of Physical Chemistry B, 2019, 13, 190-195.	0.2	4
27	Structure and Sensing Properties of Nanostructured $\text{SnO}_2\text{-In}_2\text{O}_3$ Composites Synthesized by the Impregnation Method. Russian Journal of Physical Chemistry B, 2019, 13, 763-768.	0.2	4
28	High-temperature ratchets driven by deterministic and stochastic fluctuations. Physical Review E, 2019, 99, 012103.	0.8	11
29	Sensor Properties of Nanostructured Systems Based on Indium Oxide with $\text{Co}_3\text{O}_4$ or $\text{ZrO}_2$ Additives. Russian Journal of Physical Chemistry B, 2018, 12, 129-134.	0.2	13
30	Semiconductor Nanoparticle in an Electric Field. JETP Letters, 2018, 108, 637-640.	0.4	2
31	Synthesis of Metallic Janus Nanoparticles by Aerosol Spraying. Russian Journal of Physical Chemistry B, 2018, 12, 929-932.	0.2	1
32	Influence of Matrix Nature on the Structural Characteristics of $\text{In}_2\text{O}_3\text{-CeO}_2$ and $\text{SnO}_2\text{-CeO}_2$ Composites Fabricated by the Impregnation Method. Russian Journal of Physical Chemistry B, 2018, 12, 709-713.	0.2	2
33	Symmetry of Pulsating Ratchets. JETP Letters, 2018, 107, 506-511.	0.4	15
34	Physicochemical and Electrophysical Properties of Metal/Semiconductor Containing Nanostructured Composites. Russian Journal of Physical Chemistry A, 2018, 92, 1087-1098.	0.1	1
35	Sensory properties of oxide films with high concentrations of conduction electrons. Russian Journal of Physical Chemistry A, 2017, 91, 572-576.	0.1	1
36	Drift of particles caused by fluctuations of their sizes. JETP Letters, 2017, 105, 335-340.	0.4	6

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37	Sensor Effect in Oxide Films with a Large Concentration of Conduction Electrons. Journal of Physical Chemistry C, 2017, 121, 6940-6945.	1.5	11
38	Investigating the sensor response of ceria-containing binary metal oxide nanocomposites. Russian Journal of Physical Chemistry A, 2017, 91, 1976-1980.	0.1	1
39	Effect of electron transition kinetics on the photomotor velocity. Russian Journal of Physical Chemistry A, 2017, 91, 1951-1956.	0.1	1
40	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.	0.1	5
41	Green light activated hydrogen sensing of nanocrystalline composite ZnO-In <sub>2</sub> O <sub>3</sub> films at room temperature. Scientific Reports, 2017, 7, 12204.	1.6	17
42	Peculiarities in the low-temperature specific heat related to nanoscale structural inhomogeneity in fine-crystalline YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.93</sub> high-T <sub>c</sub> superconductors. JETP Letters, 2017, 105, 241-245.	0.4	6
43	Theory of slightly fluctuating ratchets. JETP Letters, 2017, 105, 542-547.	0.4	12
44	Suppression of the superconducting gap near d-wave nodes caused by the structural disorder in fine-crystalline YBa <sub>2</sub> Cu <sub>3</sub> O <sub>y</sub> high-T <sub>c</sub> superconductors. JETP Letters, 2017, 106, 378-383.	0.4	5
45	Absorption of Ultrashort Electromagnetic Pulses by ITO Nanoparticles. Journal of Physical Chemistry C, 2017, 121, 28581-28586.	1.5	4
46	Conductivity of nanostructured India oxide films containing Co <sub>3</sub> O <sub>4</sub> or ZrO <sub>2</sub> . Russian Journal of Physical Chemistry B, 2017, 11, 846-849.	0.2	2
47	Structural properties of metal oxide nanocomposites: Effect of preparation method. Russian Journal of Physical Chemistry B, 2016, 10, 543-546.	0.2	12
48	Absorption of Infrared Radiation by an Electronic Subsystem of Semiconductor Nanoparticles. Journal of Physical Chemistry C, 2016, 120, 23851-23857.	1.5	10
49	Photoabsorption by the electron subsystem of a semiconductor nanoparticle. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2016, 121, 689-695.	0.2	0
50	Effect of electric field on the magnetic characteristics of a ferromagnetic nanosemiconductor. Journal of Experimental and Theoretical Physics, 2016, 123, 1068-1072.	0.2	5
51	Near-surface transport of semiconductor nanoclusters upon cyclic photoexcitation. Russian Journal of Physical Chemistry A, 2016, 90, 1484-1488.	0.1	2
52	Features of the electrical and photoelectrical properties of nanocrystalline indium and zinc oxide films. Russian Journal of Physical Chemistry B, 2016, 10, 810-815.	0.2	8
53	Change in the magnetic moment of a ferromagnetic nanoparticle under polarized current. Physics of the Solid State, 2016, 58, 266-272.	0.2	4
54	Simulation of the dielectric and conductive properties of metal-containing nanostructured composites. Russian Journal of Physical Chemistry B, 2015, 9, 748-753.	0.2	1

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55	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.	0.2	17
56	Inhomogeneous Charge Distribution in Semiconductor Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 16286-16292.	1.5	29
57	Small CeO <sub>2</sub> clusters on the surface of semiconductor nanoparticles. Russian Journal of Physical Chemistry A, 2015, 89, 1059-1064.	0.1	7
58	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.	0.1	0
59	Influence of the load sign on characteristics of micro- and nanoscale steps in strain rate of $\beta$ -irradiated polytetrafluoroethylene. Physics of the Solid State, 2014, 56, 2485-2492.	0.2	1
60	Single electronic traps in tin and zinc oxides. Nanotechnologies in Russia, 2014, 9, 151-156.	0.7	1
61	Remagnetization of a ferromagnetic nanoparticle induced by the current of polarized electrons. JETP Letters, 2014, 99, 210-213.	0.4	4
62	Sensor properties of the nanostructured In <sub>2</sub> O <sub>3</sub> -CeO <sub>2</sub> system in detection of reducing gases. Russian Journal of Physical Chemistry A, 2014, 88, 503-508.	0.1	8
63	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
64	Electronic structure of semiconductor and metal nanoparticles. Nanotechnologies in Russia, 2014, 9, 339-345.	0.7	0
65	Synthesis and Conductometric Property of Sol-Gel-Derived ZnO/PVP Nano Hybrid Films. Journal of Materials Engineering and Performance, 2013, 22, 911-915.	1.2	10
66	Mechanism of the conductivity and sensor response of nanostructured In <sub>2</sub> O <sub>3</sub> +ZnO films. Russian Journal of Physical Chemistry A, 2013, 87, 1731-1738.	0.1	4
67	Gas Semiconducting Sensors Based on Metal Oxide Nanocomposites. Journal of Materials Science Research, 2012, 1, .	0.1	15
68	Charge transfer in composites "dielectric + metal nanoparticles": Effect of electric and magnetic fields. International Journal of Quantum Chemistry, 2012, 112, 2904-2914.	1.0	2
69	Tunneling proton transfer in biological systems. Role of temperature and pressure. Russian Journal of Physical Chemistry A, 2012, 86, 1399-1406.	0.1	3
70	The optical and gas-sensitive properties of opal-like structures based on SnO <sub>2</sub> . Russian Journal of Physical Chemistry A, 2012, 86, 987-991.	0.1	0
71	Sensor effect theory for the detection of reducing gases. Russian Journal of Physical Chemistry A, 2012, 86, 1281-1287.	0.1	13
72	H-atom tunneling in biological reactions. Doklady Biochemistry and Biophysics, 2012, 442, 4-6.	0.3	0

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73	Adsorption of oxygen and hydrogen at the surface of nanostructured SnO <sub>2</sub> film. <i>Nanotechnologies in Russia</i> , 2012, 7, 122-126.	0.7	5
74	Sensors based on SnO <sub>2</sub> + In <sub>2</sub> O <sub>3</sub> composite films for detecting CO in air. <i>Russian Journal of Physical Chemistry A</i> , 2011, 85, 1021-1025.	0.1	3
75	Conductivity of SnO <sub>2</sub> -In <sub>2</sub> O <sub>3</sub> nanocrystalline composite films. <i>Russian Journal of Physical Chemistry A</i> , 2010, 84, 1554-1559.	0.1	13
76	The sensor properties of SnO <sub>2</sub> · In <sub>2</sub> O <sub>3</sub> nanocomposite oxides in the detection of hydrogen in air. <i>Russian Journal of Physical Chemistry A</i> , 2010, 84, 2116-2121.	0.1	9
77	Conductivity of composites containing ferromagnetic nanoparticles: The role of a magnetic field. <i>Journal of Experimental and Theoretical Physics</i> , 2010, 111, 1010-1018.	0.2	5
78	Conductivity in a system of ferromagnetic nanoclusters: the influence of a magnetic field. <i>Russian Journal of Physical Chemistry B</i> , 2010, 4, 502-509.	0.2	1
79	Fluctuation effects in the solid-phase kinetics of diffusion-controlled radiation-chemical processes: A Monte Carlo simulation. <i>High Energy Chemistry</i> , 2010, 44, 261-267.	0.2	1
80	Sensor effect mechanisms in tin dioxide-based conductometric sensors for detection of reducing gases. <i>Russian Journal of General Chemistry</i> , 2009, 79, 2024-2032.	0.3	2
81	Simulation of the sorption of cations on the surface of a selective sorbent with allowance for the possibility of their desorption. <i>Russian Journal of Physical Chemistry A</i> , 2009, 83, 1807-1809.	0.1	1
82	The role of intermolecular vibrations and reorganization of a reaction system in tunneling reactions with H atom transfer. A Debye model for the medium. <i>Russian Chemical Bulletin</i> , 2008, 57, 1093-1105.	0.4	1
83	Adsorption of hydrogen on palladium film nanostructures. <i>Russian Journal of Physical Chemistry A</i> , 2008, 82, 1415-1418.	0.1	10
84	The sensor properties of Fe <sub>2</sub> O <sub>3</sub> · In <sub>2</sub> O <sub>3</sub> films: The detection of low ozone concentrations in air. <i>Russian Journal of Physical Chemistry A</i> , 2008, 82, 1721-1725.	0.1	7
85	Quantum Cryochemical Reactivity of Solids. <i>Advances in Chemical Physics</i> , 2007, , 349-437.	0.3	23
86	Pressure and Temperature Dependence of H-Atom Tunneling in the Debye Approximation. Barrier Preparation and Media Reorganization. <i>Journal of Physical Chemistry A</i> , 2007, 111, 9509-9515.	1.1	12
87	X-ray fluorescence analysis with sample excitation using radiation from a secondary target. <i>X-Ray Spectrometry</i> , 2007, 36, 270-274.	0.9	8
88	Modeling of the diffusion-kinetics-controlled adsorption of cations on a sorbent surface. <i>Russian Journal of Physical Chemistry A</i> , 2006, 80, 1617-1621.	0.1	1
89	Anomalous values of $\alpha_{\text{CE}}^{\text{a}}$ before and after annihilation of the first spin contaminant in UHF wave function. <i>Journal of Structural Chemistry</i> , 2005, 46, 195-203.	0.3	8
90	Synthesis of Aluminum Oxide Nanostructures on the Silicon Surface. <i>High Energy Chemistry</i> , 2005, 39, 330-332.	0.2	1

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91	Temperature and pressure dependences of tunneling rate constant: Density-functional theory potential-energy surface for H-atom transfer in the fluorene-acridine system. <i>Journal of Chemical Physics</i> , 2005, 123, 114508.	1.2	12
92	Metal-Containing Polymers: Cryochemical Synthesis, Structure, and Physicochemical Properties. , 2004, , 37-74.		6
93	Theory of Atom Tunneling Reactions in the Solid Phase. <i>Springer Series on Atomic, Optical, and Plasma Physics</i> , 2004, , 33-58.	0.1	10
94	Hydrogen Atom Tunneling in a Fluoreneâ€“Acridine System: Effect of the Reactant Reorganization. <i>Russian Journal of Electrochemistry</i> , 2003, 39, 37-43.	0.3	2
95	Quantum chemistry of ferroelectric solids: Electronic structures and peculiar behavior of zero-dimensional K <sub>3</sub> H(SO <sub>4</sub> ) <sub>2</sub> -like materials. <i>International Journal of Quantum Chemistry</i> , 2002, 88, 463-471.	1.0	11
96	Temperature dependence of cryochemical H-tunneling reactions. <i>Journal of Chemical Physics</i> , 2000, 113, 1992-2002.	1.2	36
97	Temperature dependence of the rate constants of cryochemical reactions. <i>Russian Chemical Bulletin</i> , 1999, 48, 1882-1890.	0.4	2
98	Vibrationâ€“assisted intermolecular hydrogen tunneling in photoreactive doped molecular crystals: Effect of temperature and pressure. <i>Zeitschrift Fur Elektrotechnik Und Elektrochemie</i> , 1998, 102, 498-503.	0.9	21
99	Preliminary Study of the Interaction of Metal Nanoparticle-containing Poly-p-xylylene films With Ammonia. <i>Analytical Communications</i> , 1997, 34, 113-114.	2.2	24
100	Polychronic Kinetics of Chemical Reactions with the Blending of Rate Constants. <i>Journal of Physical Chemistry B</i> , 1997, 101, 10024-10027.	1.2	9
101	Polychronous kinetics with nonstationary rate constants. Effect of a medium. <i>Russian Chemical Bulletin</i> , 1997, 46, 448-455.	0.4	3
102	Tunnel modes and kinetic properties of glasses at low and high temperatures. <i>Journal of Physics C: Solid State Physics</i> , 1986, 19, 5529-5553.	1.5	10
103	Atomic excitation by a simultaneous collision with another atom and with a photon. <i>Soviet Physics Journal (English Translation of Izvestiia Vysshikh Uchebnykh Zavedenii, Fizika)</i> , 1972, 15, 1293-1297.	0.0	0