

# Vladimir Baidakov

## List of Publications by Year in descending order

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102  
papers

1,348  
citations

304743

22  
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414414

32  
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109  
all docs

109  
docs citations

109  
times ranked

563  
citing authors

#	ARTICLE	IF	CITATIONS
1	Study of the Activation Barrier of Crystallization of a Metastable Liquid Using Metadynamics. <i>Physics of the Solid State</i> , 2022, 64, 22-25.	0.6	1
2	Stability of Metastable Phases and Kinetics of Nucleation in a Simple Single-Component System (Molecular Dynamics Simulation) (A Review). <i>Russian Journal of General Chemistry</i> , 2022, 92, 611-628.	0.8	3
3	Metadynamics Study of the Crystallization of Supercooled Lennard-Jones Liquids. <i>Russian Journal of Physical Chemistry A</i> , 2021, 95, 403-405.	0.6	1
4	Stability of a Crystal at Temperatures below the Temperature of the End Point of the Melting Line: Molecular Dynamics Simulation. <i>High Temperature</i> , 2021, 59, 62-65.	1.0	0
5	Ideal and limiting strength of a Lennard-Jones crystal at temperatures lower than the melting line endpoint temperature: molecular dynamics simulation. <i>Molecular Simulation</i> , 2020, 46, 1417-1425.	2.0	1
6	Entropy and the Tolman Parameter in Nucleation Theory. <i>Entropy</i> , 2019, 21, 670.	2.2	25
7	Spontaneous Nucleation in Superheated Helium Solutions in Methane. <i>Colloid Journal</i> , 2019, 81, 211-218.	1.3	4
8	Spontaneous Crystallization of a Supercooled Lennard-Jones Liquid: Molecular Dynamics Simulation. <i>Journal of Physical Chemistry B</i> , 2019, 123, 8103-8112.	2.6	13
9	Molecular-Dynamics Simulation of Relaxation Processes at Liquid-Gas Interfaces in Single- and Two-Component Lennard-Jones Systems. <i>Colloid Journal</i> , 2019, 81, 491-500.	1.3	16
10	Effective Surface Free Energy of Crystalline Phase Nuclei. <i>Colloid Journal</i> , 2019, 81, 634-641.	1.3	1
11	Relaxation processes at liquid-gas interfaces in one- and two-component Lennard-Jones systems: Molecular dynamics simulation. <i>Fluid Phase Equilibria</i> , 2019, 481, 1-14.	2.5	14
12	The Kinetics of the Liquid Phase Nucleation in a Stretched FCC Crystal: A Molecular Dynamics Simulation. <i>Physics of the Solid State</i> , 2018, 60, 1853-1860.	0.6	1
13	Ideal and Ultimate Tensile Strength of a Solid Body. <i>High Temperature</i> , 2018, 56, 184-192.	1.0	5
14	Attainable superheating of liquid <i>n</i> -butane. <i>Physics of Fluids</i> , 2018, 30, .	4.0	2
15	Time of Formation of the First Supercritical Nucleus, Time Lag, and the Steady-State Nucleation Rate. <i>International Journal of Applied Glass Science</i> , 2017, 8, 48-60.	2.0	27
16	Mechanical stability of solids at negative pressures. <i>Journal of Physics: Conference Series</i> , 2016, 774, 012004.	0.4	0
17	Spontaneous cavitation in a Lennard-Jones liquid: Molecular dynamics simulation and the van der Waals-Cahn-Hilliard gradient theory. <i>Journal of Chemical Physics</i> , 2016, 144, 074502.	3.0	28
18	Capillary constant and surface tension of dimethyl ether and <i>n</i> -butane at temperatures from 214 K to those close to the critical point. <i>Fluid Phase Equilibria</i> , 2016, 414, 55-59.	2.5	6

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19	Mechanical instability and nucleation in a Lennard-Jones fcc crystal at limiting stretching. <i>Chemical Physics Letters</i> , 2016, 643, 6-9.	2.6	4
20	Bubble nucleation in a Lennard-Jones binary liquid mixture. <i>Chemical Physics Letters</i> , 2016, 663, 57-60.	2.6	10
21	Comment on "Simple improvements to classical bubble nucleation models". <i>Physical Review E</i> , 2016, 94, 026801.	2.1	7
22	Phase equilibria, metastable states, and critical points in a simple one-component system. <i>Journal of Engineering Thermophysics</i> , 2016, 25, 327-336.	1.4	4
23	Limiting tensile strength of liquid nitrogen. <i>Physics of Fluids</i> , 2016, 28, .	4.0	5
24	Homogeneous nucleation in liquid nitrogen at negative pressures. <i>Journal of Experimental and Theoretical Physics</i> , 2016, 123, 629-637.	0.9	13
25	Nucleation of liquid droplets and voids in a stretched Lennard-Jones fcc crystal. <i>Journal of Chemical Physics</i> , 2015, 143, 124501.	3.0	9
26	Attainable superheating of the oxygen-nitrogen-helium solutions. <i>Thermophysics and Aeromechanics</i> , 2015, 22, 85-94.	0.5	0
27	Surface tension of dimethyl ether in the temperature range 120–214 K. <i>Russian Journal of Physical Chemistry A</i> , 2015, 89, 782-785.	0.6	2
28	Surface tension of cavitation pockets according to data of computer simulation of nucleation in a stretched fluid. <i>Colloid Journal</i> , 2015, 77, 119-124.	1.3	2
29	Metastable Lennard-Jones fluids. II. Thermal conductivity. <i>Journal of Chemical Physics</i> , 2014, 140, 214506.	3.0	18
30	Metastable Lennard-Jones fluids. III. Bulk viscosity. <i>Journal of Chemical Physics</i> , 2014, 141, 114503.	3.0	13
31	Spontaneous cavitation in a Lennard-Jones liquid at negative pressures. <i>Journal of Chemical Physics</i> , 2014, 140, 184506.	3.0	59
32	Vitrification of Liquid Inclusions in hcp 3He-4He Crystal: the Role of an Intermediate bcc Phase. <i>Journal of Low Temperature Physics</i> , 2014, 175, 154-159.	1.4	3
33	Surface free energy of the crystal-liquid interface on the metastable extension of the melting curve. <i>JETP Letters</i> , 2014, 98, 801-804.	1.4	8
34	Attainable superheating of liquefied gases and their solutions (Review Article). <i>Low Temperature Physics</i> , 2013, 39, 643-664.	0.6	4
35	Capillary constant and surface tension of methane–helium solution. <i>Fluid Phase Equilibria</i> , 2013, 354, 245-249.	2.5	16
36	Transfer coefficients near the boundary of thermodynamic stability. <i>High Temperature</i> , 2013, 51, 621-625.	1.0	2

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37	Attainable superheat of ethane-methane solutions. <i>Thermophysics and Aeromechanics</i> , 2013, 20, 399-406.	0.5	0
38	Heterogeneous Vapor Bubble Nucleation on a Rough Surface. <i>Langmuir</i> , 2013, 29, 3924-3934.	3.5	18
39	Surface tension of ethane-methane solutions: 1. Experiment and thermodynamic analysis of the results. <i>Fluid Phase Equilibria</i> , 2013, 356, 90-95.	2.5	31
40	Melting line, spinodal and the endpoint of the melting line in the system with a modified Lennard-Jones potential. <i>Thermophysics and Aeromechanics</i> , 2013, 20, 93-104.	0.5	8
41	Temperature dependence of the crystal-liquid interfacial free energy and the endpoint of the melting line. <i>Journal of Chemical Physics</i> , 2013, 139, 224703.	3.0	25
42	Kinetics of nucleation during the bcc-hcp structural transition in solid helium. <i>Low Temperature Physics</i> , 2013, 39, 487-492.	0.6	0
43	Transport coefficients and the spinodal of a fluid. <i>Physical Review E</i> , 2012, 86, 021201.	2.1	3
44	Surface tension of an ethane-nitrogen solution. 1: Experiment and thermodynamic analysis of the results. <i>Fluid Phase Equilibria</i> , 2012, 328, 13-20.	2.5	23
45	Crystal nucleation and the solid-liquid interfacial free energy. <i>Journal of Chemical Physics</i> , 2012, 136, 074510.	3.0	50
46	Nucleation in Liquid Ethane with Small Additions of Methane. <i>Journal of Physical Chemistry C</i> , 2012, 116, 20458-20464.	3.1	7
47	Metastable Lennard-Jones fluids. I. Shear viscosity. <i>Journal of Chemical Physics</i> , 2012, 137, 164507.	3.0	29
48	Temperature dependence of the surface free energy of a crystal-liquid interface. <i>Russian Journal of Physical Chemistry A</i> , 2012, 86, 1763-1765.	0.6	1
49	Capillary Constant of a Xenon-Helium Solution. <i>Journal of Chemical &amp; Engineering Data</i> , 2011, 56, 4123-4125.	1.9	8
50	Cavitation and crystallization in a metastable Lennard-Jones liquid at negative pressures and low temperatures. <i>Journal of Chemical Physics</i> , 2011, 135, 054512.	3.0	13
51	Shear and bulk viscosity in stable and metastable states of a Lennard-Jones liquid. <i>Chemical Physics Letters</i> , 2011, 517, 166-170.	2.6	10
52	Boiling-up of liquid argon at high superheatings under the impact of weak ultrasonic fields. <i>Thermophysics and Aeromechanics</i> , 2011, 18, 31-36.	0.5	2
53	On two approaches to determination of the nucleation rate of a new phase in computer experiments. <i>Thermochimica Acta</i> , 2011, 522, 14-19.	2.7	10
54	Crystal nucleation rate isotherms in Lennard-Jones liquids. <i>Journal of Chemical Physics</i> , 2010, 132, 234505.	3.0	38

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55	Superheating of liquid xenon in metal tubes. <i>Journal of Chemical Physics</i> , 2009, 131, 064708.	3.0	5
56	Boiling-up of superheated liquid argon in an acoustic field. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 465103.	1.8	2
57	The attainable superheating of nitrogen-helium solutions. <i>Russian Journal of Physical Chemistry A</i> , 2009, 83, 1751-1756.	0.6	2
58	First correction to surface tension for the curvature of an interface. <i>Colloid Journal</i> , 2009, 71, 437-445.	1.3	5
59	Molecular-Dynamics Investigation of Phase Equilibrium and Surface Tension in Argon-Neon System. <i>Journal of Physical Chemistry C</i> , 2008, 112, 17231-17234.	3.1	15
60	Attainable Superheat of Argon-Helium, Argon-Neon Solutions. <i>Journal of Physical Chemistry B</i> , 2008, 112, 12973-12975.	2.6	11
61	Explosive cavitation in superheated liquid argon. <i>Journal of Chemical Physics</i> , 2008, 128, 234508.	3.0	35
62	Computer simulation of nucleation in a gas-saturated liquid. <i>Journal of Chemical Physics</i> , 2007, 126, 094502.	3.0	15
63	Metastable extension of the liquid-vapor phase equilibrium curve and surface tension. <i>Journal of Chemical Physics</i> , 2007, 126, 214505.	3.0	61
64	Attainable superheating of solutions of cryogenic liquids. <i>Journal of Engineering Thermophysics</i> , 2007, 16, 109-118.	1.4	2
65	Metastable phase equilibria in a Lennard-Jones system. <i>Journal of Engineering Thermophysics</i> , 2007, 16, 249-258.	1.4	1
66	Surface tension at the boundaries of helium-argon and neon-argon solutions at 108-140 K. <i>Russian Journal of Physical Chemistry A</i> , 2006, 80, 413-417.	0.6	15
67	Effect of long-range interactions on the surface tension. <i>Russian Journal of Physical Chemistry A</i> , 2006, 80, 445-448.	0.6	6
68	The thermodynamic properties of nitrogen, argon, oxygen, and their mixtures in the region of the liquid-gas phase transition. <i>Russian Journal of Physical Chemistry A</i> , 2006, 80, 501-504.	0.6	1
69	Thermodynamic approach to calculating the surface tension of single-component liquids by computer simulations. <i>Russian Journal of Physical Chemistry A</i> , 2006, 80, 1519-1520.	0.6	3
70	Properties of argon liquid-vapor interface. <i>Colloid Journal</i> , 2006, 68, 26-31.	1.3	3
71	Metastable extensions of phase equilibrium lines and singular points of simple substance. <i>Journal of Experimental and Theoretical Physics</i> , 2006, 103, 876-886.	0.9	17
72	Metastable extension of the sublimation curve and the critical contact point. <i>Journal of Chemical Physics</i> , 2006, 124, 231101.	3.0	10

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73	Is Gibbs' Thermodynamic Theory of Heterogeneous Systems Really Perfect?. , 2005, , 418-446.		3
74	Spinodal and the melting curve of a Lennard-Jones crystal at negative pressure. Doklady Physics, 2005, 50, 303-307.	0.7	6
75	Singular Point of a System of Lennard-Jones Particles at Negative Pressures. Physical Review Letters, 2005, 95, 015701.	7.8	61
76	Boiling-Up Kinetics of Solutions of Cryogenic Liquids. , 2005, , 126-177.		1
77	Curvature corrections to surface tension. Physical Review E, 2004, 70, 011603.	2.1	10
78	On the mechanism of formation of incipient-phase nuclei in the strong-metastability region. Doklady Physics, 2004, 49, 15-18.	0.7	1
79	Computer simulation of nucleation in a liquid under tension. Doklady Physics, 2004, 49, 69-72.	0.7	20
80	Extended version of the van der Waals capillarity theory. Journal of Chemical Physics, 2004, 121, 8594.	3.0	27
81	Equation of State for Lennard-Jones Fluid. High Temperature, 2003, 41, 270-272.	1.0	22
82	On different possibilities of a thermodynamically consistent determination of the work of critical cluster formation in nucleation theory. Journal of Chemical Physics, 2003, 119, 10759-10763.	3.0	6
83	Kinetics of boiling in binary liquid-gas solutions: Comparison of different approaches. Journal of Chemical Physics, 2003, 119, 6166-6183.	3.0	34
84	Experimental Investigations of Nucleation in Helium-Oxygen Mixtures. Journal of Physical Chemistry B, 2002, 106, 167-175.	2.6	17
85	Statistical substantiation of the van der Waals theory of inhomogeneous fluids. Physical Review E, 2002, 65, 041601.	2.1	45
86	The van der Waals Theory of Capillarity and Computer Simulation. Colloid Journal, 2002, 64, 661-670.	1.3	3
87	Kinetics of Condensation and Boiling: A Comparison of Different Approaches. Journal of Physical Chemistry B, 2001, 105, 11595-11604.	2.6	27
88	Attainable Superheating of Liquid Helium-Oxygen Solutions. High Temperature, 2000, 38, 852-859.	1.0	4
89	Curvature dependence of the surface tension of liquid and vapor nuclei. Physical Review E, 1999, 59, 469-475.	2.1	68
90	Nucleation in superheated gas-saturated solutions. I. Boiling-up kinetics. Journal of Chemical Physics, 1999, 110, 3955-3960.	3.0	27

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91	Nucleation in superheated liquid argon–krypton solutions. Journal of Chemical Physics, 1997, 106, 5648-5657.	3.0	36
92	Boiling characteristics of emulsions with a low-boiling dispersed phase and surfactants. Journal of Engineering Physics and Thermophysics, 1997, 70, 179-181.	0.6	7
93	Surface tension of helium-oxygen and helium-ethane solutions. International Journal of Thermophysics, 1995, 16, 909-927.	2.1	33
94	Spontaneous nucleation frequency in superheated liquid xenon and krypton. Journal of Engineering Physics, 1980, 38, 408-411.	0.0	5
95	Nucleation in Solutions of Liquefied Gases. , 0, , 159-217.		0
96	Equilibrium, Stability, and Metastability. , 0, , 7-59.		0
97	Explosive Boiling-Up of Cryogenic Liquids. , 0, , 309-319.		0
98	Attainable Superheating of One-Component Liquids. , 0, , 61-158.		0
99	Nucleation in Highly Correlated Systems. , 0, , 219-272.		0
100	Cavitation strength of oxygen-nitrogen solutions under pulse stretching. Physics of Fluids, 0, , .	4.0	2
101	Nucleation Kinetics Near the Absolute Zero of Temperature. , 0, , 273-308.		0
102	Nucleation and relaxation processes in weak solutions: molecular dynamics simulation. Molecular Simulation, 0, , 1-11.	2.0	3