Valentin N Ryzhov

List of Publications by Year in Descending Order

124 papers	2,646 citations	29 h-index	46 g-index
131 ext. papers	2,869 ext. citations	2.3 avg, IF	5.28 L-index

#	Paper	IF	Citations
124	The role of attraction in the phase diagrams and melting scenarios of generalized 2D Lennard-Jones systems.. *Journal of Chemical Physics*, **2022**, 156, 114703	3.9	0
123	Structural transition in two-dimensional Hertzian spheres in the presence of random pinning. *Physical Review E*, **2021**, 103, 062612	2.4	1
122	Melting scenarios of two-dimensional Hertzian spheres with a single triangular lattice. *Soft Matter*, **2020**, 16, 3962-3972	3.6	4
121	Interplay between freezing and density anomaly in a confined core-softened fluid. *Molecular Physics*, **2020**, 118, e1718792	1.7	3
120	Complex phase diagrams of systems with isotropic potentials: results of computer simulations. *Physics-Uspekhi*, **2020**, 63, 417-439	2.8	10
119	Complex phase diagrams of systems with isotropic potentials: results of computer simulations. *Uspekhi Fizicheskikh Nauk*, **2020**, 190, 449-473	0.5	1
118	The Berezinskii‐Kosterlitz‐Thouless Transition and Melting Scenarios of Two-Dimensional Systems. *Physics of Particles and Nuclei*, **2020**, 51, 786-790	0.7	1
117	Experimental study of water thermodynamics up to 1.2 GPa and 473 K. *Journal of Chemical Physics*, **2020**, 152, 154501	3.9	3
116	The influence of random pinning on the melting scenario of two-dimensional soft-disk systems. *Molecular Physics*, **2019**, 117, 2910-2919	1.7	8
115	The influence of long-range interaction on the structure of a two-dimensional multi scale potential system. *Journal of Physics Condensed Matter*, **2019**, 31, 315103	1.8	1
114	Possible phase transition in liquid caesium at ambient pressure. *Physics and Chemistry of Liquids*, **2019**, 57, 650-657	1.5	1
113	Possible Scenarios of a Phase Transition from Isotropic Liquid to a Hexatic Phase in the Theory of Melting in Two-Dimensional Systems. *Theoretical and Mathematical Physics(Russian Federation)*, **2019**, 200, 1053-1062	0.7	
112	Supercritical Anomalies and the Widom Line for the Isostructural Phase Transition in Solids. *Theoretical and Mathematical Physics(Russian Federation)*, **2018**, 194, 148-156	0.7	6
111	Dynamics, thermodynamics and structure of liquids and supercritical fluids: crossover at the Frenkel line. *Journal of Physics Condensed Matter*, **2018**, 30, 134003	1.8	19
110	Complex crystalline structures in a two-dimensional core-softened system. *Soft Matter*, **2018**, 14, 2152-2162	3.62	52
109	Comment on "Behavior of Supercritical Fluids across the 'Frenkel Line'". *Journal of Physical Chemistry B*, **2018**, 122, 6124-6128	3.4	13
108	Liquid-like and gas-like features of a simple fluid: An insight from theory and simulation. *Physica A: Statistical Mechanics and Its Applications*, **2018**, 509, 690-702	3.3	17

107	The phase diagram and melting scenarios of two-dimensional Hertzian spheres. *Molecular Physics*, **2018**, 116, 3258-3270	1.7	23
106	Review of a book on the anniversary of the theory of the Berezinskii–Kosterlitz–Thouless transition – a book which proved to be a precursor of the 2016 Nobel Prize in physics. *Physics-Uspekhi*, **2017**, 60, 114-118	2.8	7
105	Berezinskii–Kosterlitz–Thouless transition and two-dimensional melting. *Physics-Uspekhi*, **2017**, 60, 857-885	2.8	43
104	Excitation spectra of liquid iron up to superhigh temperatures. *Journal of Physics Condensed Matter*, **2017**, 29, 345401	1.8	3
103	Renormalization group study of the melting of a two-dimensional system of collapsing hard disks. *Theoretical and Mathematical Physics(Russian Federation)*, **2017**, 191, 842-855	0.7	10
102	The behaviour of water and sodium chloride solution confined into asbestos nanotube. *Molecular Physics*, **2016**, 114, 2279-2288	1.7	2
101	High pressure studies of the phase transition in the ferroelectric Sn2P2S6. *Solid State Communications*, **2016**, 236, 23-26	1.6	4
100	The Frenkel line and isotope effect. *Physica A: Statistical Mechanics and Its Applications*, **2016**, 444, 890-896	3.3	6
99	Supercritical fluid of particles with a Yukawa potential: A new approximation for the direct correlation function and the Widom line. *Theoretical and Mathematical Physics(Russian Federation)*, **2016**, 189, 1806-1817	0.7	7
98	Dynamical crossover in supercritical core-softened fluids. *Fluid Phase Equilibria*, **2016**, 417, 237-241	2.5	7
97	Degenerate approach to the mean field Bose-Hubbard Hamiltonian. *European Physical Journal B*, **2016**, 89, 1	1.2	
96	Crossover of collective modes and positive sound dispersion in supercritical state. *Journal of Physics Condensed Matter*, **2016**, 28, 43LT01	1.8	19
95	The behavior of benzene confined in a single wall carbon nanotube. *Journal of Computational Chemistry*, **2015**, 36, 901-6	3.5	12
94	Phase diagram of the system with the repulsive shoulder potential in two dimensions: Density functional approach. *Physica A: Statistical Mechanics and Its Applications*, **2015**, 432, 279-286	3.3	20
93	Quantum-to-classical crossover near quantum critical point. *Scientific Reports*, **2015**, 5, 18600	4.9	4
92	Dynamical crossover line in supercritical water. *Scientific Reports*, **2015**, 5, 14234	4.9	32
91	Random pinning changes the melting scenario of a two-dimensional core-softened potential system. *Physical Review E*, **2015**, 92, 032110	2.4	32
90	The behavior of cyclohexane confined in slit carbon nanopore. *Journal of Chemical Physics*, **2015**, 143, 184702	3.9	15

89	Thermodynamic properties of supercritical carbon dioxide: Widom and Frenkel lines. *Physical Review E*, **2015**, 91, 022111	2.4	66
88	Effect of a potential softness on the solid-liquid transition in a two-dimensional core-softened potential system. *Journal of Chemical Physics*, **2014**, 141, 18C522	3.9	39
87	A toy MCT model for multiple glass transitions: Double swallow tail singularity. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2014**, 378, 3567-3571	2.3	2
86	How dimensionality changes the anomalous behavior and melting scenario of a core-softened potential system?. *Soft Matter*, **2014**, 10, 4966-76	3.6	42
85	Anomalous melting scenario of the two-dimensional core-softened system. *Physical Review Letters*, **2014**, 112, 157803	7.4	7
84	How to quantify structural anomalies in fluids?. *Journal of Chemical Physics*, **2014**, 141, 034508	3.9	27
83	Melting Scenario of the Two-Dimensional Core-Softened System: First-Order or Continuous Transition?. *Journal of Physics: Conference Series*, **2014**, 510, 012016	0.3	18
82	True Widom line for a square-well system. *Physical Review E*, **2014**, 89, 042136	2.4	39
81	Dynamic transition in supercritical iron. *Scientific Reports*, **2014**, 4, 7194	4.9	24
80	The Frenkel line and supercritical technologies. *Russian Journal of Physical Chemistry B*, **2014**, 8, 1087-1094	1.2	9
79	"Liquid-gas" transition in the supercritical region: fundamental changes in the particle dynamics. *Physical Review Letters*, **2013**, 111, 145901	7.4	127
78	Superfragile glassy dynamics of a one-component system with isotropic potential: competition of diffusion and frustration. *Physical Review Letters*, **2013**, 110, 025701	7.4	49
77	Inversion of sequence of anomalies in core-softened systems with attraction. *European Physical Journal: Special Topics*, **2013**, 216, 165-173	2.3	18
76	Silicalike sequence of anomalies in core-softened systems. *Physical Review E*, **2013**, 87, 042122	2.4	40
75	Viscosity anomaly in core-softened liquids. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2013**, 377, 1469-1473	2.3	8
74	Properties of liquid iron along the melting line up to Earth-core pressures. *Journal of Physics Condensed Matter*, **2013**, 25, 285104	1.8	17
73	Evidence for structural crossover in the supercritical state. *Journal of Chemical Physics*, **2013**, 139, 234501	3.9	34
72	Universal crossover of liquid dynamics in supercritical region. *JETP Letters*, **2012**, 95, 164-169	1.2	23

71	Transport coefficients of soft sphere fluid at high densities. *JETP Letters*, **2012**, 95, 320-325	1.2	17
70	Two liquid states of matter: a dynamic line on a phase diagram. *Physical Review E*, **2012**, 85, 031203	2.4	175
69	Where is the supercritical fluid on the phase diagram?. *Physics-Uspekhi*, **2012**, 55, 1061-1079	2.8	83
68	Isoviscosity lines and the liquid-glass transition in simple liquids. *Physical Review E*, **2012**, 86, 011503	2.4	14
67	Where is the supercritical fluid on the phase diagram?. *Uspekhi Fizicheskikh Nauk*, **2012**, 182, 1137-1156	0.5	25
66	Complex phase behavior of the system of particles with smooth potential with repulsive shoulder and attractive well. *Journal of Chemical Physics*, **2011**, 134, 044523	3.9	37
65	Core-softened system with attraction: trajectory dependence of anomalous behavior. *Journal of Chemical Physics*, **2011**, 135, 124512	3.9	40
64	Inversion of sequence of diffusion and density anomalies in core-softened systems. *Journal of Chemical Physics*, **2011**, 135, 234502	3.9	51
63	Widom line for the liquid-gas transition in Lennard-Jones system. *Journal of Physical Chemistry B*, **2011**, 115, 14112-5	3.4	103
62	Singularity of the "swallow-tail" type and the glass-glass transition in a system of collapsing hard spheres. *Theoretical and Mathematical Physics(Russian Federation)*, **2011**, 167, 645-653	0.7	9
61	Water-like anomalies in the core-softened systems: Dependence on the trajectory in density-temperature plane. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2011**, 375, 2181-2184	2.3	24
60	Van der Waals supercritical fluid: exact formulas for special lines. *Journal of Chemical Physics*, **2011**, 135, 084503	3.9	50
59	Effective Hamiltonian study of excitations in a boson-fermion mixture with attraction between components. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2010**, 43, 225301	1.3	0
58	Breakdown of excess entropy scaling for systems with thermodynamic anomalies. *Physical Review E*, **2010**, 81, 061201	2.4	63
57	Waterlike thermodynamic anomalies in a repulsive-shoulder potential system. *Physical Review E*, **2009**, 79, 051202	2.4	89
56	On the critical temperature in a Boson-Fermion mixture with attraction between the components. *JETP Letters*, **2008**, 87, 376-380	1.2	2
55	Quasibinary amorphous phase in a three-dimensional system of particles with repulsive-shoulder interactions. *Journal of Chemical Physics*, **2008**, 129, 064512	3.9	103
54	Theoretical studies of condensed matter. *Physics-Uspekhi*, **2008**, 51,	2.8	4

53	On the 50th anniversary of the L F Vereshchagin Institute for High Pressure Physics, RAS (Scientific outreach session of the Physical Sciences Division of the Russian Academy of Sciences, 23 April 2008). *Physics-Uspekhi*, **2008**, 51, 1055-1083	2.8	2
52	Bose condensate of ultracold atoms in traps: Bose-bose and bose-fermi mixtures. *Theoretical and Mathematical Physics(Russian Federation)*, **2008**, 154, 123-136	0.7	2
51	Stable and unstable regimes in Bose-Fermi mixtures with attraction between components. *Physical Review A*, **2007**, 76,	2.6	10
50	Vortex state in a Bose-Fermi mixture with attraction between bosons and fermions. *Physical Review A*, **2006**, 73,	2.6	9
49	Generalized van der Waals theory of liquid-liquid phase transitions. *Physical Review E*, **2006**, 74, 041201	2.4	30
48	Collapse mechanism of the condensate wavefunction in the Bose-Fermi mixture with attraction between the components. *JETP Letters*, **2006**, 84, 294-299	1.2	2
47	New exactly solvable model: Spherical 3-state Potts model. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2006**, 353, 226-229	2.3	5
46	Collapse transition in mixtures of bosons and fermions. *Physical Review A*, **2004**, 69,	2.6	28
45	Stability of the Bose system in Bose-Fermi mixture with attraction between bosons and fermions. *JETP Letters*, **2004**, 80, 274-279	1.2	14
44	A Simple Cluster Model for the Liquid-Glass Transition. *Theoretical and Mathematical Physics(Russian Federation)*, **2004**, 141, 1443-1451	0.7	10
43	Cluster model of glass transition in simple liquids. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2004**, 329, 244-249	2.3	7
42	Reflection symmetry in mean-field replica-symmetric spin glasses. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2003**, 315, 467-473	2.3	14
41	Repulsive step potential: a model for a liquid-liquid phase transition. *Physical Review E*, **2003**, 67, 010201	2.4	46
40	Low-temperature phase transition in the three-state Potts glass. *Physical Review E*, **2003**, 68, 067103	2.4	21
39	Melting in two dimensions: first-order versus continuous transition. *Physica A: Statistical Mechanics and Its Applications*, **2002**, 314, 396-404	3.3	35
38	Phase separation and vortex states in binary mixture of Bose-Einstein condensates in trapping potentials with displaced centers. *JETP Letters*, **2002**, 75, 233-237	1.2	12
37	A liquid-liquid phase transition in the collapsing hard sphere system. *Journal of Experimental and Theoretical Physics*, **2002**, 95, 710-713	1	17
36	Melting of Two-Dimensional Systems: Dependence of the Type of Transition on the Radius of the Potential. *Theoretical and Mathematical Physics(Russian Federation)*, **2002**, 130, 101-110	0.7	22

35	Amplification of trap centres position difference in mixtures of Bose-Einstein condensates. *Journal of Physics Condensed Matter*, **2002**, 14, L77-L82	1.8	4
34	Transitions in Simple Liquids: Correlation Function Approach **2002**, 527-543		
33	Vortex states in a binary mixture of Bose-Einstein condensates. *Physical Review A*, **2001**, 63,	2.6	25
32	Phase separation and vortex states in the binary mixture of Bose-Einstein condensates. *Journal of Experimental and Theoretical Physics*, **2000**, 91, 1183-1189	1	19
31	Domain structures in ferromagnetic ultrathin films with in-plane magnetization. *Physical Review B*, **1999**, 60, 10271-10279	3.3	6
30	Simple formula for the switching field of ultrathin small magnetic structures. *Journal of Applied Physics*, **1999**, 85, 1978-1980	2.5	1
29	Solitons and edge domains in multilayers. *Journal of Magnetism and Magnetic Materials*, **1998**, 177-181, 1303-1304	2.8	12
28	180□domain walls in ultra-thin magnetic films with fourfold anisotropy. *Journal of Magnetism and Magnetic Materials*, **1998**, 182, 25-30	2.8	10
27	Soliton and 2D Domains in Ultrathin Magnetic Films. *Physical Review Letters*, **1997**, 78, 2224-2227	7.4	38
26	Statistical mechanics of a vortex system in a thin superconducting film using the cyclic approximation. *Theoretical and Mathematical Physics(Russian Federation)*, **1996**, 107, 499-510	0.7	6
25	First-order vortex unbinding transition in thin superconducting films. *Physical Review B*, **1996**, 54, 3051-3054	3.3	15
24	Statistical mechanics of a vortex system in a thin superconducting film in the cyclic approximation. II. Finite thickness and vortex bending. *Theoretical and Mathematical Physics(Russian Federation)*, **1995**, 104, 1035-1042	0.7	1
23	Two-stage melting in two dimensions: First-principles approach. *Physical Review B*, **1995**, 51, 8789-8794	3.3	73
22	Vortex-vortex interaction in a superconducting film of finite thickness. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1995**, 207, 374-378	2.3	13
21	Results for the phase diagram of the vortex system in two-dimensional superconductors. *Physical Review B*, **1994**, 49, 6162-6173	3.3	20
20	Statistical mechanics of vortex systems in two-dimensional superconductors. *Physical Review B*, **1993**, 48, 12907-12911	3.3	18
19	Hexatic phase in thin-film superconductors. *Physica C: Superconductivity and Its Applications*, **1993**, 205, 55-62	1.3	5
18	Statistical mechanics of vortex system in a thin-film superconductor in the ring approximation. *Theoretical and Mathematical Physics(Russian Federation)*, **1993**, 96, 1062-1068	0.7	6

17	Microscopic approach to calculation of the shear and bulk moduli and the frank constant in two-dimensional melting. *Theoretical and Mathematical Physics(Russian Federation)*, **1992**, 92, 922-930	0.7	9
16	Hexatic phase: microscopic approach to the Frank constant. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1991**, 158, 321-324	2.3	5
15	Disclination-mediated melting of two-dimensional lattices. *Theoretical and Mathematical Physics(Russian Federation)*, **1991**, 88, 990-997	0.7	15
14	Local structure and bond orientational order in a Lennard-Jones liquid. *Journal of Physics Condensed Matter*, **1990**, 2, 5855-5865	1.8	18
13	Orientational ordering of bonds in simple three-dimensional liquids. *Theoretical and Mathematical Physics(Russian Federation)*, **1989**, 80, 745-752	0.7	7
12	Bond orientational order in simple liquids. *Journal of Physics C: Solid State Physics*, **1988**, 21, 819-824		17
11	Microscopic description of bond orientational order in simple liquids. *Theoretical and Mathematical Physics(Russian Federation)*, **1987**, 73, 1344-1352	0.7	11
10	Solvable model of quadrupole glass with axial interaction. *Theoretical and Mathematical Physics(Russian Federation)*, **1986**, 67, 623-627	0.7	7
9	Solvable model of a quadrupolar glass. *Journal of Physics C: Solid State Physics*, **1984**, 17, L665-L667		49
8	Magnetic solitons in a compressible Heisenberg chain. *Journal of Physics C: Solid State Physics*, **1983**, 16, L1125-L1128		5
7	Statistical theory of crystallization in classical systems. *Theoretical and Mathematical Physics(Russian Federation)*, **1983**, 55, 399-405	0.7	14
6	On the liquid phase instability criterion. *Physica A: Statistical Mechanics and Its Applications*, **1981**, 109, 357-363	3.3	3
5	Statistical theory of crystallization in a system of hard spheres. *Theoretical and Mathematical Physics(Russian Federation)*, **1981**, 48, 835-840	0.7	29
4	Towards a statistical theory of freezing. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1979**, 75, 88-90	2.3	28
3	Structural instability in one-dimensional orthohydrogen. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1979**, 72, 373-375	2.3	
2	Orientational ordering in molecular hydrogen. IV. Phase transition of the second kind in the hexagonal lattice. *Theoretical and Mathematical Physics(Russian Federation)*, **1979**, 40, 738-742	0.7	
1	Water-Like Anomalies of Core-Softened Fluids: Dependence on the Trajectories in (PⅡ) Space. *Advances in Chemical Physics*, 81-100		2