Irina V Belova

List of Publications by Year
in descending order

124	1,116	393982	552369
papers	citations	19 h-index	26 g-index

127	127	127	844
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Electronic, optical and bonding properties of CaCO3 calcite. Solid State Communications, 2009, 149, 1201-1203.	0.9	58
2	Molecular dynamics simulation of the alloying reaction in Al-coated Ni nanoparticle. Computational Materials Science, 2010, 47, 712-720.	1.4	56
3	Effect of Heat Treatment on the Compressive Behavior of Zinc Alloy ZA27 Syntactic Foam. Materials, 2019, 12, 792.	1.3	41
4	Electronic and optical properties of anatase TiO2 nanotubes. Computational Materials Science, 2010, 48, 854-858.	1.4	40
5	Energy cost of heat activating serpentinites for CO2 storage by mineralisation. International Journal of Greenhouse Gas Control, 2013, 17, 225-239.	2.3	40
6	Mechanical and Microstructural Characterization of an AZ91â€“Activated Carbon Syntactic Foam. Materials, 2019, 12, 3.	1.3	36
7	Analysis of diffusion in high entropy alloys. Materials Chemistry and Physics, 2018, 210, 301-308.	2.0	32
8	Molecular dynamics simulation and theoretical analysis of carbon diffusion in cementite. Acta Materialia, 2009, 57, 846-853.	3.8	30
9	Influence of particle arrangement on the compression of functionally graded metal syntactic foams. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 764, 138242.	2.6	30
10	Dynamic compression of functionally-graded metal syntactic foams. Composite Structures, 2021, 261, 113308.	3.1	30
11	Lattice Monte Carlo and Experimental Analyses of the Thermal Conductivity of Randomâ€Shaped Cellular Aluminum. Advanced Engineering Materials, 2009, 11, 843-847.	1.6	29
12	Reaction of a Ni-coated Al nanoparticle to formB2-NiAl: A molecular dynamics study. Philosophical Magazine Letters, 2009, 89, 815-830.	0.5	26
13	Molecular dynamics simulation of alloying in a Ti-coated Al nanoparticle. Intermetallics, 2012, 22, 193-202.	1.8	24
14	Molecular dynamics determination of the timeâ€“temperatureâ€“transformation diagram for crystallization of an undercooled liquid Ni50Al50 alloy. Acta Materialia, 2011, 59, 6412-6419.	3.8	23
15	Analysis of the Effective Diffusivity in Nanocrystalline Materials. Journal of Metastable and Nanocrystalline Materials, 2004, 19, 25-34.	0.1	21
16	Molecular dynamics simulation of the thermophysical properties of an undercooled liquid Ni50Al50 alloy. Computational Materials Science, 2010, 50, 465-473.	1.4	21
17	Interdiffusion and surface-sandwich ordering in initial Ni-coreâ€“Pd-shell nanoparticle. Physical Chemistry Chemical Physics, 2009, 11, 3233.	1.3	20
18	Molecular dynamics study of reaction pathways in an Al-coated Ni nanoparticle. Intermetallics, 2011, 19, 934-941.	1.8	19

#	Article	IF	Citations
19	Molecular dynamics simulation of alloying in an Al-coated Ti nanoparticle. Computational Materials Science, 2013, 79, 316-325.	1.4	19
20	Thermotransport in binary system: case study on Ni₅₀Al₅₀melt. Philosophical Magazine, 2014, 94, 3574-3602.	0.7	19
21	Molecular dynamics prediction of phonon-mediated thermal conductivity of f.c.c. Cu. Philosophical Magazine, 2014, 94, 731-751.	0.7	18
22	Molecular dynamics study of density, surface energy and self-diffusion in a liquid Ni50Al50 alloy. Computational Materials Science, 2010, 50, 331-337.	1.4	16
23	Molecular dynamics simulation of surface segregation in a (110) B2-NiAl thin film. Physical Chemistry Chemical Physics, 2011, 13, 1214-1221.	1.3	16
24	Molecular dynamics simulation of diffusion in a (110) B2-NiAl film. Intermetallics, 2011, 19, 848-854.	1.8	16
25	Finite Difference Solution of the Diffusion Equation and Calculation of the Interdiffusion Coefficient using the Sauer-Freise and Hall Methods in Binary Systems. Procedia Engineering, 2015, 105, 570-575.	1.2	15
26	Thermal Conductivity Enhancement of Compact Heat Sinks Using Cellular Metals. Defect and Diffusion Forum, 0, 273-276, 222-226.	0.4	14
27	The Lattice Monte Carlo Method for Solving Phenomenological Mass and Thermal Diffusion Problems. Defect and Diffusion Forum, 0, 279, 13-22.	0.4	14
28	Simultaneous Measurement of Isotope-Free Tracer Diffusion Coefficients and Interdiffusion Coefficients in the Cu-Ni System. Journal of Phase Equilibria and Diffusion, 2018, 39, 862-869.	0.5	14
29	Molecular dynamics study of phonon-mediated thermal transport in a Ni₅₀Al₅₀melt: case analysis of the influence of the process on the kinetics of solidification. Philosophical Magazine, 2015, 95, 90-111.	0.7	12
30	Influence of the interatomic potential on thermotransport in binary liquid alloys: case study on NiAl. Philosophical Magazine, 2016, 96, 3054-3074.	0.7	12
31	Fatigue characterization of functionally graded ZA27 alloy syntactic foams. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 798, 140255.	2.6	12
32	Formation of a Hollow Binary Alloy Nanosphere: A Kinetic Monte Carlo Study. Journal of Nano Research, 0, 7, 11-17.	0.8	11
33	Interdiffusion and thermotransport in Niâ€“Al liquid alloys. Philosophical Magazine, 2018, 98, 2221-2246.	0.7	11
34	Calculation of the Effective Thermal Conductivity in Composites Using Finite Element and Monte Carlo Methods. Materials Science Forum, 2007, 553, 51-56.	0.3	10
35	Mass and thermal transport in liquid Cu-Ag alloys. Philosophical Magazine, 2019, 99, 468-491.	0.7	10
36	Prediction of the lattice thermal conductivity of zircon and the cubic and monoclinic phases of zirconia by molecular dynamics simulation. Computational Materials Science, 2020, 176, 109522.	1.4	10

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37	Stability of Hollow Nanospheres: A Molecular Dynamics Study. Solid State Phenomena, 0, 129, 125-130.	0.3	9
38	The Synthesis, Stability and Shrinkage of Hollow Nanoparticles: An Overview. Journal of Nano Research, 2009, 7, 19-26.	0.8	9
39	Decomposition model for phonon thermal conductivity of a monatomic lattice. Philosophical Magazine, 2014, 94, 3992-4014.	0.7	9
40	Bridging Different Length and Time Scales in Diffusion Problems Using a Lattice Monte Carlo Method. Solid State Phenomena, 2007, 129, 1-10.	0.3	8
41	Collective and Tracer Diffusion via a Defect Cluster in LSGM. Defect and Diffusion Forum, 2007, 263, 81-86.	0.4	8
42	Determination of the lattice thermal conductivity of the TiO2 polymorphs rutile and anatase by molecular dynamics simulation. Computational Condensed Matter, 2018, 17, e00342.	0.9	8
43	Measurement of Interdiffusion and Tracer Diffusion Coefficients in FCC Co-Cr-Fe-Ni Multi-Principal Element Alloy. Journal of Phase Equilibria and Diffusion, 2021, 42, 696-707.	0.5	8
44	Atomistic Modeling of Diffusion in the TiAl Compound. Defect and Diffusion Forum, 2005, 237-240, 271-276.	0.4	7
45	Calculations of the Effective Thermal Conductivity in a Model of Syntactic Metallic Hollow Sphere Structures Using a Lattice Monte Carlo Method. Defect and Diffusion Forum, 0, 273-276, 216-221.	0.4	7
46	Interdiffusion in Intermetallics. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 4417-4421.	1.1	7
47	The Thermal Conductivity of Magnesite, Dolomite and Calcite as Determined by Molecular Dynamics Simulation. , 0, 19, 18-34.		7
48	Comments on â€œExperimental assessment of the thermodynamic factor for diffusion in CoCrFeNi and CoCrFeMnNi high entropy alloysâ€• Scripta Materialia, 2019, 172, 110-112.	2.6	7
49	Chemical Diffusion in Ni₃Al. Defect and Diffusion Forum, 2001, 194-199, 541-546.	0.4	6
50	Thermal Properties of Composite Materials and Porous Media: Lattice-Based Monte Carlo Approaches. , 0, , 73-95.		6
51	Lattice-Based Walks and the Monte Carlo Method for Addressing Mass, Thermal and Elasticity Problems. Defect and Diffusion Forum, 0, 283-286, 13-23.	0.4	6
52	Diffusion correlation effects of molybdenum and silicon in molybdenum disilicide. Philosophical Magazine, 2011, 91, 3727-3743.	0.7	6
53	Thermal Conductivity Computations of Sintered Hollow Sphere Structures. Metals, 2012, 2, 113-121.	1.0	6
54	Theoretical Study of the Heat of Transport in a Liquid Ni₅₀Al₅₀ Alloy: Green-Kubo Approach. , 0, 2, 159-189.		6

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55	Investigation of Interdiffusion in High Entropy Alloys: Application of the Random Alloy Model. , 0, 22, 94-108.		6
56	Tracer Correlation, Collective Correlation and Vacancy Wind Factors in Intermetallics Taking the B2 Structures. Defect and Diffusion Forum, 2000, 179-180, 1-16.	0.4	5
57	Time Dependence of the Segregation of Diffusing Solute in Nanocrystalline Materials. Materials Research Society Symposia Proceedings, 2002, 731, 541.	0.1	5
58	The Six-Jump Cycle Diffusion Mechanism in Non-Stoichiometric B2 Intermetallics: the Vacancy-Wind Factor. Defect and Diffusion Forum, 2003, 213-215, 95-106.	0.4	5
59	Theoretical Analysis and Atomistic Modelling of Diffusion and Stability of Pure Element Hollow Nanospheres and Nanotubes. Defect and Diffusion Forum, 0, 277, 21-26.	0.4	5
60	Investigation of Harrison Type-A, B and Intermediate AB Kinetics Regimes in Grain Boundary Diffusion. Defect and Diffusion Forum, 2009, 283-286, 697-704.	0.4	5
61	Solving Complex Thermal and Mass Transport Problems with the Lattice Monte Carlo Method. Materials Science Forum, 2010, 654-656, 1476-1481.	0.3	5
62	The Harrison Diffusion Kinetics Regimes in Grain Boundary Diffusion: Lattice Monte Carlo Modelling of the Effect of Segregation. Defect and Diffusion Forum, 0, 309-310, 9-18.	0.4	5
63	A structural model for surface-enhanced stabilization in some metallic glass formers. Philosophical Magazine Letters, 2013, 93, 50-57.	0.5	5
64	Phonon Thermal Conductivity of F.C.C. Cu by Molecular Dynamics Simulation. Defect and Diffusion Forum, 0, 336, 169-184.	0.4	5
65	Phonon-mediated heat dissipation in a monatomic lattice: case study on Ni. Philosophical Magazine, 2015, 95, 3640-3673.	0.7	5
66	Activation volume dominated diffusivity of Ni50Al50 melt under extreme conditions. Computational Materials Science, 2020, 171, 109263.	1.4	5
67	Novel Interdiffusion Analysis in Multicomponent Alloys - Part 2: Application to Quaternary, Quinary and Higher Alloys. , 0, 29, 179-203.		5
68	A Self-Consistent Theory of Atomic Transport in the B2 Ordered Alloy: The Sum Rule. Defect and Diffusion Forum, 2001, 194-199, 547-552.	0.4	4
69	A Simple Iterative Method for Analysing Experimental Tracer Diffusivities in Concentrated Binary Alloys. Defect and Diffusion Forum, 2004, 224-225, 127-0.	0.4	4
70	Random-Walk Calculations in Intermetallic Compounds. Defect and Diffusion Forum, 2005, 237-240, 291-302.	0.4	4
71	Stability and Shrinkage by Diffusion in Hollow Nanotubes. Defect and Diffusion Forum, 2007, 266, 39-47.	0.4	4
72	Modelling of the Formation of Pd-Ni Alloy Nanoparticles by Interdiffusion. Defect and Diffusion Forum, 0, 277, 207-212.	0.4	4

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73	A Lattice Monte Carlo Analysis of Thermal Transport in Phase Change Materials. Defect and Diffusion Forum, 0, 297-301, 154-161.	0.4	4
74	Numerical Characterization of Anisotropic Heat Sink Composites. Materials Science Forum, 0, 654-656, 1500-1503.	0.3	4
75	Vibrational contribution to thermal transport in liquid cooper: Equilibrium molecular dynamics study. Computational Materials Science, 2015, 96, 229-236.	1.4	4
76	Insight into lattice thermal impedance via equilibrium molecular dynamics: case study on Al. Philosophical Magazine, 2016, 96, 596-619.	0.7	4
77	Interdiffusion Analysis in Ternary Systems to Process Composition Profiles and Obtain Constant Interdiffusion Coefficients Using One Compact Diffusion Couple. Journal of Phase Equilibria and Diffusion, 2019, 40, 522-531.	0.5	4
78	Phenomenological Aspects of Grain Boundary Diffusion. Defect and Diffusion Forum, 2006, 258-260, 483-490.	0.4	3
79	Monte Carlo Modelling of the Effective Diffusivity in Composite Material. Defect and Diffusion Forum, 2007, 261-262, 103-108.	0.4	3
80	Exploration of the Transition from Harrison Type-A Kinetics to Type-B Kinetics Regimes in Grain Boundary Diffusion. Defect and Diffusion Forum, 0, 273-276, 425-430.	0.4	3
81	First-principles calculations of a corrugated anatase TiO2 surface. Computational Materials Science, 2012, 51, 78-82.	1.4	3
82	Molecular Dynamics Prediction of the Influence of Composition on Thermotransport in Ni-Al Melts. , 0, 12, 93-110.		3
83	Computer simulation of thermodynamic factors in Ni-Al and Cu-Ag liquid alloys. Computational Materials Science, 2019, 166, 124-135.	1.4	3
84	An overview of thermotransport in fluorite-related ionic oxides. Zeitschrift Fur Physikalische Chemie, 2022, 236, 1103-1124.	1.4	3
85	Diffusion in the Presence of Grain Boundaries: a Variable Length Scale Simulation Method. Materials Research Society Symposia Proceedings, 2001, 677, 7201.	0.1	2
86	Visualization of the Vacancy-Wind Effect Occurring in Chemical Diffusion and Ionic Conductivity in Solids. Defect and Diffusion Forum, 2008, 273-276, 431-444.	0.4	2
87	Atomic Mechanism of Carbon Diffusion in Cementite. Defect and Diffusion Forum, 0, 277, 101-106.	0.4	2
88	Carbon Diffusion in Cementite: A Molecular Dynamics Study. Defect and Diffusion Forum, 2009, 283-286, 24-29.	0.4	2
89	Composition Effect on Shrinkage of Hollow Binary Alloy Nanospheres. Defect and Diffusion Forum, 0, 289-292, 665-672.	0.4	2
90	Parametric Analysis of the Classification of Harrison Kinetics Regimes in Grain Boundary Diffusion. Defect and Diffusion Forum, 2010, 297-301, 1226-1231.	0.4	2

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91	Two-fluid nature of phonon heat conduction in a monatomic lattice. Philosophical Magazine, 2015, 95, 2571-2595.	0.7	2
92	Molecular Dynamics Determination of the Lattice Thermal Conductivity of the Cubic Phase of Hafnium Dioxide. , 0, 27, 177-185.		2
93	Exact phenomenological theory for thermotransport in a solid binary alloy. Philosophical Magazine Letters, 2021, 101, 123-131.	0.5	2
94	Calculation of Tracer and Chemical Diffusion Coefficients in the Intermetallic Compound Î²-AgMg. Defect and Diffusion Forum, 2003, 224-225, 45-52.	0.4	1
95	The sum-rule relation among phenomenological transport coefficients and its consequences in the analysis of collective diffusion problems. Physical Chemistry Chemical Physics, 2004, 006, 3620-3624.	1.3	1
96	Collective Correlation Factors in Random Non-Stoichiometric Inermetallic Compounds. Defect and Diffusion Forum, 2005, 247-248, 1-8.	0.4	1
97	Tracer Diffusion by Six-Jump-Cycles in Nonstoichiometric B2 Intermetallic Compounds. Defect and Diffusion Forum, 2005, 247-248, 9-20.	0.4	1
98	Vacancy-Wind Factors and Collective Correlation Factors in Nonstoichiometric B2 Intermetallic Compounds. Defect and Diffusion Forum, 2006, 251-252, 69-78.	0.4	1
99	Molecular Dynamics Study of Carbon Diffusion in Austenite. Defect and Diffusion Forum, 2006, 258-260, 253-258.	0.4	1
100	Interdiffusion Data in Multicomponent Alloys as a Source of Quantitative Fundamental Diffusion Information. Defect and Diffusion Forum, 2007, 263, 1-10.	0.4	1
101	Surface-Sandwich Segregation Phenomena in Bimetallic Ag-Ni and Pd-Ni Nanoparticles: A Molecular Dynamics Study. Defect and Diffusion Forum, 0, 289-292, 657-664.	0.4	1
102	The Nature of the Vacancy-Wind Effect Occurring in Diffusion via Six-Jump-Cycles in B2 Intermetallics. Defect and Diffusion Forum, 0, 297-301, 1218-1225.	0.4	1
103	Compressive Properties of Corevo^{Â®} Foam under Uni-Axial Loading Based on Experimental and Numerical Analysis. Applied Mechanics and Materials, 2014, 597, 121-126.	0.2	1
104	The Vacancy-Wind Factor and the Manning Factor Occurring in Interdiffusion and Ionic Conductivity in Solids. , 0, 22, 170-183.		1
105	Pores shrinkage and growth in polycrystalline hollow nanoparticles and nanotubes. Scripta Materialia, 2020, 180, 93-96.	2.6	1
106	The Lattice Monte Carlo Method for Solving Phenomenological Mass and Thermal Diffusion Problems. Defect and Diffusion Forum, 0, , 13-22.	0.4	1
107	The Diffusion Isotope Effect and Diffusion Mechanism in Liquid Cu-Ag and Cu-Ni Alloys. Defect and Diffusion Forum, 0, 413, 136-145.	0.4	1
108	A Formalism to Describe Demixing of Mixed Oxides of Large and Small Grain Size in an Electric Field. Materials Research Society Symposia Proceedings, 2004, 822, S6.14.1.	0.1	0

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109	Expressions for the effective diffusivity in materials with interphase boundaries. Materials Research Society Symposia Proceedings, 2004, 819, N3.14.1.	0.1	0
110	Tracer Diffusion in Nonstoichiometric Intermetallic Compounds with Random Mixing on Each Sublattice. Defect and Diffusion Forum, 2005, 247-248, 21-28.	0.4	0
111	Contribution to the Theory of Demixing of Yttrium in Yttria-Stabilized-Zirconia in an Electric Field. Advances in Science and Technology, 2006, 46, 42.	0.2	0
112	Analysis of Interdiffusion and Intrinsic Diffusion in Multicomponent Alloys to Obtain Information about Diffusion Mechanisms. Defect and Diffusion Forum, 2006, 258-260, 237-246.	0.4	0
113	Cation Diffusion and Demixing in Yttria Stabilized Zirconia: Comparison of Assumptions of Constant Electric Field and Constant Current. Defect and Diffusion Forum, 2006, 258-260, 247-252.	0.4	0
114	Six-Jump-Cycle Mechanism for Collective Correlations in Nonstoichiometric Intermetallic Compounds. Defect and Diffusion Forum, 2006, 251-252, 59-68.	0.4	0
115	Sum-Rule Relations among Phenomenological Coefficients: Application to Segregation and Chemical Diffusion in Multicomponent Alloys and Mixed Ceramic Oxides. Defect and Diffusion Forum, 2006, 249, 17-26.	0.4	0
116	Extraction of Diffusion Correlation Information from Tracer, Interdiffusion and Ionic Conductivity Data. Advances in Science and Technology, 2006, 46, 54.	0.2	0
117	Calculation of Phenomenological Coefficients by Monte Carlo Computer Simulation Methods. Defect and Diffusion Forum, 2006, 249, 27-34.	0.4	0
118	Non-Random Interaction of Vacancies with Atoms during Interdiffusion and Ionic Conductivity in Materials. Defect and Diffusion Forum, 2007, 266, 119-130.	0.4	0
119	Modelling of Oxygen Diffusion and Segregation at Interfaces in Ag-MgO Composites. Defect and Diffusion Forum, 2007, 266, 29-38.	0.4	0
120	Theoretical Studies of Diffusion Kinetics in Austenite. Defect and Diffusion Forum, 2008, 273-276, 455-460.	0.4	0
121	Diffusion Kinetics Analysis of Cation Diffusion in YSZ and LSGM. Defect and Diffusion Forum, 0, 273-276, 445-454.	0.4	0
122	Finite Element Modelling of Oxygen Diffusion and Segregation at Interfaces in Ag-MgO Composites: Parametric Studies. Defect and Diffusion Forum, 0, 273-276, 461-466.	0.4	0
123	In-Diffusion and Out-Diffusion of Oxygen from a Composite Containing Random Traps. Solid State Phenomena, 0, 139, 35-40.	0.3	0
124	Relationships between chemical and tracer diffusion coefficients in strongly ionic crystals. International Journal of Materials Research, 2022, 95, 870-875.	0.1	0