

Irina G Nizovtseva

List of Publications by Year in descending order

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44
papers

496
citations

840776

11
h-index

713466

21
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46
all docs

46
docs citations

46
times ranked

89
citing authors

#	ARTICLE	IF	CITATIONS
1	On the theory of crystal growth in metastable systems with biomedical applications: protein and insulin crystallization. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180214.	3.4	65
2	Nonlinear dynamics of directional solidification with a mushy layer. Analytic solutions of the problem. International Journal of Heat and Mass Transfer, 2007, 50, 3616-3623.	4.8	57
3	To the theory of underwater ice evolution, or nonlinear dynamics of "false bottoms". International Journal of Heat and Mass Transfer, 2008, 51, 5204-5208.	4.8	55
4	On the theory of nucleation and nonstationary evolution of a polydisperse ensemble of crystals. International Journal of Heat and Mass Transfer, 2019, 128, 46-53.	4.8	52
5	The effect of density changes on crystallization with a mushy layer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190248.	3.4	43
6	Unidirectional solidification of binary melts from a cooled boundary: analytical solutions of a nonlinear diffusion-limited problem. Journal of Physics Condensed Matter, 2008, 20, 114105.	1.8	34
7	Nonlinear dynamics of the false bottom during seawater freezing. Doklady Earth Sciences, 2008, 419, 359-362.	0.7	22
8	Travelling-wave amplitudes as solutions of the phase-field crystal equation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170202.	3.4	22
9	Evolution of a Polydisperse Ensemble of Spherical Particles in a Metastable Medium with Allowance for Heat and Mass Exchange with the Environment. Crystals, 2022, 12, 949.	2.2	17
10	The hyperbolic Allen-Cahn equation: exact solutions. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 435201.	2.1	13
11	Kinetic transition in the order-disorder transformation at a solid/liquid interface. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170207.	3.4	12
12	The generalized stability indicator of fragment of the network. II Critical performance event. Applied Mathematical Sciences, 0, 7, 5627-5632.	0.1	11
13	The generalized stability indicator of fragment of the network. I. Modeling of the corporate network fragments. Applied Mathematical Sciences, 0, 7, 5621-5625.	0.1	11
14	Solidification of ternary systems with a nonlinear phase diagram. Russian Metallurgy (Metally), 2017, 2017, 127-135.	0.5	10
15	Analytical solution of a binary melt solidification model in the presence of a quasi-equilibrium mushy region for the case of the non-linear phase diagram. Journal of Physics Condensed Matter, 2020, 32, 304003.	1.8	8
16	A review of continuous modeling of periodic pattern formation with modified phase-field crystal models. European Physical Journal: Special Topics, 2022, 231, 1135-1145.	2.6	8
17	Index of the economic interaction effectiveness between the natural monopoly and regions. I. Math model. Applied Mathematical Sciences, 0, 7, 6181-6185.	0.1	7
18	Mathematical modeling of binary compounds with the presence of a phase transition layer. Mathematical Methods in the Applied Sciences, 2021, 44, 12260-12270.	2.3	6

#	ARTICLE	IF	CITATIONS
19	Phase field analysis of the growth of fast and slow crystallites. European Physical Journal: Special Topics, 2020, 229, 433-437.	2.6	5
20	Phase field model derivation for rapid crystal growth in polycrystalline alloys. European Physical Journal: Special Topics, 2020, 229, 453-458.	2.6	5
21	Simulation of two-phase air-liquid flows in a closed bioreactor loop: Numerical modeling, experiments, and verification. Mathematical Methods in the Applied Sciences, 2022, 45, 8216-8229.	2.3	5
22	Nonlinear analysis of the stability of solidification with a mushy zone. Russian Metallurgy (Metally), 2014, 2014, 606-617.	0.5	4
23	Traveling wave solutions for the hyperbolic Cahn-Allen equation. Chaos, Solitons and Fractals, 2017, 94, 75-79.	5.1	4
24	Kinetics of the Formation of a Disordered Crystal Structure during High-Speed Solidification. Journal of Experimental and Theoretical Physics, 2018, 127, 107-114.	0.9	4
25	On the theory of non-stationary directional solidification with a phase transition layer. European Physical Journal: Special Topics, 2020, 229, 405-416.	2.6	4
26	Approximate analytical solution of the integro-differential model of bulk crystallization in a metastable liquid with mass supply (heat dissipation) and crystal withdrawal mechanism. Mathematical Methods in the Applied Sciences, 2022, 45, 8170-8178.	2.3	4
27	Binary melt with quasi-stationary solidification modeling: Mushy layer approach. AIP Conference Proceedings, 2020, , .	0.4	2
28	Generalization index of the economic interaction effectiveness between the natural monopoly and regions in case of multiple simultaneous projects. Applied Mathematical Sciences, 0, 8, 1223-1230.	0.1	2
29	Disorder trapping by rapidly moving phase interface in an undercooled liquid. EPJ Web of Conferences, 2017, 151, 05001.	0.3	1
30	Nonlinear model of the mushy layer in the time-dependent crystallization of sea water in ice cracks. Advanced Studies in Theoretical Physics, 0, 7, 1011-1016.	0.2	1
31	Traveling waves in a profile of phase field: exact analytical solutions of a hyperbolic Allen-Cahn equation. Vestnik Udmurtskogo Universiteta: Matematika, Mekhanika, Komp'yuternye Nauki, 2016, 26, 245-257.	0.2	1
32	Modeling of a mushy zone during quasi-stationary solidification of TiAl alloy. AIP Conference Proceedings, 2020, , .	0.4	1
33	The stefan problem on evaporation of a volatile component in the gas-melt-solid system. AIP Conference Proceedings, 2015, , .	0.4	0
34	The role of crystallite withdrawal rate and external sources on nucleation and growth of crystals. AIP Conference Proceedings, 2015, , .	0.4	0
35	General set of traveling-wave solutions for amplitude equations in the phase field crystal model. IOP Conference Series: Materials Science and Engineering, 2017, 192, 012004.	0.6	0
36	Editorial for special issue "Nonlinear dynamics of phase transitions". Mathematical Methods in the Applied Sciences, 2021, 44, 12039-12039.	2.3	0

#	ARTICLE	IF	CITATIONS
37	Nonlinear model of the mushy layer in the time-dependent crystallization. II Calculations. <i>Advanced Studies in Theoretical Physics</i> , 0, 7, 1017-1022.	0.2	0
38	Automated methodology combining assessments and developing solutions about interaction. <i>Applied Mathematical Sciences</i> , 0, 8, 3035-3041.	0.1	0
39	An exact analytical solution of the Fokker-Planck type equation in the presence of arbitrary growth rates of nuclei. <i>Advanced Studies in Theoretical Physics</i> , 0, 9, 753-756.	0.2	0
40	Morphological stability analysis of the self-similar solidification front in the case of thermodiffusion. Part II. The stability criterion. <i>Advanced Studies in Theoretical Physics</i> , 0, 9, 745-752.	0.2	0
41	Models of transport processes and structural transitions on the basis of equilibrium multi-component zone. <i>Advanced Studies in Theoretical Physics</i> , 0, 9, 559-564.	0.2	0
42	Morphological stability analysis of the self-similar solidification front in the case of thermodiffusion. Part I. The self-similar solutions. <i>Advanced Studies in Theoretical Physics</i> , 0, 9, 737-743.	0.2	0
43	MODELING OF PASSENGERS' CHOICE USING INTELLIGENT AGENTS WITH REINFORCEMENT LEARNING IN SHARED INTERESTS SYSTEMS; A BASIC APPROACH. <i>Transport Problems</i> , 2019, 14, 43-53.	0.6	0
44	Editorial for the MMAS special issue "Integral-differential models of natural and anthropogenic processes and phenomena". <i>Mathematical Methods in the Applied Sciences</i> , 2022, 45, 7939-7939.	2.3	0