

Alexander S Abyzov

List of Publications by Year in descending order

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1,729
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218677

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79
all docs

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docs citations

79
times ranked

995
citing authors

#	ARTICLE	IF	CITATIONS
1	Relaxation effect on crystal nucleation in a glass unveiled by experimental, numerical, and analytical approaches. <i>Acta Materialia</i> , 2022, 223, 117458.	7.9	14
2	Annealing effects on the glass transition: Experiment and theory. <i>Journal of Non-Crystalline Solids</i> , 2022, 590, 121669.	3.1	1
3	Effect of structural relaxation on crystal nucleation in glasses. <i>Acta Materialia</i> , 2021, 203, 116472.	7.9	33
4	Effect of structural relaxation on crystal nucleation in a soda-lime-silica glass. <i>Journal of the American Ceramic Society</i> , 2021, 104, 3212-3223.	3.8	21
5	Effects of Glass Transition and Structural Relaxation on Crystal Nucleation: Theoretical Description and Model Analysis. <i>Entropy</i> , 2020, 22, 1098.	2.2	28
6	Off-stoichiometry effects on crystal nucleation and growth kinetics in soda-lime-silicate glasses. The combeite ($\text{Na}_2\text{O} \cdot 2\text{CaO} \cdot 3\text{SiO}_2$) " devitrite ($\text{Na}_2\text{O} \cdot 3\text{CaO} \cdot 6\text{SiO}_2$) joint. <i>Acta Materialia</i> , 2020, 196, 191-199.	7.9	18
7	Growth and dissolution of crystal nuclei in poly(L-lactic acid) (PLLA) in Tammann's development method. <i>Polymer</i> , 2020, 196, 122453.	3.8	31
8	Crystallization of Supercooled Liquids: Self-Consistency Correction of the Steady-State Nucleation Rate. <i>Entropy</i> , 2020, 22, 558.	2.2	19
9	Heterogeneous Nucleation in Solutions on Rough Solid Surfaces: Generalized Gibbs Approach. <i>Entropy</i> , 2019, 21, 782.	2.2	8
10	Entropy and the Tolman Parameter in Nucleation Theory. <i>Entropy</i> , 2019, 21, 670.	2.2	25
11	Effect of non-stoichiometry on the crystal nucleation and growth in oxide glasses. <i>Acta Materialia</i> , 2019, 180, 317-328.	7.9	15
12	Curvature dependence of the surface tension and crystal nucleation in liquids. <i>International Journal of Applied Glass Science</i> , 2019, 10, 57-68.	2.0	21
13	Pressure-induced crystallization of liquids: Maxima of nucleation, growth, and overall crystallization rates. <i>International Journal of Applied Glass Science</i> , 2018, 9, 198-207.	2.0	11
14	Kauzmann paradox and the crystallization of glass-forming melts. <i>Journal of Non-Crystalline Solids</i> , 2018, 501, 21-35.	3.1	26
15	Crystallization of glass-forming melts: New answers to old questions. <i>Journal of Non-Crystalline Solids</i> , 2018, 501, 11-20.	3.1	25
16	PHYSICAL INTERPRETATION OF ICE CONTACT ANGLES, FITTED TO EXPERIMENTAL DATA ON IMMERSION FREEZING OF KAOLINITE PARTICLES. <i>Interfacial Phenomena and Heat Transfer</i> , 2018, 6, 37-74.	0.8	2
17	Predicting homogeneous nucleation rates in silicate glass-formers. <i>Journal of Non-Crystalline Solids</i> , 2018, 500, 231-234.	3.1	20
18	Distinct crystal growth on the surface and in the interior of $\text{Na}_2\text{O} \cdot 2\text{CaO} \cdot 3\text{SiO}_2$ glass. <i>Journal of Non-Crystalline Solids</i> , 2018, 498, 42-48.	3.1	12

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19	The effect of heterogeneous structure of glass-forming liquids on crystal nucleation. Journal of Non-Crystalline Solids, 2017, 462, 32-40.	3.1	41
20	How Do Crystals Nucleate and Grow: Ostwald's Rule of Stages and Beyond. Hot Topics in Thermal Analysis and Calorimetry, 2017, , 195-211.	0.5	18
21	Beating Homogeneous Nucleation and Tuning Atomic Ordering in Glass-Forming Metals by Nanocalorimetry. Nano Letters, 2017, 17, 7751-7760.	9.1	34
22	Time of Formation of the First Supercritical Nucleus, Time Lag, and the Steady-State Nucleation Rate. International Journal of Applied Glass Science, 2017, 8, 48-60.	2.0	27
23	Heterogeneous nucleation on rough surfaces: Generalized Gibbs' approach. Journal of Chemical Physics, 2017, 147, 214705.	3.0	16
24	PRESSURE DEPENDENCE OF VISCOSITY: A NEW GENERAL RELATION. Interfacial Phenomena and Heat Transfer, 2017, 5, 107-112.	0.8	7
25	Crystallization of Glass: What We Know, What We Need to Know. International Journal of Applied Glass Science, 2016, 7, 253-261.	2.0	31
26	Crystallization of glass-forming liquids: Specific surface energy. Journal of Chemical Physics, 2016, 145, .	3.0	29
27	Thermodynamic Aspects of Pressure-Induced Crystallization: Kauzmann Pressure. International Journal of Applied Glass Science, 2016, 7, 474-485.	2.0	26
28	Crystal nucleation in glass-forming liquids: Variation of the size of the "structural units" with temperature. Journal of Non-Crystalline Solids, 2016, 447, 35-44.	3.1	60
29	Crystallization of glass-forming liquids: Thermodynamic driving force. Journal of Non-Crystalline Solids, 2016, 449, 41-49.	3.1	36
30	The effect of elastic stresses on the thermodynamic barrier for crystal nucleation. Journal of Non-Crystalline Solids, 2016, 432, 325-333.	3.1	57
31	Experimental Test of Tammann's Nuclei Development Approach in Crystallization of Macromolecules. Crystal Growth and Design, 2015, 15, 786-798.	3.0	88
32	Crystallization in glass-forming liquids: Effects of fragility and glass transition temperature. Journal of Non-Crystalline Solids, 2015, 428, 68-74.	3.1	29
33	Crystallization of glass-forming liquids: Maxima of nucleation, growth, and overall crystallization rates. Journal of Non-Crystalline Solids, 2015, 429, 24-32.	3.1	91
34	Crystallization in glass-forming liquids: Effects of decoupling of diffusion and viscosity on crystal growth. Journal of Non-Crystalline Solids, 2015, 429, 45-53.	3.1	51
35	8. Stress-induced Pore Formation and Phase Selection in a Crystallizing Stretched Glass. , 2014, , 441-480.		3
36	Rapid solidification behavior of nano-sized Sn droplets embedded in the Al matrix by nanocalorimetry. Materials Research Express, 2014, 1, 045012.	1.6	15

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37	Heterogeneous nucleation in solutions: Generalized Gibbs's™ approach. Journal of Chemical Physics, 2014, 140, 244706.	3.0	10
38	Comments on the thermodynamic analysis of nucleation in confined space. Journal of Non-Crystalline Solids, 2014, 384, 2-7.	3.1	14
39	Kinetics of segregation processes in solutions: Saddle point versus ridge crossing of the thermodynamic potential barrier. Journal of Non-Crystalline Solids, 2014, 384, 8-14.	3.1	10
40	Temperature of critical clusters in nucleation theory: Generalized Gibbs' approach. Journal of Chemical Physics, 2013, 139, 034702.	3.0	17
41	Crystal nucleation and growth kinetics of NaF in photo-thermo-refractive glass. Journal of Non-Crystalline Solids, 2013, 378, 115-120.	3.1	32
42	Non-stoichiometric crystallization of lithium metasilicate–calcium metasilicate glasses. Part 2 – Effect of the residual liquid. Journal of Non-Crystalline Solids, 2013, 379, 131-144.	3.1	14
43	Nonstoichiometric crystallization of lithium metasilicate–calcium metasilicate glasses. Part 1 – Crystal nucleation and growth rates. Journal of Non-Crystalline Solids, 2013, 362, 56-64.	3.1	17
44	Size and rate dependence of crystal nucleation in single tin drops by fast scanning calorimetry. Journal of Chemical Physics, 2013, 138, 054501.	3.0	47
45	Generalized Gibbs's™ approach in heterogeneous nucleation. Journal of Chemical Physics, 2013, 138, 164504.	3.0	25
46	Comment on "Minimum free-energy pathway of nucleation" [J. Chem. Phys. 135, 134508 (2011)]. Journal of Chemical Physics, 2012, 136, 107101.	3.0	0
47	NANO-DIMENSIONAL CONDUCTING FILAMENTS FOR SILICON PHOTO CELLS. Telecommunications and Radio Engineering (English Translation of Elektrosvyaz and Radiotekhnika), 2012, 71, 349-364.	0.4	0
48	Dynamic processes in a silicate liquid from above melting to below the glass transition. Journal of Chemical Physics, 2011, 135, 194703.	3.0	86
49	Theory of pore formation in glass under tensile stress: Generalized Gibbs approach. Journal of Non-Crystalline Solids, 2011, 357, 3474-3479.	3.1	15
50	On the theoretical description of nucleation in confined space. AIP Advances, 2011, 1, .	1.3	6
51	Homogeneous bubble nucleation limit of mercury under the normal working conditions of the planned European spallation neutron source. European Physical Journal B, 2011, 79, 107-113.	1.5	1
52	Thermodynamic analysis of nucleation in confined space: Generalized Gibbs approach. Journal of Chemical Physics, 2011, 134, 054511.	3.0	35
53	Cooling rate dependence of undercooling of pure Sn single drop by fast scanning calorimetry. Applied Physics A: Materials Science and Processing, 2011, 104, 189-196.	2.3	52
54	Evolution of cluster size-distributions in nucleation-growth and spinodal decomposition processes in a regular solution. Journal of Non-Crystalline Solids, 2010, 356, 2915-2922.	3.1	20

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55	Stress induced pore formation and phase selection in a crystallizing stretched glass. Journal of Non-Crystalline Solids, 2010, 356, 1679-1688.	3.1	23
56	Elastic stresses in crystallization processes in finite domains. Journal of Non-Crystalline Solids, 2010, 356, 1670-1678.	3.1	4
57	How Do Crystals Form and Grow in Glass-Forming Liquids: Ostwald's Rule of Stages and Beyond. International Journal of Applied Glass Science, 2010, 1, 16-26.	2.0	46
58	Characterization of CdTe, Cd _x Zn _{1-x} Te and GaAs detectors. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 610, 298-301.	1.6	1
59	Stabilization of Nano-Dimensional Structures in the Single-Crystal Silicon Volume. Telecommunications and Radio Engineering (English Translation of Elektrosvyaz and Radiotekhnika), 2009, 68, 627-648.	0.4	1
60	Nucleation versus spinodal decomposition in confined binary solutions. Journal of Chemical Physics, 2007, 127, 114504.	3.0	53
61	Generalized Gibbs™ approach to the thermodynamics of heterogeneous systems and the kinetics of first-order phase transitions. Journal of Engineering Thermophysics, 2007, 16, 119-129.	1.4	17
62	Nucleation Versus Spinodal Decomposition in Confined Binary Solutions. , 2007, , 278-281.		0
63	<title>Adaptive photodetectors for vibration monitoring</title>. , 2007, , .		0
64	A New Method of Determination of the Coefficients of Emission in Nucleation Theory. , 2005, , 39-73.		3
65	Numerical evaluation of the dislocation loop bias. Journal of Nuclear Materials, 2005, 336, 11-21.	2.7	40
66	Kinetics of the phase separation of a low-viscosity liquid supersaturated with gas at the intermediate and later stages. Colloid Journal, 2005, 67, 85-96.	1.3	2
67	Nucleation and growth of sodium colloids in NaCl under irradiation: theory and experiment. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 438-443.	0.8	2
68	The Nucleation of Gas-Filled Bubbles in Low-Viscosity Liquids. Colloid Journal, 2004, 66, 575-583.	1.3	10
69	Nucleation versus spinodal decomposition in phase formation processes in multicomponent solutions. Journal of Chemical Physics, 2004, 121, 6900-6917.	3.0	74
70	Influence of detector surface processing on detector performance. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 458, 248-253.	1.6	21
71	AlSb single-crystal grown by HPBM. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 458, 448-454.	1.6	23
72	The Cahilliard equation with frozen-in fluctuations of mobility. Phase Transitions, 2000, 70, 289-311.	1.3	2

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73	Spinodal decomposition in systems with initially quenched fluctuations of the order parameter. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 272, 459-480.	2.6	0
74	Phase competition in late stages of diffusive decomposition. <i>Physics of the Solid State</i> , 1998, 40, 601-603.	0.6	3
75	Allowance for gas solubility and the finite strength of vacancy sinks in the sintering of a ceramic. <i>Powder Metallurgy and Metal Ceramics</i> , 1998, 37, 258-264.	0.8	0
76	Diffusional evolution of gas-filled pores during the sintering of a ceramic. <i>Powder Metallurgy and Metal Ceramics</i> , 1996, 34, 534-538.	0.8	0
77	Growth and shrinkage of precipitates under irradiation. <i>Radiation Effects and Defects in Solids</i> , 1994, 129, 257-264.	1.2	1