Laszlo Granasy

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145
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#	Paper	IF	Citations
145	Growth and form of spherulites. <i>Physical Review E</i> , 2005 , 72, 011605	2.4	331
144	A general mechanism of polycrystalline growth. <i>Nature Materials</i> , 2004 , 3, 645-50	27	284
143	Phase-field-crystal models for condensed matter dynamics on atomic length and diffusive time scales: an overview. <i>Advances in Physics</i> , 2012 , 61, 665-743	18.4	248
142	Nucleation and bulk crystallization in binary phase field theory. <i>Physical Review Letters</i> , 2002 , 88, 20610)5 _{7.4}	152
141	Multiphase solidification in multicomponent alloys. <i>Materials Science and Engineering Reports</i> , 2004 , 46, 1-49	30.9	134
140	Phase field theory of heterogeneous crystal nucleation. <i>Physical Review Letters</i> , 2007 , 98, 035703	7.4	120
139	Growth of 'dizzy dendrites' in a random field of foreign particles. <i>Nature Materials</i> , 2003 , 2, 92-6	27	116
138	Single C-C bond in (C60)22 <i>Physical Review B</i> , 1996 , 54, 11849-11852	3.3	107
137	Dimerization in KC60 and RbC60. <i>Physical Review B</i> , 1995 , 51, 12228-12232	3.3	100
136	Modelling polycrystalline solidification using phase field theory. <i>Journal of Physics Condensed Matter</i> , 2004 , 16, R1205-R1235	1.8	97
135	Diffuse interface theory of nucleation. <i>Journal of Non-Crystalline Solids</i> , 1993 , 162, 301-303	3.9	89
134	Diffusion-controlled anisotropic growth of stable and metastable crystal polymorphs in the phase-field crystal model. <i>Physical Review Letters</i> , 2009 , 103, 035702	7.4	85
133	Advanced operator splitting-based semi-implicit spectral method to solve the binary phase-field crystal equations with variable coefficients. <i>Journal of Computational Physics</i> , 2009 , 228, 1612-1623	4.1	83
132	Amorphous nucleation precursor in highly nonequilibrium fluids. <i>Physical Review Letters</i> , 2011 , 107, 175	57/02	70
131	Phase field approach to heterogeneous crystal nucleation in alloys. <i>Physical Review B</i> , 2009 , 79,	3.3	70
130	Polymorphism, crystal nucleation and growth in the phase-field crystal model in 2D and 3D. <i>Journal of Physics Condensed Matter</i> , 2010 , 22, 364101	1.8	68
129	Comparison of experiments and modern theories of crystal nucleation. <i>Journal of Chemical Physics</i> , 1997 , 107, 3634-3644	3.9	66

128	Heterogeneous crystal nucleation: the effect of lattice mismatch. <i>Physical Review Letters</i> , 2012 , 108, 025502	7.4	65	
127	Phase field theory of crystal nucleation and polycrystalline growth: A review. <i>Journal of Materials Research</i> , 2006 , 21, 309-319	2.5	64	
126	Diffuse interface theory for homogeneous vapor condensation. <i>Journal of Chemical Physics</i> , 1996 , 104, 5188-5198	3.9	64	
125	Interfacial properties deduced from nucleation experiments: A Cahn⊞illiard analysis. <i>Journal of Chemical Physics</i> , 2002 , 117, 6157-6168	3.9	61	
124	Kinetics of solid hydrate formation by carbon dioxide: Phase field theory of hydrate nucleation and magnetic resonance imaging. <i>Physical Chemistry Chemical Physics</i> , 2004 , 6, 2327-2334	3.6	60	
123	Structure and stability of crystalline C60 In-pentane clathrate. <i>Solid State Communications</i> , 1992 , 83, 423-426	1.6	57	
122	Phase-Field Modeling of Polycrystalline Solidification: From Needle Crystals to Spherulites A Review. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014 , 45, 1694-1719	2.3	56	
121	Faceting and branching in 2D crystal growth. <i>Physical Review Letters</i> , 2011 , 106, 195502	7.4	56	
120	Phase field theory of polycrystalline solidification in three dimensions. <i>Europhysics Letters</i> , 2005 , 71, 131-137	1.6	56	
119	Multiscale approach to CO2 hydrate formation in aqueous solution: phase field theory and molecular dynamics. Nucleation and growth. <i>Journal of Chemical Physics</i> , 2006 , 124, 234710	3.9	54	
118	The evaluation of kinetic parameters from non-isothermal experiments: Application to crystallization kinetics. <i>Journal of Non-Crystalline Solids</i> , 1984 , 68, 193-202	3.9	54	
117	Tuning the structure of non-equilibrium soft materials by varying the thermodynamic driving force for crystal ordering. <i>Soft Matter</i> , 2011 , 7, 1789-1799	3.6	51	
116	Phase field simulation of liquid phase separation with fluid flow. <i>Materials Science & amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005 , 413-414, 418-422	5.3	51	
115	Solid-liquid interfacial free energy. <i>Materials Science & Discourse amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1991 , 133, 577-580	5.3	51	
114	Phase-field crystal modelling of crystal nucleation, heteroepitaxy and patterning. <i>Philosophical Magazine</i> , 2011 , 91, 123-149	1.6	50	
113	Nucleation and growth in cluster dynamics: A quantitative test of the classical kinetic approach. <i>Journal of Chemical Physics</i> , 2000 , 113, 9810-9821	3.9	47	
112	Semiempirical van der Waals/CahnHilliard theory: Size dependence of the Tolman length. <i>Journal of Chemical Physics</i> , 1998 , 109, 9660-9663	3.9	45	
111	Diffuse Interface Approach to Vapour Condensation. <i>Europhysics Letters</i> , 1993 , 24, 121-126	1.6	44	

110	Homogeneous nucleation within the liquid miscibility gap of Zn-Pb alloys. <i>Scripta Metallurgica Et Materialia</i> , 1993 , 28, 1329-1334		43
109	Shear enhanced heterogeneous nucleation in some Mg- and Al-alloys. <i>International Journal of Cast Metals Research</i> , 2009 , 22, 318-322	1	41
108	Nucleation and the Solid[liquid Interfacial Free Energy. MRS Bulletin, 2004, 29, 945-950	3.2	41
107	Phase-field approach to polycrystalline solidification including heterogeneous and homogeneous nucleation. <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 404205	1.8	40
106	Monte Carlo simulation of first-order phase transformations with mutual blocking of anisotropically growing particles up to all relevant orders. <i>Physical Review B</i> , 1998 , 57, 14110-14118	3.3	40
105	Phase-field modeling of crystal nucleation in undercooled liquids IA review. <i>Progress in Materials Science</i> , 2019 , 106, 100569	42.2	39
104	Consistent multiphase-field theory for interface driven multidomain dynamics. <i>Physical Review B</i> , 2015 , 92,	3.3	39
103	The phase-field theory applied to CO2 and CH4 hydrate. <i>Journal of Crystal Growth</i> , 2006 , 287, 486-490	1.6	39
102	Diffuse interface analysis of crystal nucleation in hard-sphere liquid. <i>Journal of Chemical Physics</i> , 2002 , 117, 10121-10124	3.9	39
101	Dendrites Regularized by Spatially Homogeneous Time-Periodic Forcing. <i>Physical Review Letters</i> , 1999 , 83, 2853-2856	7.4	38
100	Crystal nucleation and growth in binary phase-field theory. <i>Journal of Crystal Growth</i> , 2002 , 237-239, 1813-1817	1.6	37
99	CahnHilliard theory with triple-parabolic free energy. II. Nucleation and growth in the presence of a metastable crystalline phase. <i>Journal of Chemical Physics</i> , 2000 , 112, 2410-2419	3.9	36
98	Heterogeneous nucleation of/on nanoparticles: a density functional study using the phase-field crystal model. <i>Chemical Society Reviews</i> , 2014 , 43, 2159-73	58.5	34
97	Phase field theory of crystal nucleation in hard sphere liquid. <i>Journal of Chemical Physics</i> , 2003 , 119, 10	3 <u>76</u> ,10	38,2
96	Cluster spin-glass model for amorphous Fe-Zr alloys near the critical concentration: a magnetization study. <i>Journal of Magnetism and Magnetic Materials</i> , 1994 , 135, 161-170	2.8	34
95	Bulk structure of phototransformed C. <i>Solid State Communications</i> , 1999 , 111, 595-599	1.6	32
94	Fundamentals of the Diffuse Interface Theory of Nucleation. <i>The Journal of Physical Chemistry</i> , 1996 , 100, 10768-10770		30
93	Diffuse interface model of crystal nucleation. <i>Journal of Non-Crystalline Solids</i> , 1997 , 219, 49-56	3.9	29

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92	Kinetics of wollastonite nucleation in CaO?SiO2 glass. <i>Journal of Chemical Physics</i> , 1998 , 108, 7317-732	6 3.9	29	
91	Polymer-monomer phase transition in Na4C60. <i>Physical Review B</i> , 1998 , 58, 5-7	3.3	28	
90	Phase field modeling of CH4 hydrate conversion into CO2 hydrate in the presence of liquid CO2. <i>Physical Chemistry Chemical Physics</i> , 2007 , 9, 3104-11	3.6	27	
89	Diffuse Interface Analysis of Ice Nucleation in Undercooled Water. <i>The Journal of Physical Chemistry</i> , 1995 , 99, 14182-14187		27	
88	Phase-field models for eutectic solidification. <i>Jom</i> , 2004 , 56, 34-39	2.1	26	
87	Crystal growth and classical nucleation theory. <i>Comptes Rendus Chimie</i> , 2002 , 5, 765-771	2.7	26	
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76	Biomineralization as a Paradigm of Directional Solidification: A Physical Model for Molluscan Shell Ultrastructural Morphogenesis. <i>Advanced Materials</i> , 2018 , 30, e1803855	24	22	
75	Polycrystalline patterns in far-from-equilibrium freezing: a phase field study. <i>Philosophical Magazine</i> , 2006 , 86, 3757-3778	1.6	21	

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73	Magnetic cluster relaxation in amorphous Fe-Zr alloys. <i>Physical Review B</i> , 1992 , 46, 6600-6602	3.3	20
72	Spiraling eutectic dendrites. <i>Physical Review E</i> , 2013 , 87,	2.4	19
71	Nucleation in oxide glasses: comparison of theory and experiment. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 1998 , 454, 1745-1766	2.4	19
70	CahnHilliard-type density functional calculations for homogeneous ice nucleation in undercooled water. <i>Journal of Molecular Structure</i> , 1999 , 485-486, 523-536	3.4	19
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68	Crystallization and local order of bulk AsxTe1⊠ glasses. <i>Journal of Non-Crystalline Solids</i> , 1983 , 57, 411-4	251 9	18
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64	Phase field modeling of polycrystalline freezing. <i>Materials Science & Discourse A: Structural Materials: Properties, Microstructure and Processing</i> , 2005 , 413-414, 412-417	5.3	16
63	Analysis of the Ribbon Formation Process on the Single Roller Rapid Solidification Technique. <i>Transactions of the Japan Institute of Metals</i> , 1986 , 27, 51-60		16
62	Crystallization of glassy Fe84B16⊠Cx (x=0 to 10) alloys. <i>Physical Review B</i> , 1982 , 25, 127-135	3.3	16
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57	Diffuse interface model of nucleation. <i>Journal of Crystal Growth</i> , 1996 , 167, 756-765	1.6	15

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56	Diffuse interface model of bulk heterogeneous nucleation. <i>Scripta Metallurgica Et Materialia</i> , 1994 , 31, 601-606		15
55	Orientation-field models for polycrystalline solidification: Grain coarsening and complex growth forms. <i>Journal of Crystal Growth</i> , 2017 , 457, 32-37	1.6	14
54	Recent Developments in Modeling Heteroepitaxy/Heterogeneous Nucleation by Dynamical Density Functional Theory. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015 , 46, 4908-4920	2.3	14
53	Grain coarsening in two-dimensional phase-field models with an orientation field. <i>Physical Review E</i> , 2017 , 95, 053303	2.4	14
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47	Infrared and differential-scanning-calorimetry study of the room-temperature cubic phase of RbC60. <i>Physical Review B</i> , 1995 , 52, 11488-11491	3.3	12
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45	Molecular and crystal structure of the AC60 (A = K, Rb) dimer phase. <i>Journal of Physics and Chemistry of Solids</i> , 1997 , 58, 1893-1896	3.9	11
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43	Models for continuous casting of metallic glass ribbons I: The applicability of the infinite-viscosity assumption to thermal history calculations. <i>Materials Science and Engineering</i> , 1985 , 72, 71-83		11
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41	Hydrodynamic theory of freezing: Nucleation and polycrystalline growth. <i>Physical Review E</i> , 2017 , 95, 052801	2.4	9
40	Selected issues of phase-field crystal simulations. European Physical Journal Plus, 2011, 126, 1	3.1	9
39	Crystal nucleation in the hard-sphere system revisited: a critical test of theoretical approaches. Journal of Physical Chemistry B, 2009, 113, 5141-8	3.4	9

38	Nucleation and Spinodal Decomposition. Solid State Phenomena, 1997, 56, 67-106	0.4	9
37	On the diffuse interface theory of nucleation. <i>Scripta Metallurgica Et Materialia</i> , 1994 , 30, 621-626		9
36	The influence of diffusion on hydrate growth. <i>Journal of Phase Equilibria and Diffusion</i> , 2005 , 26, 534-53	81	8
35	AnomalousInucleation prefactors revisited: a diffuse interface analysis of crystal nucleation in oxide glasses. <i>Scripta Metallurgica Et Materialia</i> , 1995 , 32, 1611-1617		8
34	Quantitative analysis of the classical nucleation theory on glass-forming alloys. <i>Journal of Non-Crystalline Solids</i> , 1993 , 156-158, 514-518	3.9	8
33	Laser-melted amorphous and crystalline Fe-B alloys. <i>Physical Review B</i> , 1990 , 42, 548-554	3.3	8
32	The influence of technological conditions on the Curie point relaxation of Fe25Ni55B10Si10 metallic glasses. <i>Journal of Magnetism and Magnetic Materials</i> , 1984 , 41, 113-115	2.8	8
31	Investigation of the thermal relaxation in glassy Ni 80⊠ Fe x P 20 alloys. <i>Journal of Non-Crystalline Solids</i> , 1984 , 61-62, 907-912	3.9	6
30	Phase-field Theory of Nucleation and Growth in Binary Alloys. <i>Lecture Notes in Computational Science and Engineering</i> , 2003 , 190-195	0.3	6
29	Growth control of peptide-nanotube spherulitic films: Experiments and simulations. <i>Nano Research</i> , 2015 , 8, 3630-3638	10	5
28	Topological defects in two-dimensional orientation-field models for grain growth. <i>Physical Review E</i> , 2017 , 96, 052802	2.4	5
27	Encyclopedia of Polymers and Composites 2013 , 1-35		5
26	Diffuse interface model of volume nucleation in glasses. <i>Thermochimica Acta</i> , 1996 , 280-281, 83-100	2.9	5
25	Modelling of dendritic growth during ribbon formation in planar flow casting. <i>Materials Science</i> & amp; Engineering A: Structural Materials: Properties, Microstructure and Processing, 1991, 133, 722-725	5.3	5
24	Phase-Field Modeling of Biomineralization in Mollusks and Corals: Microstructure vs Formation Mechanism. <i>Jacs Au</i> , 2021 , 1, 1014-1033		4
23	Phase field benchmark problems for nucleation. <i>Computational Materials Science</i> , 2021 , 193, 110371	3.2	4
22	Correlation between the atomic and electronic structure of metallic glasses. <i>Hyperfine Interactions</i> , 1986 , 27, 381-384	0.8	3
21	Phase-Field Modeling of Solidification in Light-Metal Matrix Nanocomposites 2014 , 455-459		2

20	Temperature dependence of the iron hyperfine field distribution in amorphous Fe-rich Fe-Zr alloys. <i>Hyperfine Interactions</i> , 1994 , 94, 1861-1865	0.8	2
19	Modelling of crystal growth during the ribbon formation in planar flow casting. <i>Steel Research = Archiv Fil Das Eisenhittenwesen</i> , 1990 , 61, 467-471		2
18	CEMS investigation of laser melted Feller alloys. Hyperfine Interactions, 1990, 59, 481-484	0.8	2
17	Local structure of amorphous (Ni,Fe. <i>Journal of Non-Crystalline Solids</i> , 1990 , 117-118, 168-171	3.9	2
16	A simplified treatment of transient nucleation in case of rapid quenching. <i>Journal of Non-Crystalline Solids</i> , 1991 , 136, 266-268	3.9	2
15	Ultrafine Fe-Fe2Ti eutectics by directed energy deposition: Insights into microstructure formation based on experimental techniques and phase field modelling. <i>Additive Manufacturing</i> , 2020 , 33, 101133	6.1	1
14	Thermodynamics of A 1 C60 (A = K, Rb, Cs) Alkali Fulleredes. <i>Fullerenes, Nanotubes, and Carbon Nanostructures</i> , 1997 , 5, 325-342		1
13	Phase selection and transformation kinetics in KC60. <i>Physical Review B</i> , 1996 , 54, 11865-11868	3.3	1
12	Heat transfer in the single roller quenching methods. <i>Materials Science & Diagnosting A: Structural Materials: Properties, Microstructure and Processing</i> , 1991 , 133, 751-754	5.3	1
11	CEMS investigation of near surface structure. <i>Hyperfine Interactions</i> , 1990 , 57, 1823-1827	0.8	1
10	Phase-field modelling of directional melting of lamellar and rod eutectic structures. <i>Acta Materialia</i> , 2022 , 227, 117678	8.4	1
9	Phase-Field Crystal Modeling of Homogeneous and Heterogeneous Crystal Nucleation113-138		1
8	Orientational order in dense suspensions of elliptical particles in the non-Stokesian regime. <i>Soft Matter</i> , 2020 , 16, 8925-8932	3.6	O
7	Nucleation and Post-Nucleation Growth in Diffusion-Controlled and Hydrodynamic Theory of Solidification. <i>Crystals</i> , 2021 , 11, 437	2.3	O
6	Simulation of the Dendritic Solidification during Single Roller Quenching. <i>Materials Science Forum</i> , 1991 , 77, 211-218	0.4	
5	Mechanism of ribbon formation in single-roller quenching. <i>Materials Science & Dineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1990 , 123, L5-L8	5.3	
4	Laser melted Fe?B alloys. <i>Journal of Non-Crystalline Solids</i> , 1990 , 117-118, 160-163	3.9	
3	Phase Field Modelling of Reaction Between Methane Hydrate and Fluid Carbon Dioxide 2019 , 169-172		

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Microstructure Modeling **2016**, 269-323