Alain Karma

List of Publications by Year
in descending order

197	24,744	8159 76	6979 154
papers	citations	h-index	g-index

206	206	206	10856
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Phase-field modeling of continuous fatigue via toughness degradation. Engineering Fracture Mechanics, 2022, 264, 108255.	2.0	10
2	Topological control of liquid-metal-dealloyed structures. Nature Communications, 2022, 13, .	5.8	11
3	Dendritic needle network modeling of the Columnar-to-Equiaxed transition. Part I: two dimensional formulation and comparison with theory. Acta Materialia, 2021, 202, 42-54.	3.8	14
4	Dendritic needle network modeling of the Columnar-to-Equiaxed Transition. Part II: three dimensional formulation, implementation and comparison with experiments. Acta Materialia, 2021, 202, 463-477.	3.8	7
5	Oscillatory and tip-splitting instabilities in 2D dynamic fracture: The roles of intrinsic material length and time scales. Journal of the Mechanics and Physics of Solids, 2021, 151, 104372.	2.3	5
6	Crack path selection in orientationally ordered composites. Physical Review E, 2020, 102, 013004.	0.8	5
7	Configurational stability of a crack propagating in a material with mode-dependent fracture energy â€“ Part II: Drift of fracture facets in mixed-mode I+II+III. Journal of the Mechanics and Physics of Solids, 2020, 137, 103894.	2.3	9
8	LITAF (Lipopolysaccharide-Induced Tumor Necrosis Factor) Regulates Cardiac L-Type Calcium Channels by Modulating NEDD (Neural Precursor Cell Expressed Developmentally Downregulated Protein) 4-1 Ubiquitin Ligase. Circulation Genomic and Precision Medicine, 2019, 12, 407-420.	1.6	9
9	Phase field modeling of chemomechanical fracture of intercalation electrodes: Role of charging rate and dimensionality. Journal of the Mechanics and Physics of Solids, 2019, 132, 103696.	2.3	31
10	Configurational Stability of a Crack Propagating in Mixed-Mode Iâ€‰+â€‰IIâ€‰+â€‰III. Structural Integrity, 2019, , 101-105.	0.8	1
11	Phase-field models for fatigue crack growth. Theoretical and Applied Fracture Mechanics, 2019, 103, 102282.	2.1	59
12	Influence of morphological instability on grain boundary trajectory during directional solidification. Acta Materialia, 2019, 175, 214-221.	3.8	22
13	Configurational stability of a crack propagating in a material with mode-dependent fracture energy - Part I: Mixed-mode I+III. Journal of the Mechanics and Physics of Solids, 2019, 126, 187-203.	2.3	23
14	A personalized, multiomics approach identifies genes involved in cardiac hypertrophy and heart failure. Npj Systems Biology and Applications, 2018, 4, 12.	1.4	22
15	Pattern formation during electrochemical and liquid metal dealloying. MRS Bulletin, 2018, 43, 27-34.	1.7	64
16	Thermal-field effects on interface dynamics and microstructure selection during alloy directional solidification. Acta Materialia, 2018, 150, 139-152.	3.8	30
17	Universality and Stability Phase Diagram of Two-Dimensional Brittle Fracture. Physical Review Letters, 2018, 121, 134301.	2.9	16
18	NCX-Mediated Subcellular Ca2+ Dynamics Underlying Early Afterdepolarizations in LQT2 Cardiomyocytes. Biophysical Journal, 2018, 115, 1019-1032.	0.2	17

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19	Transient Outward K ⁺ Current (I _{to}) Underlies the Right Ventricular Initiation of Polymorphic Ventricular Tachycardia in a Transgenic Rabbit Model of Long-QT Syndrome Type 1. Circulation: Arrhythmia and Electrophysiology, 2018, 11, e005414.	2.1	15
20	Growth competition between columnar dendritic grains â€“ Cellular automaton versus phase field modeling. Acta Materialia, 2018, 155, 286-301.	3.8	61
21	Phase-field model of vapor-liquid-solid nanowire growth. Physical Review Materials, 2018, 2, .	0.9	16
22	Propagative selection of tilted array patterns in directional solidification. Physical Review Materials, 2018, 2, .	0.9	15
23	The Ca2+ transient as a feedback sensor controlling cardiomyocyte ionic conductances in mouse populations. ELife, 2018, 7, .	2.8	22
24	Microstructure selection in thin-sample directional solidification of an Al-Cu alloy: In situ X-ray imaging and phase-field simulations. Acta Materialia, 2017, 129, 203-216.	3.8	131
25	Experimental observation of oscillatory cellular patterns in three-dimensional directional solidification. Physical Review E, 2017, 95, 012803.	0.8	18
26	Columnar and Equiaxed Solidification of Al-7Âwt.% Si Alloys in Reduced Gravity in the Framework of the CETSOL Project. Jom, 2017, 69, 1269-1279.	0.9	17
27	Convection Effects During Bulk Transparent Alloy Solidification in DECLIC-DSI and Phase-Field Simulations in Diffusive Conditions. Jom, 2017, 69, 1280-1288.	0.9	7
28	Stochastic initiation and termination of calcium-mediated triggered activity in cardiac myocytes. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E270-E279.	3.3	26
29	Instability in dynamic fracture and the failure of the classical theory of cracks. Nature Physics, 2017, 13, 1186-1190.	6.5	54
30	Grain growth competition during thin-sample directional solidification of dendritic microstructures: A phase-field study. Acta Materialia, 2017, 122, 220-235.	3.8	100
31	Systems Genetics Approach Identifies Gene Pathways and Adamts2 as Drivers of Isoproterenol-Induced Cardiac Hypertrophy and Cardiomyopathy in Mice. Cell Systems, 2017, 4, 121-128.e4.	2.9	39
32	Long-Lasting Sparks: Multi-Metastability and Release Competition in the Calcium Release Unit Network. PLoS Computational Biology, 2016, 12, e1004671.	1.5	25
33	Three-dimensional dendritic needle network model for alloy solidification. Acta Materialia, 2016, 120, 240-254.	3.8	48
34	Two-mode Ginzburg-Landau theory of crystalline anisotropy for fcc-liquid interfaces. Physical Review B, 2016, 93, .	1.1	11
35	Elastically mediated interactions between grain boundaries and precipitates in two-phase coherent solids. Physical Review B, 2016, 94, .	1.1	7
36	Quantitative determination of the solidus line in the dilute limit of succinonitrileâ€“camphor alloys. Journal of Crystal Growth, 2016, 447, 31-35.	0.7	7

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37	Kinetics and morphological evolution of liquid metal dealloying. Acta Materialia, 2016, 115, 10-23.	3.8	110
38	Atomistic to continuum modeling of solidification microstructures. Current Opinion in Solid State and Materials Science, 2016, 20, 25-36.	5.6	89
39	Crack Front Segmentation and Facet Coarsening in Mixed-Mode Fracture. Physical Review Letters, 2015, 115, 265503.	2.9	39
40	Oscillatory cellular patterns in three-dimensional directional solidification. Physical Review E, 2015, 92, 042401.	0.8	39
41	Calcium Mediated Mechanism of Early Afterdepolarizations in LQT2 Ventricular Myocytes. Biophysical Journal, 2015, 108, 264a.	0.2	0
42	Transient Outward K+ Current Underlies Heterogeneity of Action Potential Duration and Early Afterdepolarization from Right Ventricle in Transgenic Rabbit Model of Long QT Type 1. Biophysical Journal, 2015, 108, 113a.	0.2	0
43	Dynamical microstructure formation in 3D directional solidification of transparent model alloys: in situ characterization in DECLIC Directional Solidification Insert under diffusion transport in microgravity. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012077.	0.3	8
44	Topology-generating interfacial pattern formation during liquid metal dealloying. Nature Communications, 2015, 6, 8887.	5.8	127
45	Morphological Instability of Grain Boundaries in Two-Phase Coherent Solids. Physical Review Letters, 2015, 114, 105501.	2.9	11
46	Multiscale cohesive zone model for propagation of segmented crack fronts in mode I+III fracture. International Journal of Fracture, 2015, 191, 167-189.	1.1	22
47	Ginzburg-Landau theory of the bcc-liquid interface kinetic coefficient. Physical Review B, 2015, 91, .	1.1	27
48	Three-Dimensional Multiscale Modeling of Dendritic Spacing Selection During Al-Si Directional Solidification. Jom, 2015, 67, 1776-1785.	0.9	29
49	Three-dimensional Dendritic Needle Network model with application to Al-Cu directional solidification experiments. IOP Conference Series: Materials Science and Engineering, 2015, 84, 012082.	0.3	20
50	Growth competition of columnar dendritic grains: A phase-field study. Acta Materialia, 2015, 82, 64-83.	3.8	191
51	Hyperphosphorylation of RyRs Underlies Triggered Activity in Transgenic Rabbit Model of LQT2 Syndrome. Circulation Research, 2014, 115, 919-928.	2.0	64
52	Spatiotemporal dynamics of calcium-driven cardiac alternans. Physical Review E, 2014, 89, 052707.	0.8	7
53	Phase-field modeling of grain-boundary premelting using obstacle potentials. Physical Review E, 2014, 90, 012401.	0.8	24
54	Initial dynamics of a solidâ€“liquid interface within a thermal gradient. Scripta Materialia, 2014, 88, 29-32.	2.6	10

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55	Voltage and Calcium Coupling in the Genesis of Cardiac Afterdepolarizations. Biophysical Journal, 2014, 106, 631a.	0.2	2
56	Spatiotemporal Dynamics of Oscillatory Cellular Patterns in Three-Dimensional Directional Solidification. Physical Review Letters, 2013, 110, 226102.	2.9	72
57	Multiscale dendritic needle network model of alloy solidification. Acta Materialia, 2013, 61, 6474-6491.	3.8	60
58	Phase-field-crystal study of grain boundary premelting and shearing in bcc iron. Physical Review B, 2013, 87, .	1.1	77
59	Unified Theoretical Framework for Polycrystalline Pattern Evolution. Physical Review Letters, 2013, 110, 265504.	2.9	36
60	Structural short-range forces between solid-melt interfaces. Physical Review B, 2013, 87, .	1.1	19
61	Physics of Cardiac Arrhythmogenesis. Annual Review of Condensed Matter Physics, 2013, 4, 313-337.	5.2	82
62	An Inverse Spectral Method to Localize Discordant Alternans Regions on the Heart from Body Surface Measurements. Lecture Notes in Computer Science, 2013, , 241-248.	1.0	1
63	â€œGood Enough Solutionsâ€•and the Genetics of Complex Diseases. Circulation Research, 2012, 111, 493-504.	2.0	94
64	Multi-scale needle-network model of complex dendritic microstructure formation. IOP Conference Series: Materials Science and Engineering, 2012, 33, 012095.	0.3	7
65	Unidirectional Pinning and Hysteresis of Spatially Discordant Alternans in Cardiac Tissue. Physical Review Letters, 2012, 108, 108103.	2.9	10
66	Relationship between Equilibrium Fluctuations and Shear-Coupled Motion of Grain Boundaries. Physical Review Letters, 2012, 109, 095501.	2.9	53
67	Surface Modes of Coherent Spinodal Decomposition. Physical Review Letters, 2012, 108, 265701.	2.9	27
68	Coupled motion of asymmetrical tilt grain boundaries: Molecular dynamics and phase field crystal simulations. Acta Materialia, 2012, 60, 6528-6546.	3.8	118
69	New experimental evidence for mechanism of arrhythmogenic membrane potential alternans based on balance of electrogenic INCX/ICa currents. Heart Rhythm, 2012, 9, 1698-1705.	0.3	25
70	Theoretical analysis of crack front instability in mode I+III. Journal of the Mechanics and Physics of Solids, 2011, 59, 1872-1887.	2.3	86
71	Dislocation-Pairing Transitions in Hot Grain Boundaries. Physical Review Letters, 2011, 106, 046101.	2.9	60
72	Phase field modeling of crack propagation. Philosophical Magazine, 2011, 91, 75-95.	0.7	139

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73	Sustained Drug Release from Nonâ€eroding Nanoporous Templates. Small, 2010, 6, 213-216.	5.2	48
74	Helical crack-front instability in mixed-mode fracture. Nature, 2010, 464, 85-89.	13.7	156
75	Onset of sidebranching in directional solidification. Physical Review E, 2010, 81, 021608.	0.8	135
76	Multi-phase-field analysis of short-range forces between diffuse interfaces. Physical Review E, 2010, 81, 051601.	0.8	19
77	Amplitude equations for polycrystalline materials with interaction between composition and stress. Physical Review B, 2010, 81, .	1.1	55
78	Off-site control of repolarization alternans in cardiac fibers. Physical Review E, 2010, 81, 011915.	0.8	18
79	Structural disjoining potential for grain-boundary premelting and grain coalescence from molecular-dynamics simulations. Physical Review E, 2010, 81, 031601.	0.8	49
80	Phase-field-crystal model for fcc ordering. Physical Review E, 2010, 81, 061601.	0.8	148
81	Phase-field study of three-dimensional steady-state growth shapes in directional solidification. Physical Review E, 2010, 81, 011603.	0.8	156
82	Line-defect patterns of unstable spiral waves in cardiac tissue. Physical Review E, 2009, 79, 030906.	0.8	12
83	Origin of complex behaviour of spatially discordant alternans in a transgenic rabbit model of type 2 long QT syndrome. Journal of Physiology, 2009, 587, 4661-4680.	1.3	50
84	Laws of crack motion and phase-field models of fracture. Journal of the Mechanics and Physics of Solids, 2009, 57, 342-368.	2.3	318
85	Solidification microstructures and solid-state parallels: Recent developments, future directions. Acta Materialia, 2009, 57, 941-971.	3.8	624
86	Method for computing short-range forces between solid-liquid interfaces driving grain boundary premelting. Physical Review E, 2009, 79, 020601.	0.8	42
87	Spatiotemporal intracellular calcium dynamics during cardiac alternans. Chaos, 2009, 19, 037115.	1.0	57
88	A Rabbit Ventricular Action Potential Model Replicating Cardiac Dynamics at Rapid Heart Rates. Biophysical Journal, 2008, 94, 392-410.	0.2	370
89	Calsequestrin-Mediated Mechanism for Cellular Calcium Transient Alternans. Biophysical Journal, 2008, 95, 3767-3789.	0.2	143
90	Phase-field crystal study of grain-boundary premelting. Physical Review B, 2008, 78, .	1.1	229

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91	Amplitude equation approach to spatiotemporal dynamics of cardiac alternans. Physical Review E, 2007, 76, 051911.	0.8	56
92	Feedback control of unstable cellular solidification fronts. Physical Review E, 2007, 75, 021602.	0.8	11
93	Nonlinear dynamics of heart rhythm disorders. Physics Today, 2007, 60, 51-57.	0.3	59
94	Inferring the Cellular Origin of Voltage and Calcium Alternans from the Spatial Scales of Phase Reversal during Discordant Alternans. Biophysical Journal, 2007, 92, L33-L35.	0.2	30
95	Phase-field crystal modeling of equilibrium bcc-liquid interfaces. Physical Review B, 2007, 76, .	1.1	155
96	Mechanisms for initiation of cardiac discordant alternans. European Physical Journal: Special Topics, 2007, 146, 217-231.	1.2	22
97	Interface Mobility from Interface Random Walk. Science, 2006, 314, 632-635.	6.0	107
98	Crystal-melt interfacial free energies in hcp metals: A molecular dynamics study of Mg. Physical Review B, 2006, 73, .	1.1	334
99	Orientation selection in dendritic evolution. Nature Materials, 2006, 5, 660-664.	13.3	370
100	Nonlinear Dynamics of Paced Cardiac Cells. Annals of the New York Academy of Sciences, 2006, 1080, 376-394.	1.8	19
101	From Pulsus to Pulseless. Circulation Research, 2006, 98, 1244-1253.	2.0	386
102	Turing instability mediated by voltage and calcium diffusion in paced cardiac cells. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 5670-5675.	3.3	89
103	Spatially Discordant Alternans in Cardiac Tissue. Circulation Research, 2006, 99, 520-527.	2.0	146
104	Control of Electrical Alternans in Canine Cardiac Purkinje Fibers. Physical Review Letters, 2006, 96, 104101.	2.9	113
105	Ginzburg-Landau theory of crystalline anisotropy for bcc-liquid interfaces. Physical Review B, 2006, 73, .	1.1	65
106	Necessity of investigating microstructure formation during directional solidification of transparent alloys in 3D. Advances in Space Research, 2005, 36, 80-85.	1.2	22
107	In situ characterization of interface-microstructure dynamics in 3D-Directional Solidification of model transparent alloys. Microgravity Science and Technology, 2005, 16, 133-137.	0.7	3
108	Low-temperature dynamics of kinks on Ising interfaces. Physical Review E, 2005, 71, 036114.	0.8	9

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109	Crack Path Prediction in Anisotropic Brittle Materials. Physical Review Letters, 2005, 95, 235501.	2.9	99
110	Coupled dynamics of voltage and calcium in paced cardiac cells. Physical Review E, 2005, 71, 021903.	0.8	134
111	The Dynamics of Cardiac Fibrillation. Circulation, 2005, 112, 1232-1240.	1.6	285
112	Modeling wave propagation in realistic heart geometries using the phase-field method. Chaos, 2005, 15, 013502.	1.0	125
113	Quantitative phase-field model of alloy solidification. Physical Review E, 2004, 70, 061604.	0.8	616
114	Phase-field modeling of binary alloy solidification with coupled heat and solute diffusion. Physical Review E, 2004, 69, 051607.	0.8	231
115	Unsteady Crack Motion and Branching in a Phase-Field Model of Brittle Fracture. Physical Review Letters, 2004, 92, 245510.	2.9	131
116	Crystalâ€“Melt Interfaces and Solidification Morphologies in Metals and Alloys. MRS Bulletin, 2004, 29, 935-939.	1.7	109
117	New insights into the morphological stability of eutectic and peritectic coupled growth. Jom, 2004, 56, 28-32.	0.9	42
118	From atoms to dendrites. Jom, 2004, 56, 49-54.	0.9	15
119	Overstability of lamellar eutectic growth below the minimum-undercooling spacing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 1815-1828.	1.1	68
120	Grain shape, grain boundary mobility and the Herring relation. Acta Materialia, 2004, 52, 285-292.	3.8	34
121	Peritectic coupled growth. Acta Materialia, 2004, 52, 2795-2808.	3.8	101
122	Two-phase microstructure selection in peritectic solidification: from island banding to coupled growth. Acta Materialia, 2003, 51, 599-611.	3.8	103
123	Atomistic and continuum modeling of dendritic solidification. Materials Science and Engineering Reports, 2003, 41, 121-163.	14.8	381
124	Model of Intracellular Calcium Cycling in Ventricular Myocytes. Biophysical Journal, 2003, 85, 3666-3686.	0.2	189
125	Phase-field approach for faceted solidification. Physical Review E, 2003, 68, 041604.	0.8	99
126	Title is missing!. , 2003, , .		0

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127	Calculation of alloy solid-liquid interfacial free energies from atomic-scale simulations. Physical Review B, 2002, 66, .	1.1	130
128	Instability and Spatiotemporal Dynamics of Alternans in Paced Cardiac Tissue. Physical Review Letters, 2002, 88, 208101.	2.9	151
129	Spatiotemporal control of cardiac alternans. Chaos, 2002, 12, 923-930.	1.0	97
130	Eutectic colony formation: A phase-field study. Physical Review E, 2002, 66, 061608.	0.8	89
131	Phase-Field Simulation of Solidification. Annual Review of Materials Research, 2002, 32, 163-194.	4.3	1,431
132	Editorial: Microstructural Evolution Based on Fundamental Interfacial Properties. Journal of Materials Science, 2002, 10, 119-119.	1.2	3
133	Title is missing!. Journal of Materials Science, 2002, 10, 121-136.	1.2	194
134	Atomistic Simulation Methods for Computing the Kinetic Coefficient in Solid-Liquid Systems. Journal of Materials Science, 2002, 10, 181-189.	1.2	73
135	Phase-Field Model of Mode III Dynamic Fracture. Physical Review Letters, 2001, 87, 045501.	2.9	482
136	Phase-field simulations of dendritic crystal growth in a forced flow. Physical Review E, 2001, 63, 061601.	0.8	205
137	Phase-Field Formulation for Quantitative Modeling of Alloy Solidification. Physical Review Letters, 2001, 87, 115701.	2.9	712
138	Occurrence of uveitis in recently diagnosed juvenile chronic arthritis A prospective study. Ophthalmology, 2001, 108, 2071-2075.	2.5	198
139	Phase-field modeling of microstructural pattern formation during directional solidification of peritectic alloys without morphological instability. Physical Review E, 2001, 63, 031504.	0.8	56
140	Mechanisms for Discordant Alternans. Journal of Cardiovascular Electrophysiology, 2001, 12, 196-206.	0.8	306
141	Grain refinement through fragmentation of dendrites in undercooled melts. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 304-306, 20-25.	2.6	76
142	Evolution of nanoporosity in dealloying. Nature, 2001, 410, 450-453.	13.7	2,417
143	Method for Computing the Anisotropy of the Solid-Liquid Interfacial Free Energy. Physical Review Letters, 2001, 86, 5530-5533.	2.9	431
144	Velocity and Shape Selection of Dendritic Crystals in a Forced Flow. , 2001, , 47-56.		1

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145	Multiscale Finite-Difference-Diffusion-Monte-Carlo Method for Simulating Dendritic Solidification. Journal of Computational Physics, 2000, 165, 592-619.	1.9	82
146	Solidification microstructures: recent developments, future directions. Acta Materialia, 2000, 48, 43-70.	3.8	510
147	A model of convection-induced oscillatory structure formation in peritectic alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 1233-1246.	1.1	44
148	Multiscale Random-Walk Algorithm for Simulating Interfacial Pattern Formation. Physical Review Letters, 2000, 84, 1740-1743.	2.9	109
149	Velocity and shape selection of dendritic crystals in a forced flow. Physical Review E, 2000, 61, R49-R52.	0.8	74
150	Three-dimensional dendrite-tip morphology at low undercooling. Physical Review E, 2000, 61, 3996-4006.	0.8	93
151	New paradigm for drug therapies of cardiac fibrillation. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 5687-5689.	3.3	34
152	Theory of spiral wave dynamics in weakly excitable media: Asymptotic reduction to a kinematic model and applications. Physical Review E, 1999, 60, 5073-5105.	0.8	106
153	Structure of the Resonance Attractor for Spiral Waves in Excitable Media. Physical Review Letters, 1999, 83, 2453-2456.	2.9	47
154	Spatiotemporal Control of Wave Instabilities in Cardiac Tissue. Physical Review Letters, 1999, 83, 456-459.	2.9	126
155	Modeling Melt Convection in Phase-Field Simulations of Solidification. Journal of Computational Physics, 1999, 154, 468-496.	1.9	545
156	Phase-field model of dendritic sidebranching with thermal noise. Physical Review E, 1999, 60, 3614-3625.	0.8	197
157	Eutectic colony formation: A stability analysis. Physical Review E, 1999, 60, 6865-6889.	0.8	62
158	Model of banding in diffusive and convective regimes during directional solidification of peritectic systems. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1998, 29, 1457-1470.	1.1	65
159	Vortex dynamics in three-dimensional continuous myocardium with fiber rotation: Filament instability and fibrillation. Chaos, 1998, 8, 20-47.	1.0	777
160	Spiral Surface Growth without Desorption. Physical Review Letters, 1998, 81, 4444-4447.	2.9	153
161	Fiber-Rotation-Induced Vortex Turbulence in Thick Myocardium. Physical Review Letters, 1998, 81, 481-484.	2.9	81
162	Quantitative phase-field modeling of dendritic growth in two and three dimensions. Physical Review E, 1998, 57, 4323-4349.	0.8	1,250

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163	Selection of doublet cellular patterns in directional solidification through spatially periodic perturbations. Physical Review E, 1998, 58, 7492-7506.	0.8	52
164	Cellular multiplets in directional solidification. Physical Review E, 1997, 55, R1282-R1285.	0.8	15
165	Numerical Simulation of Three-Dimensional Dendritic Growth [Phys. Rev. Lett. 77, 4050 (1996)]. Physical Review Letters, 1997, 78, 753-753.	2.9	0
166	Spiral Wave Meander in Excitable Media: The Large Core Limit. Physical Review Letters, 1997, 79, 665-668.	2.9	37
167	Phase-field simulation of three-dimensional dendrites: is microscopic solvability theory correct?. Journal of Crystal Growth, 1997, 174, 54-64.	0.7	88
168	Mechanisms of Layer Structure Formation in Peritectic Alloys. Materials Research Society Symposia Proceedings, 1997, 481, 39.	0.1	5
169	Phase-field method for computationally efficient modeling of solidification with arbitrary interface kinetics. Physical Review E, 1996, 53, R3017-R3020.	0.8	627
170	Spiralling to destruction at the edge of chaos. Nature, 1996, 379, 118-119.	13.7	6
171	Grain Refinement in Solidification of Undercooled Ni-Cu Melts. Materials Science Forum, 1996, 215-216, 45-50.	0.3	20
172	Noise-Induced Coherence in Neural Networks. Physical Review Letters, 1996, 77, 3256-3259.	2.9	60
173	Numerical Simulation of Three-Dimensional Dendritic Growth. Physical Review Letters, 1996, 77, 4050-4053.	2.9	211
174	Critical Role of Crystalline Anisotropy in the Stability of Cellular Array Structures in Directional Solidification. Physical Review Letters, 1996, 77, 3387-3390.	2.9	46
175	Comment on â€œSpatial Subharmonics, Irrational Patterns, and Disorder in Eutectic Growthâ€• Physical Review Letters, 1995, 75, 2444-2444.	2.9	3
176	Physical Mechanism of Grain Refinement in Solidification of Undercooled Melts. Physical Review Letters, 1994, 73, 2940-2940.	2.9	156
177	Phase-field model of eutectic growth. Physical Review E, 1994, 49, 2245-2250.	0.8	119
178	On the formation of the banded structure in rapid solidification. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1994, 178, 153-157.	2.6	6
179	Theory of pulse instabilities in electrophysiological models of excitable tissues. Physica D: Nonlinear Phenomena, 1994, 73, 113-127.	1.3	32
180	Electrical alternans and spiral wave breakup in cardiac tissue. Chaos, 1994, 4, 461-472.	1.0	436

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181	Physical Mechanism of Grain Refinement in Solidification of Undercooled Melts. Physical Review Letters, 1994, 73, 1380-1383.	2.9	270
182	Competition between noise and determinism in step flow growth. Physical Review Letters, 1993, 71, 3810-3813.	2.9	39
183	Langevin formalism for solidification. Physical Review Letters, 1993, 70, 3439-3442.	2.9	27
184	Spiral breakup in model equations of action potential propagation in cardiac tissue. Physical Review Letters, 1993, 71, 1103-1106.	2.9	261
185	Fluctuations in solidification. Physical Review E, 1993, 48, 3441-3458.	0.8	79
186	Interface dynamics and banding in rapid solidification. Physical Review E, 1993, 47, 513-533.	0.8	63
187	Dynamics of banded structure formation in rapid solidification. Physical Review Letters, 1992, 68, 2616-2619.	2.9	53
188	Spiral waves over metal catalysts. Physical Review A, 1992, 46, 3083-3091.	1.0	3
189	Scaling regime of spiral wave propagation in single-diffusive media. Physical Review Letters, 1992, 68, 397-400.	2.9	50
190	Dynamics of Banded Structure Formation in Rapid Solidification. Physical Review Letters, 1992, 68, 3368-3368.	2.9	0
191	Universal limit of spiral wave propagation in excitable media. Physical Review Letters, 1991, 66, 2274-2277.	2.9	69
192	Meandering transition in two-dimensional excitable media. Physical Review Letters, 1990, 65, 2824-2827.	2.9	88
193	Oscillatory lamellar microstructure in off-eutectic Al-Cu alloys. Physical Review B, 1990, 42, 833-837.	1.1	46
194	Oscillatory instability of deep cells in directional solidification. Physical Review A, 1989, 39, 4162-4169.	1.0	58
195	Beyond steady-state lamellar eutectic growth. Physical Review Letters, 1987, 59, 71-74.	2.9	69
196	Solidification cells at low velocity: The moving symmetric model. Physical Review A, 1986, 34, 4353-4362.	1.0	22
197	Wavelength Selection in Directional Solidification. Physical Review Letters, 1986, 57, 858-861.	2.9	42