Martin Grant

List of Publications by Year in descending order

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132 papers	6,691 citations	71102 41 h-index	62596 80 g-index
132 all docs	132 docs citations	132 times ranked	3733 citing authors

#	Article	IF	Citations
1	Time-scale investigation with the modified phase field crystal method. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 064001.	2.0	7
2	Analysis of the refugeesâ€™ drowning events:. European Physical Journal Plus, 2021, 136, 1.	2.6	1
3	Kinetic roughening of the urban skyline. Physical Review E, 2020, 101, 050301.	2.1	4
4	Phase-field crystal for an antiferromagnet with elastic interactions. Physical Review E, 2019, 100, 022128.	2.1	5
5	Sharp interface model for elastic motile cells. European Physical Journal E, 2019, 42, 52.	1.6	1
6	Substrate mediated interaction between pairs of keratocytes: Multipole traction force models describe their migratory behavior. PLoS ONE, 2019, 14, e0212162.	2.5	5
7	Magnetic islands modelled by a phase-field-crystal approach. European Physical Journal B, 2018, 91, 1.	1.5	12
8	Generation of 1/f noise from a broken-symmetry model for the arbitrary absolute pitch of musical melodies. Journal of the Acoustical Society of America, 2017, 142, EL490-EL494.	1.1	1
9	Wavelet Imaging on Multiple Scales (WIMS) reveals focal adhesion distributions, dynamics and coupling between actomyosin bundle stability. PLoS ONE, 2017, 12, e0186058.	2.5	4
10	Phase-field model for collective cell migration. Physical Review E, 2016, 93, 052405.	2.1	33
11	Multiple scale model for cell migration in monolayers: Elastic mismatch between cells enhances motility. Scientific Reports, 2015, 5, 11745.	3.3	81
12	Coupling actin dynamics to phase-field in modeling neural growth. Soft Matter, 2015, 11, 4476-4480.	2.7	6
13	The chaser and the chased: a phase-field model of an immune response. Soft Matter, 2014, 10, 9715-9720.	2.7	5
14	Phase-field-crystal modeling of glass-forming liquids: Spanning time scales during vitrification, aging, and deformation. Physical Review E, 2014, 89, 062303.	2.1	16
15	Prediction of the Dependence of the Line Tension on the Composition of Linactants and the Temperature in Phase Separated Membranes. Langmuir, 2014, 30, 11734-11745.	3.5	18
16	Micromechanics of emergent patterns in plastic flows. Scientific Reports, 2013, 3, 2728.	3.3	15
17	Microphase separation in comblike liquid-crystalline diblock copolymers. Physical Review E, 2013, 88, 042602.	2.1	1
18	Soft elasticity in solids composed of ellipse-shaped particles. Europhysics Letters, 2013, 101, 56004.	2.0	6

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19	A phase field model for neural cell chemotropism. Europhysics Letters, 2013, 102, 16001.	2.0	7
20	Phase-field approach to chemotactic driving of neutrophil morphodynamics. Physical Review E, 2013, 88, 034702.	2.1	22
21	Phase-field-crystal model for magnetocrystalline interactions in isotropic ferromagnetic solids. Physical Review E, 2013, 88, 032407.	2.1	24
22	Modeling Multiple Time Scales during Glass Formation with Phase-Field Crystals. Physical Review Letters, 2011, 106, 175702.	7.8	43
23	The effect of positive interactions on community structure in a multi-species metacommunity model along an environmental gradient. Ecological Modelling, 2010, 221, 885-894.	2.5	35
24	Positive interactions and the emergence of community structure in metacommunities. Journal of Theoretical Biology, 2010, 266, 419-429.	1.7	18
25	The hydrophobic effect and its role in cold denaturation. Cryobiology, 2010, 60, 91-99.	0.7	164
26	Reply to the comment by Graziano on â€œThe hydrophobic effect and its role in cold denaturationâ€• Cryobiology, 2010, 60, 356-357.	0.7	1
27	Phase retrieval from speckle patterns of ordering systems. Physical Review E, 2009, 80, 041112.	2.1	1
28	Microfilament Orientation Constrains Vesicle Flow and Spatial Distribution in Growing Pollen Tubes. Biophysical Journal, 2009, 97, 1822-1831.	0.5	82
29	Three-dimensional â€œMercedes-Benzâ€•model for water. Journal of Chemical Physics, 2009, 131, 054505.	3.0	53
30	Model for calcium dependent oscillatory growth in pollen tubes. Journal of Theoretical Biology, 2008, 253, 363-374.	1.7	86
31	Community-driven dispersal in an individual-based predatorâ€“prey model. Ecological Complexity, 2008, 5, 238-251.	2.9	9
32	Melting at dislocations and grain boundaries: A phase field crystal study. Physical Review B, 2008, 77, .	3.2	132
33	Microscopic Mechanism for Cold Denaturation. Physical Review Letters, 2008, 100, 118101.	7.8	114
34	Simulation of an atomistic dynamic field theory for monatomic liquids: Freezing and glass formation. Physical Review E, 2008, 77, 061506.	2.1	73
35	Dependence of friction on roughness, velocity, and temperature. Physical Review E, 2008, 77, 036123.	2.1	30
36	Ternary Systems Containing Surfactants. Advances in Chemical Physics, 2007, , 159-238.	0.3	4

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37	Phase-field crystal modeling and classical density functional theory of freezing. Physical Review B, 2007, 75, .	3.2	506
38	A phase field model for phase transformation in an elastically stressed binary alloy. Modelling and Simulation in Materials Science and Engineering, 2005, 13, 299-319.	2.0	15
39	Scaling in force spectroscopy of macromolecules. Physical Review E, 2005, 72, 011918.	2.1	17
40	Phase Separation of a Binary Fluid in the Inertia-Dominated Regime. Physical Review Letters, 2005, 95, 255702.	7.8	4
41	Modelling dielectric heterogeneity in electrophotography. Modelling and Simulation in Materials Science and Engineering, 2004, 12, 91-107.	2.0	18
42	Modeling elastic and plastic deformations in nonequilibrium processing using phase field crystals. Physical Review E, 2004, 70, 051605.	2.1	664
43	Seaweed to Dendrite Transition in Directional Solidification. Physical Review Letters, 2003, 91, 155502.	7.8	43
44	Dislocations and morphological instabilities: Continuum modeling of misfitting heteroepitaxial films. Physical Review B, 2002, 65, .	3.2	48
45	Modeling Elasticity in Crystal Growth. Physical Review Letters, 2002, 88, 245701.	7.8	766
46	Sharp interface limits of phase-field models. Physical Review E, 2001, 64, 021604.	2.1	138
47	Thermal Effects on Atomic Friction. Physical Review Letters, 2001, 87, 174301.	7.8	327
48	Dynamics of dislocations and surface instabilities in misfitting heteroepitaxial films. Physical Review B, 2001, 65, .	3.2	18
49	Solidification of a Supercooled Liquid in a Narrow Channel. Physical Review Letters, 2001, 86, 5084-5087.	7.8	15
50	Phase-field modeling of eutectic growth. Physical Review E, 2000, 61, 6705-6720.	2.1	67
51	Model of Surface Instabilities Induced by Stress. Physical Review Letters, 1999, 82, 1736-1739.	7.8	101
52	Molecular weight effects on chain pull-out fracture of reinforced polymeric interfaces. Physical Review E, 1999, 60, 4460-4464.	2.1	6
53	Evolution of speckle during spinodal decomposition. Physical Review E, 1999, 60, 5151-5162.	2.1	22
54	Spinodal Decomposition in Fluids. Physical Review Letters, 1999, 82, 14-16.	7.8	61

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55	Defects, Order, and Hysteresis in Driven Charge-Density Waves. Physical Review Letters, 1999, 83, 3518-3521.	7.8	17
56	Theory of nucleation and growth during phase separation. Physical Review E, 1999, 59, 4175-4187.	2.1	53
57	Nucleation, Growth, and Scaling in Slow Combustion. Journal of Statistical Physics, 1998, 90, 1401-1411.	1.2	13
58	Universality and scaling for the structure factor in dynamic order-disorder transitions. Physical Review E, 1998, 58, 5501-5507.	2.1	13
59	Elastic effects in the foaming of thermoplastics. Physical Review E, 1998, 58, 4654-4657.	2.1	19
60	Quasidendritic growth due to elastic fields. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1998, 78, 103-107.	0.6	5
61	Nucleation and growth: Decay of a metastable state. Physical Review E, 1997, 56, R21-R24.	2.1	22
62	Speckle from phase-ordering systems. Physical Review E, 1997, 56, 6601-6612.	2.1	60
63	Model for dynamics of structural glasses. Physical Review E, 1997, 55, 2132-2144.	2.1	31
64	Theory of melt fracture instabilities in the capillary flow of polymer melts. Physical Review E, 1997, 55, 2976-2992.	2.1	25
65	Phase Separation: From the Initial Nucleation Stage to the Final Ostwald Ripening Regime. Materials Research Society Symposia Proceedings, 1997, 481, 125.	0.1	0
66	Sharkskin texturing instabilities in the flow of polymer melts. Physica A: Statistical Mechanics and Its Applications, 1997, 239, 350-357.	2.6	6
67	Numerical simulations of scattering speckle from phase ordering systems. Physica A: Statistical Mechanics and Its Applications, 1997, 239, 363-372.	2.6	3
68	Model for Melt Fracture Instabilities in the Capillary Flow of Polymer Melts. Physical Review Letters, 1996, 77, 655-658.	7.8	24
69	Nonisothermal eutectic crystallization. Physical Review E, 1996, 54, 6476-6484.	2.1	23
70	Scaling, propagation, and kinetic roughening of flame fronts in random media. Journal of Statistical Physics, 1995, 81, 737-759.	1.2	18
71	Model of the Kinetics of Polymorphous Crystallization. Physical Review Letters, 1995, 75, 2156-2159.	7.8	40
72	Modelling Pattern Formation on Primate Visual Cortex. Springer Series in Synergetics, 1995, , 101-127.	0.4	0

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73	Damage spreading during domain growth. Physical Review E, 1994, 49, R4763-R4766.	2.1	4
74	Late stage droplet growth. Physica A: Statistical Mechanics and Its Applications, 1994, 204, 770-788.	2.6	27
75	Stochastic eutectic growth. Physical Review Letters, 1994, 72, 677-680.	7.8	126
76	Theory and simulation of Ostwald ripening. Physical Review B, 1993, 47, 14110-14125.	3.2	279
77	Temperature dependence of the amplitude of power-law growth in the spin-flip kinetic Ising model. Physical Review B, 1993, 48, 3661-3665.	3.2	6
78	Directional solidification in two and three dimensions. Physical Review Letters, 1993, 71, 3323-3326.	7.8	40
79	Growth kinetics in exciton systems. Physical Review B, 1993, 47, 1270-1275.	3.2	3
80	Dynamic Monte Carlo renormalization-group method. Physical Review B, 1993, 47, 5646-5652.	3.2	34
81	Monte Carlo simulation studies of dendritic instabilities in three dimensions. Physical Review E, 1993, 47, 1235-1242.	2.1	8
82	Theory for quenches from ordered states in nonconserved systems. Physical Review B, 1993, 47, 2487-2492.	3.2	6
83	Ostwald ripening in two and three dimensions. Physical Review B, 1992, 45, 8173-8176.	3.2	82
84	Monte Carlo lattice-gas simulations of stable and unstable interfaces. Physical Review A, 1992, 45, 1024-1034.	2.5	12
85	Ordering Dynamics in the Two-Dimensional Stochastic Swift-Hohenberg Equation. Physical Review Letters, 1992, 68, 3024-3027.	7.8	105
86	Dynamic scaling and quasiordered states in the two-dimensional Swift-Hohenberg equation. Physical Review A, 1992, 46, 7618-7629.	2.5	56
87	Phase Diagram of a Lattice Model for Ternary Mixtures of Water, Oil, and Surfactants. Materials Research Society Symposia Proceedings, 1991, 248, 23.	0.1	1
88	Neural networks with constrained inputs as models for pattern formation in primate visual cortex. Journal of Biological Physics, 1991, 18, 217-245.	1.5	2
89	Late-time theory for the effects of a conserved field on the kinetics of an order-disorder transition. Physical Review B, 1991, 44, 6673-6688.	3.2	19
90	Kinetic roughening of interfaces in driven systems. Physical Review A, 1991, 43, 1727-1743.	2.5	64

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91	Acoustic-wave localization in the presence of shear resonances. Physical Review B, 1991, 43, 10769-10779.	3.2	3
92	Monte Carlo simulations of transverse spin freezing in the threeâ€dimensional frustrated Heisenberg model. Journal of Applied Physics, 1991, 69, 5231-5233.	2.5	8
93	Phase diagram of a lattice model for ternary mixtures of water, oil, and surfactants. Physical Review A, 1991, 44, 8184-8188.	2.5	37
94	Kinetic Roughening of Interfaces in Driven Systems. Materials Research Society Symposia Proceedings, 1990, 205, 429.	0.1	0
95	Experimental evidence for localization of acoustic waves in three dimensions. Physical Review Letters, 1990, 64, 3135-3138.	7.8	30
96	Dynamics of first-order transitions in two-dimensional systems with long-range interactions. Physical Review B, 1990, 41, 4646-4652.	3.2	23
97	Monte Carlo renormalization-group study of self-organized criticality. Physical Review A, 1990, 41, 4195-4198.	2.5	7
98	Kinetics of interface growth in driven systems. Physical Review Letters, 1990, 64, 1262-1265.	7.8	61
99	Crossover scaling in the dynamics of driven systems. Physical Review A, 1990, 41, 7082-7085.	2.5	13
100	Monte Carlo renormalization-group study of domain growth in the Potts model on a triangular lattice. Physical Review B, 1990, 41, 4663-4668.	3.2	15
101	Stability of Continuous Cellular Automata. Frontiers of Computer Science, 1990, , 27-45.	0.1	0
102	Monte Carlo renormalization-group study of spinodal decomposition: Scaling and growth. Physical Review B, 1989, 39, 11971-11981.	3.2	74
103	Roughening dynamics of systems with latent heat. Physical Review Letters, 1989, 63, 1693-1695.	7.8	12
104	Lack of self-averaging, multiscaling, and 1/fnoise in the kinetics of domain growth. Physical Review Letters, 1989, 63, 551-554.	7.8	28
105	Possible consistency requirement for kinetic exponents. Physical Review Letters, 1989, 62, 1065-1065.	7.8	7
106	Dynamics of driven interfaces with a conservation law. Physical Review A, 1989, 40, 6763-6766.	2.5	176
107	Thermal conductivity of a kinetic ising model. Physical Review B, 1988, 38, 9323-9326.	3.2	40
108	Monte Carlo Renormalization-Group Study of the Late-Stage Dynamics of Spinodal Decomposition. Physical Review Letters, 1988, 60, 2657-2660.	7.8	64

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109	Dynamics of roughening and complete wetting. Physical Review B, 1988, 37, 5705-5712.	3.2	21
110	Domain-growth kinetics of systems with soft walls. Physical Review B, 1988, 37, 2274-2277.	3.2	14
111	Interface roughening and domain growth in the dilute Ising model. Physical Review B, 1987, 35, 6792-6795.	3.2	48
112	Metastable states in the random-field Ising model. Physical Review B, 1987, 35, 4922-4928.	3.2	18
113	Role of activated processes and boundary conditions in the domain growth of the Potts model. Physical Review B, 1987, 36, 7036-7042.	3.2	35
114	Cellular Automata, Langevin Equations, and Unstable States. Physical Review Letters, 1986, 57, 1970-1973.	7.8	1
115	Kinetics of the Nucleation of a Crystalline Droplet from the Melt. Materials Research Society Symposia Proceedings, 1985, 57, 79.	0.1	0
116	Theory for the early stages of phase separation: The long-range-force limit. Physical Review B, 1985, 31, 3027-3039.	3.2	84
117	Theory for the nucleation of a crystalline droplet from the melt. Physical Review B, 1985, 32, 7299-7307.	3.2	52
118	Monte Carlo Renormalization-Group Study of the Dynamics of an Unstable State. Physical Review Letters, 1985, 54, 1264-1267.	7.8	59
119	Phase separation in two-dimensional binary fluids. Physical Review A, 1985, 31, 1001-1005.	2.5	162
120	Domain growth in the clock model. Physical Review B, 1985, 31, 3040-3047.	3.2	24
121	Growth of unstable domains in the two-dimensional Ising model. Physical Review B, 1985, 31, 281-286.	3.2	111
122	Breakdown of self-similar scaling in the two-dimensional random-field Ising model: A Monte Carlo study. Physical Review B, 1985, 32, 1575-1583.	3.2	42
123	Domain growth in the random-field Ising model: The breakdown of self-similar scaling in two dimensions. Physical Review B, 1984, 29, 6266-6275.	3.2	43
124	Domain growth in the random-field Ising model. Physical Review B, 1984, 29, 1521-1523.	3.2	39
125	Domain Growth in the Ising Model in a Random Magnetic Field. Physical Review Letters, 1984, 53, 2266-2269.	7.8	48
126	RANDOM-FIELD ISING MODEL: DOMAIN GROWTH THEORY. , 1984, , 125-127.		0

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127	COMPUTER SIMULATIONS OF DOMAIN GROWTH. , 1984, , 121-124.		0
128	Temperature dependence of the dynamics of random interfaces. Physical Review B, 1983, 28, 5496-5506.	3.2	64
129	Generalized Langevin theory for inhomogeneous fluids: The transverse currentâ€“current correlation function. Journal of Chemical Physics, 1982, 76, 5160-5166.	3.0	7
130	Generalized Langevin theory for inhomogeneous fluids: The equations of motion. Physical Review A, 1982, 25, 2727-2743.	2.5	10
131	Surface tension of a molecular fluid. Molecular Physics, 1981, 43, 1035-1041.	1.7	2
132	Surface tension of a simple fluid: Many body potential. Journal of Chemical Physics, 1980, 72, 1482-1486.	3.0	8