Daniel J Walgraef

List of Publications by Year
in descending order

86 papers	2,261 citations	236925 25 h-index	223800 46 g-index
87 all docs	87 docs citations	87 times ranked	846 citing authors

#	Article	IF	Citations
1	Stability and symmetry of ion-induced surface patterning. Materials Theory, 2017, 1, .	4.3	2
2	Theory for the Spatiotemporal Dynamics of Domain Walls close to a Nonequilibrium Ising-Bloch Transition. Physical Review Letters, 2015, 114, 084101.	7.8	10
3	Minimal model dynamics for twelvefold quasipatterns. Physical Review E, 2014, 89, 032923.	2.1	0
4	Self-organization and nanostructure formation in chemical vapor deposition. Physical Review E, 2013, 88, 042405.	2.1	4
5	On certain problems of deformation-induced material instabilities. International Journal of Engineering Science, 2012, 59, 140-155.	5.0	7
6	Numerical Solution of the Walgraef-Aifantis Model for Simulation of Dislocation Dynamics in Materials Subjected to Cyclic Loading. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 97-107.	0.5	0
7	Influence of substrate-mediated interactions on the self-organization of adatom clusters. Physical Review B, 2007, 75, .	3.2	4
8	On dislocation patterning: Multiple slip effects in the rate equation approach. International Journal of Plasticity, 2006, 22, 1486-1505.	8.8	55
9	Reaction-diffusion approach to nanostructure formation and texture evolution in adsorbed monoatomic layers. International Journal of Quantum Chemistry, 2004, 98, 248-260.	2.0	22
10	Texture evolution in adsorbed monoatomic layers. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 23, 121-130.	2.7	0
11	On the Dynamics of Nanostructures Formation during Thin Film Growth.. Nonlinear Phenomena and Complex Systems, 2004, , 389-410.	0.0	1
12	Non Linear Dynamics, Pattern Formation and Materials Science. Nonlinear Phenomena and Complex Systems, 2004, , 355-370.	0.0	0
13	Dynamics of Nanostructure Formation During Thin Film Deposition. Solid Mechanics and Its Applications, 2004, , 325-332.	0.2	0
14	Nanostructure evolution during thin film deposition. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 18, 393-401.	2.7	19
15	Amplitude equation for stationary convection in a binary viscoelastic fluid. Physica A: Statistical Mechanics and Its Applications, 2003, 327, 29-33.	2.6	15
16	Reaction–diffusion approach to nanostructure formation during thin-film deposition. Philosophical Magazine, 2003, 83, 3829-3846.	1.6	5
17	Patterns arising from the interaction between scalar and vectorial instabilities in two-photon resonant Kerr cavities. Physical Review E, 2002, 65, 046620.	2.1	6
18	Mesoscopic models for surface deformation. Computational Materials Science, 2002, 23, 235-241.	3.0	0

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19	Polarization coupling and pattern selection in a type-II optical parametric oscillator. Physical Review E, 2002, 66, 036228.	2.1	3
20	Rate equation approach to dislocation dynamics and plastic deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 322, 167-175.	5.6	9
21	Nanostructure initiation during the early stages of thin film growth. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 15, 33-40.	2.7	33
22	Transition from oscillatory to excitable regime in a system forced at three times its natural frequency. Physical Review E, 2001, 64, 056218.	2.1	17
23	Thermal convection thresholds in viscoelastic solutions. Journal of Non-Newtonian Fluid Mechanics, 2000, 93, 1-15.	2.4	30
24	Gradient pattern analysis of Swiftâ€"Hohenberg dynamics: phase disorder characterization. Physica A: Statistical Mechanics and Its Applications, 2000, 283, 156-159.	2.6	24
25	Rayleighâ€"Bã©nard convection in binary viscoelastic fluid. Physica A: Statistical Mechanics and Its Applications, 2000, 283, 233-236.	2.6	19
26	Laser-Induced Deformation Patterns in Thin Films and Surfaces. Journal of Engineering Materials and Technology, Transactions of the ASME, 1999, 121, 182-188.	1.4	2
27	Space inversion symmetry breaking and pattern selection in nonlinear optics. Journal of Optics B: Quantum and Semiclassical Optics, 1999, 1, 191-197.	1.4	4
28	Convective and absolute instabilities in viscoelastic fluid convection. Physica A: Statistical Mechanics and Its Applications, 1999, 268, 14-23.	2.6	8
29	Walk-off and pattern selection in optical parametric oscillators. Optics Letters, 1998, 23, 1167.	3.3	48
30	Growth dynamics of noise-sustained structures in nonlinear optical resonators. Optics Express, 1998, 3, 63.	3.4	7
31	Polarization patterns in Kerr media. Physical Review E, 1998, 58, 2992-3007.	2.1	47
32	Two-dimensional noise-sustained structures in optical parametric oscillators. Physical Review E, 1998, 58, 3843-3853.	2.1	48
33	Pattern selection and the effect of group velocity on interacting oscillatory and stationary instabilities. Physical Review E, 1997, 55, 6887-6897.	2.1	5
34	Rose Deformation Patterns in Thin Films Irradiated by Focused Laser Beams. Physical Review Letters, 1997, 79, 2706-2709.	7.8	14
35	Deformation patterns in thin films under uniform laser irradiation. Physical Review B, 1997, 56, 15361-15377.	3.2	35
36	Noise-Sustained Convective Structures in Nonlinear Optics. Physical Review Letters, 1997, 79, 3633-3636.	7.8	92

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37	Spatio-Temporal Pattern Formation. Partially Ordered Systems, 1997, , .	6.5	323
38	The Hopf Bifurcation and Related Spatio-Temporal Patterns. Partially Ordered Systems, 1997, , 65-85.	6.5	3
39	The Effect of External Fields. Partially Ordered Systems, 1997, , 127-167.	6.5	0
40	Plastic Instabilities. Partially Ordered Systems, 1997, , 231-239.	6.5	1
41	Implicit time splitting for fourth-order parabolic equations. Computer Methods in Applied Mechanics and Engineering, 1997, 148, 209-224.	6.6	34
42	Theory and numerical simulations of defect ordering in irradiated materials. Physical Review B, 1996, 53, 14782-14794.	3.2	32
43	Amplitude equations and pattern selection in viscoelastic convection. Physical Review E, 1996, 54, 1478-1488.	2.1	29
44	Noise-sustained structures in coupled complex Ginzburg-Landau equations for a convectively unstable system. Physical Review E, 1996, 54, 6344-6355.	2.1	14
45	Wave-Unlocking Transition in Resonantly Coupled Complex Ginzburg-Landau Equations. Physical Review Letters, 1996, 76, 1956-1959.	7.8	13
46	Nonlinear dynamics of self-organized microstructure under irradiation. Physical Review B, 1995, 52, 3951-3962.	3.2	16
47	On the Phase Dynamics of Hexagonal Patterns. Europhysics Letters, 1993, 24, 707-712.	2.0	41
48	Evolution dynamics of 3D periodic microstructures in irradiated materials. Modelling and Simulation in Materials Science and Engineering, 1993, 1, 569-590.	2.0	21
49	Phase instability and defect behavior in modulated wave patterns. Physica D: Nonlinear Phenomena, 1992, 61, 132-139.	2.8	7
50	Three-dimensional dissipative structures in reaction-diffusion systems. Physica D: Nonlinear Phenomena, 1992, 61, 289-296.	2.8	71
51	Temporal forcing of wave patterns. Journal of Statistical Physics, 1991, 64, 969-980.	1.2	4
52	Pattern Selection and Symmetry Competition in Materials Instabilities. NATO ASI Series Series B: Physics, 1990, , 25-32.	0.2	0
53	REACTION - TRANSPORT APPROACH TO THE DEFORMATION OF METALS. Journal of the Mechanical Behavior of Materials, 1989, 2, 315-334.	1.8	1
54	Spatial instabilities and dislocation-loop ordering in irradiated materials. Physical Review B, 1989, 39, 8867-8872.	3.2	26

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55	Spatial Forcing of 2D Wave Patterns. Europhysics Letters, 1989, 10, 525-531.	2.0	33
56	Pattern selection in nematics subjected to an elliptical shear. Physica D: Nonlinear Phenomena, 1989, 35, 220-236.	2.8	7
57	Numerical simulation of persistent slip band formation. Acta Metallurgica, 1988, 36, 563-574.	2.1	61
58	External Forcing of Spatio-Temporal Patterns. Europhysics Letters, 1988, 7, 485-491.	2.0	57
59	The search for Turing structures. Journal of Statistical Physics, 1987, 48, 1031-1044.	1.2	27
60	Anisotropy effects on pattern selection near dynamical instabilities. Physica D: Nonlinear Phenomena, 1987, 27, 423-432.	2.8	8
61	Patterns and Defects Far From Equilibrium. , 1987, , 197-216.		9
62	Dislocation patterning in fatigued metals: Labyrinth structures and rotational effects. International Journal of Engineering Science, 1986, 24, 1789-1798.	5.0	25
63	End effects and phase instabilities in a model for Taylor-Couette systems. Physical Review A, 1986, 34, 3270-3278.	2.5	4
64	On the formation and stability of dislocation patterns—I: One-dimensional considerations. International Journal of Engineering Science, 1985, 23, 1351-1358.	5.0	131
65	On the formation and stability of dislocation patterns—II: Two-dimensional considerations. International Journal of Engineering Science, 1985, 23, 1359-1364.	5.0	69
66	On the formation and stability of dislocation patterns—III: Three-dimensional considerations. International Journal of Engineering Science, 1985, 23, 1365-1372.	5.0	56
67	Turbulent mixing and bistability in chemical systems. Physical Review A, 1985, 31, 1983-1985.	2.5	23
68	Dislocation patterning in fatigued metals as a result of dynamical instabilities. Journal of Applied Physics, 1985, 58, 688-691.	2.5	200
69	Onset of wavy Taylor vortex flow in finite geometries. Physical Review A, 1984, 29, 1514-1519.	2.5	9
70	Pattern Formation in Chemical Systems: The Effect of Convection. Springer Series in Synergetics, 1984, , 114-117.	0.4	4
71	Chemical waves in a two€dimensional oscillating system. Journal of Chemical Physics, 1983, 78, 3043-3051.	3.0	63
72	Spatial patterns and double diffusion in chemical reactions. Proceedings of the National Academy of Sciences of the United States of America, 1983, 80, 6429-6430.	7.1	11

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73	Fluctuation effects in the transition to Taylor vortex flow in finite geometries. Physical Review A, 1982, 25, 2860-2862.	2.5	3
74	Dissipative structures and broken symmetry. Journal of Chemical Physics, 1981, 74, 755-757.	3.0	6
75	Nonequilibrium phase transitions and chemical instabilities. Journal of Statistical Physics, 1981, 24, 119-137.	1.2	9
76	Fluctuations near nonequilibrium phase transitions to nonuniform states. Physical Review A, 1980, 21, 397-404.	2.5	46
77	Fluctuations near phase transitions to non-uniform states. Journal of Physics C: Solid State Physics, 1979, 12, L491-L494.	1.5	4
78	Critical dynamics of paramagnets with dipolar coupling. Physica A: Statistical Mechanics and Its Applications, 1978, 91, 411-423.	2.6	10
79	Spin and interspin energy diffusion coefficients. Physica, 1973, 68, 157-163.	0.9	7
80	Irreversibility in Paramagnetic Spin System: Free-Induction Decay and Line Shape In CaF2. Physical Review B, 1973, 7, 563-565.	3.2	7
81	Spin echoes and negative time evolution in paramagnetic spin systems. Physica, 1972, 59, 47-60.	0.9	6
82	Irreversibility in Paramagnetic Spin Systems. I. Kinetic Equations for the Reduced Density Matrices. Physical Review, 1969, 187, 421-429.	2.7	9
83	Irreversibility in Paramagnetic Spin Systems: Free Induction Decay and Spin Diffusion. Physical Review, 1968, 167, 282-288.	2.7	65
84	Long-Time Behavior of the Free-Induction Decay in Paramagnetic Spin Systems. Physical Review Letters, 1968, 21, 1516-1517.	7.8	17
85	Non Markovian processes in nuclear paramagnetic relaxation. Physica, 1966, 32, 1283-1288.	0.9	11
86	Theory of High-Field Magnetic Relaxation in a Rigid Lattice. Physical Review Letters, 1966, 17, 1290-1291.	7.8	12