

Daniel J Walgraef

List of Publications by Year in descending order

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236925

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87
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docs citations

87
times ranked

846
citing authors

#	ARTICLE	IF	CITATIONS
1	Spatio-Temporal Pattern Formation. Partially Ordered Systems, 1997, , .	6.5	323
2	Dislocation patterning in fatigued metals as a result of dynamical instabilities. Journal of Applied Physics, 1985, 58, 688-691.	2.5	200
3	On the formation and stability of dislocation patternsâ€™I: One-dimensional considerations. International Journal of Engineering Science, 1985, 23, 1351-1358.	5.0	131
4	Noise-Sustained Convective Structures in Nonlinear Optics. Physical Review Letters, 1997, 79, 3633-3636.	7.8	92
5	Three-dimensional dissipative structures in reaction-diffusion systems. Physica D: Nonlinear Phenomena, 1992, 61, 289-296.	2.8	71
6	On the formation and stability of dislocation patternsâ€™II: Two-dimensional considerations. International Journal of Engineering Science, 1985, 23, 1359-1364.	5.0	69
7	Irreversibility in Paramagnetic Spin Systems: Free Induction Decay and Spin Diffusion. Physical Review, 1968, 167, 282-288.	2.7	65
8	Chemical waves in a twoâ€™dimensional oscillating system. Journal of Chemical Physics, 1983, 78, 3043-3051.	3.0	63
9	Numerical simulation of persistent slip band formation. Acta Metallurgica, 1988, 36, 563-574.	2.1	61
10	External Forcing of Spatio-Temporal Patterns. Europhysics Letters, 1988, 7, 485-491.	2.0	57
11	On the formation and stability of dislocation patternsâ€™III: Three-dimensional considerations. International Journal of Engineering Science, 1985, 23, 1365-1372.	5.0	56
12	On dislocation patterning: Multiple slip effects in the rate equation approach. International Journal of Plasticity, 2006, 22, 1486-1505.	8.8	55
13	Walk-off and pattern selection in optical parametric oscillators. Optics Letters, 1998, 23, 1167.	3.3	48
14	Two-dimensional noise-sustained structures in optical parametric oscillators. Physical Review E, 1998, 58, 3843-3853.	2.1	48
15	Polarization patterns in Kerr media. Physical Review E, 1998, 58, 2992-3007.	2.1	47
16	Fluctuations near nonequilibrium phase transitions to nonuniform states. Physical Review A, 1980, 21, 397-404.	2.5	46
17	On the Phase Dynamics of Hexagonal Patterns. Europhysics Letters, 1993, 24, 707-712.	2.0	41
18	Deformation patterns in thin films under uniform laser irradiation. Physical Review B, 1997, 56, 15361-15377.	3.2	35

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19	Implicit time splitting for fourth-order parabolic equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1997, 148, 209-224.	6.6	34
20	Spatial Forcing of 2D Wave Patterns. <i>Europhysics Letters</i> , 1989, 10, 525-531.	2.0	33
21	Nanostructure initiation during the early stages of thin film growth. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2002, 15, 33-40.	2.7	33
22	Theory and numerical simulations of defect ordering in irradiated materials. <i>Physical Review B</i> , 1996, 53, 14782-14794.	3.2	32
23	Thermal convection thresholds in viscoelastic solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2000, 93, 1-15.	2.4	30
24	Amplitude equations and pattern selection in viscoelastic convection. <i>Physical Review E</i> , 1996, 54, 1478-1488.	2.1	29
25	The search for Turing structures. <i>Journal of Statistical Physics</i> , 1987, 48, 1031-1044.	1.2	27
26	Spatial instabilities and dislocation-loop ordering in irradiated materials. <i>Physical Review B</i> , 1989, 39, 8867-8872.	3.2	26
27	Dislocation patterning in fatigued metals: Labyrinth structures and rotational effects. <i>International Journal of Engineering Science</i> , 1986, 24, 1789-1798.	5.0	25
28	Gradient pattern analysis of Swift-Hohenberg dynamics: phase disorder characterization. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 283, 156-159.	2.6	24
29	Turbulent mixing and bistability in chemical systems. <i>Physical Review A</i> , 1985, 31, 1983-1985.	2.5	23
30	Reaction-diffusion approach to nanostructure formation and texture evolution in adsorbed monoatomic layers. <i>International Journal of Quantum Chemistry</i> , 2004, 98, 248-260.	2.0	22
31	Evolution dynamics of 3D periodic microstructures in irradiated materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , 1993, 1, 569-590.	2.0	21
32	Rayleigh-Bénard convection in binary viscoelastic fluid. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 283, 233-236.	2.6	19
33	Nanostructure evolution during thin film deposition. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2003, 18, 393-401.	2.7	19
34	Long-Time Behavior of the Free-Induction Decay in Paramagnetic Spin Systems. <i>Physical Review Letters</i> , 1968, 21, 1516-1517.	7.8	17
35	Transition from oscillatory to excitable regime in a system forced at three times its natural frequency. <i>Physical Review E</i> , 2001, 64, 056218.	2.1	17
36	Nonlinear dynamics of self-organized microstructure under irradiation. <i>Physical Review B</i> , 1995, 52, 3951-3962.	3.2	16

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37	Amplitude equation for stationary convection in a binary viscoelastic fluid. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 327, 29-33.	2.6	15
38	Noise-sustained structures in coupled complex Ginzburg-Landau equations for a convectively unstable system. <i>Physical Review E</i> , 1996, 54, 6344-6355.	2.1	14
39	Rose Deformation Patterns in Thin Films Irradiated by Focused Laser Beams. <i>Physical Review Letters</i> , 1997, 79, 2706-2709.	7.8	14
40	Wave-Unlocking Transition in Resonantly Coupled Complex Ginzburg-Landau Equations. <i>Physical Review Letters</i> , 1996, 76, 1956-1959.	7.8	13
41	Theory of High-Field Magnetic Relaxation in a Rigid Lattice. <i>Physical Review Letters</i> , 1966, 17, 1290-1291.	7.8	12
42	Non Markovian processes in nuclear paramagnetic relaxation. <i>Physica</i> , 1966, 32, 1283-1288.	0.9	11
43	Spatial patterns and double diffusion in chemical reactions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1983, 80, 6429-6430.	7.1	11
44	Critical dynamics of paramagnets with dipolar coupling. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1978, 91, 411-423.	2.6	10
45	Theory for the Spatiotemporal Dynamics of Domain Walls close to a Nonequilibrium Ising-Bloch Transition. <i>Physical Review Letters</i> , 2015, 114, 084101.	7.8	10
46	Irreversibility in Paramagnetic Spin Systems. I. Kinetic Equations for the Reduced Density Matrices. <i>Physical Review</i> , 1969, 187, 421-429.	2.7	9
47	Nonequilibrium phase transitions and chemical instabilities. <i>Journal of Statistical Physics</i> , 1981, 24, 119-137.	1.2	9
48	Onset of wavy Taylor vortex flow in finite geometries. <i>Physical Review A</i> , 1984, 29, 1514-1519.	2.5	9
49	Rate equation approach to dislocation dynamics and plastic deformation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 322, 167-175.	5.6	9
50	Patterns and Defects Far From Equilibrium. , 1987, , 197-216.		9
51	Anisotropy effects on pattern selection near dynamical instabilities. <i>Physica D: Nonlinear Phenomena</i> , 1987, 27, 423-432.	2.8	8
52	Convective and absolute instabilities in viscoelastic fluid convection. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 268, 14-23.	2.6	8
53	Spin and interspin energy diffusion coefficients. <i>Physica</i> , 1973, 68, 157-163.	0.9	7
54	Irreversibility in Paramagnetic Spin System: Free-Induction Decay and Line Shape In CaF ₂ . <i>Physical Review B</i> , 1973, 7, 563-565.	3.2	7

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55	Pattern selection in nematics subjected to an elliptical shear. <i>Physica D: Nonlinear Phenomena</i> , 1989, 35, 220-236.	2.8	7
56	Phase instability and defect behavior in modulated wave patterns. <i>Physica D: Nonlinear Phenomena</i> , 1992, 61, 132-139.	2.8	7
57	Growth dynamics of noise-sustained structures in nonlinear optical resonators. <i>Optics Express</i> , 1998, 3, 63.	3.4	7
58	On certain problems of deformation-induced material instabilities. <i>International Journal of Engineering Science</i> , 2012, 59, 140-155.	5.0	7
59	Spin echoes and negative time evolution in paramagnetic spin systems. <i>Physica</i> , 1972, 59, 47-60.	0.9	6
60	Dissipative structures and broken symmetry. <i>Journal of Chemical Physics</i> , 1981, 74, 755-757.	3.0	6
61	Patterns arising from the interaction between scalar and vectorial instabilities in two-photon resonant Kerr cavities. <i>Physical Review E</i> , 2002, 65, 046620.	2.1	6
62	Pattern selection and the effect of group velocity on interacting oscillatory and stationary instabilities. <i>Physical Review E</i> , 1997, 55, 6887-6897.	2.1	5
63	Reaction-diffusion approach to nanostructure formation during thin-film deposition. <i>Philosophical Magazine</i> , 2003, 83, 3829-3846.	1.6	5
64	Fluctuations near phase transitions to non-uniform states. <i>Journal of Physics C: Solid State Physics</i> , 1979, 12, L491-L494.	1.5	4
65	End effects and phase instabilities in a model for Taylor-Couette systems. <i>Physical Review A</i> , 1986, 34, 3270-3278.	2.5	4
66	Temporal forcing of wave patterns. <i>Journal of Statistical Physics</i> , 1991, 64, 969-980.	1.2	4
67	Space inversion symmetry breaking and pattern selection in nonlinear optics. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 1999, 1, 191-197.	1.4	4
68	Influence of substrate-mediated interactions on the self-organization of adatom clusters. <i>Physical Review B</i> , 2007, 75, .	3.2	4
69	Self-organization and nanostructure formation in chemical vapor deposition. <i>Physical Review E</i> , 2013, 88, 042405.	2.1	4
70	Pattern Formation in Chemical Systems: The Effect of Convection. <i>Springer Series in Synergetics</i> , 1984, , 114-117.	0.4	4
71	Fluctuation effects in the transition to Taylor vortex flow in finite geometries. <i>Physical Review A</i> , 1982, 25, 2860-2862.	2.5	3
72	The Hopf Bifurcation and Related Spatio-Temporal Patterns. <i>Partially Ordered Systems</i> , 1997, , 65-85.	6.5	3

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73	Polarization coupling and pattern selection in a type-II optical parametric oscillator. Physical Review E, 2002, 66, 036228.	2.1	3
74	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
75	Stability and symmetry of ion-induced surface patterning. Materials Theory, 2017, 1, .	4.3	2
76	REACTION - TRANSPORT APPROACH TO THE DEFORMATION OF METALS. Journal of the Mechanical Behavior of Materials, 1989, 2, 315-334.	1.8	1
77	Plastic Instabilities. Partially Ordered Systems, 1997, , 231-239.	6.5	1
78	On the Dynamics of Nanostructures Formation during Thin Film Growth.. Nonlinear Phenomena and Complex Systems, 2004, , 389-410.	0.0	1
79	The Effect of External Fields. Partially Ordered Systems, 1997, , 127-167.	6.5	0
80	Mesoscopic models for surface deformation. Computational Materials Science, 2002, 23, 235-241.	3.0	0
81	Texture evolution in adsorbed monoatomic layers. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 23, 121-130.	2.7	0
82	Minimal model dynamics for twelfefold quasipatterns. Physical Review E, 2014, 89, 032923.	2.1	0
83	Non Linear Dynamics, Pattern Formation and Materials Science. Nonlinear Phenomena and Complex Systems, 2004, , 355-370.	0.0	0
84	Dynamics of Nanostructure Formation During Thin Film Deposition. Solid Mechanics and Its Applications, 2004, , 325-332.	0.2	0
85	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
86	Pattern Selection and Symmetry Competition in Materials Instabilities. NATO ASI Series Series B: Physics, 1990, , 25-32.	0.2	0