

Wim Van Saarloos

List of Publications by Year in descending order

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77
papers

4,952
citations

126907

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88630

70
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77
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77
docs citations

77
times ranked

2588
citing authors

#	ARTICLE	IF	CITATIONS
1	Front propagation into unstable states. <i>Physics Reports</i> , 2003, 386, 29-222.	25.6	732
2	Fronts, pulses, sources and sinks in generalized complex Ginzburg-Landau equations. <i>Physica D: Nonlinear Phenomena</i> , 1992, 56, 303-367.	2.8	499
3	Front propagation into unstable states: universal algebraic convergence towards uniformly translating pulled fronts. <i>Physica D: Nonlinear Phenomena</i> , 2000, 146, 1-99.	2.8	308
4	Front propagation into unstable states: Marginal stability as a dynamical mechanism for velocity selection. <i>Physical Review A</i> , 1988, 37, 211-229.	2.5	305
5	Front propagation into unstable states. II. Linear versus nonlinear marginal stability and rate of convergence. <i>Physical Review A</i> , 1989, 39, 6367-6390.	2.5	239
6	Bistable Systems with Propagating Fronts Leading to Pattern Formation. <i>Physical Review Letters</i> , 1988, 60, 2641-2644.	7.8	233
7	Critical Scaling in Linear Response of Frictionless Granular Packings near Jamming. <i>Physical Review Letters</i> , 2006, 97, 258001.	7.8	180
8	An introductory essay on subcritical instabilities and the transition to turbulence in visco-elastic parallel shear flows. <i>Physics Reports</i> , 2007, 447, 112-143.	25.6	150
9	Elastic wave propagation in confined granular systems. <i>Physical Review E</i> , 2005, 72, 021301.	2.1	128
10	Critical and noncritical jamming of frictional grains. <i>Physical Review E</i> , 2007, 75, 020301.	2.1	126
11	Dynamical velocity selection: Marginal stability. <i>Physical Review Letters</i> , 1987, 58, 2571-2574.	7.8	123
12	Propagation and structure of planar streamer fronts. <i>Physical Review E</i> , 1997, 55, 1530-1549.	2.1	115
13	Experimental test of a fluctuation-induced first-order phase transition: The nematic-smectic-A transition. <i>Physical Review A</i> , 1990, 41, 6749-6762.	2.5	101
14	Force mobilization and generalized isostaticity in jammed packings of frictional grains. <i>Physical Review E</i> , 2007, 75, 010301.	2.1	96
15	Subcritical Finite-Amplitude Solutions for Plane Couette Flow of Viscoelastic Fluids. <i>Physical Review Letters</i> , 2005, 95, 024501.	7.8	82
16	Jammed frictionless disks: Connecting local and global response. <i>Physical Review E</i> , 2009, 80, 061307.	2.1	81
17	Dynamical test of phase transition order. <i>Physical Review Letters</i> , 1989, 62, 1764-1767.	7.8	75
18	Sources, sinks and wavenumber selection in coupled CGL equations and experimental implications for counter-propagating wave systems. <i>Physica D: Nonlinear Phenomena</i> , 1999, 134, 1-47.	2.8	73

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19	Universal Algebraic Relaxation of Fronts Propagating into an Unstable State and Implications for Moving Boundary Approximations. <i>Physical Review Letters</i> , 1998, 80, 1650-1653.	7.8	66
20	Streamer Propagation as a Pattern Formation Problem: Planar Fronts. <i>Physical Review Letters</i> , 1996, 77, 4178-4181.	7.8	62
21	Intrinsic Route to Melt Fracture in Polymer Extrusion: A Weakly Nonlinear Subcritical Instability of Viscoelastic Poiseuille Flow. <i>Physical Review Letters</i> , 2003, 90, 024502.	7.8	57
22	Subdiffusive fluctuations of "pulled" fronts with multiplicative noise. <i>Physical Review E</i> , 2000, 62, R13-R16.	2.1	56
23	Three basic issues concerning interface dynamics in nonequilibrium pattern formation. <i>Physics Reports</i> , 1998, 301, 9-43.	25.6	55
24	Interface Hamiltonians and bulk critical behavior. <i>Physical Review B</i> , 1985, 32, 233-246.	3.2	52
25	Experimental Evidence for an Intrinsic Route to Polymer Melt Fracture Phenomena: A Nonlinear Instability of Viscoelastic Poiseuille Flow. <i>Physical Review Letters</i> , 2003, 90, 114502.	7.8	52
26	Weakly nonlinear subcritical instability of visco-elastic Poiseuille flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2004, 116, 235-268.	2.4	52
27	Morphological instability and dynamics of fronts in bacterial growth models with nonlinear diffusion. <i>Physical Review E</i> , 2002, 65, 061111.	2.1	48
28	Surface Undulations in Explosive Crystallization: A Thermal Instability. <i>Physical Review Letters</i> , 1983, 51, 1046-1049.	7.8	44
29	Front propagation in self-sustained and laser-driven explosive crystal growth: Stability analysis and morphological aspects. <i>Physical Review B</i> , 1984, 30, 1398-1415.	3.2	41
30	Charged domain walls as quantum strings on a lattice. <i>Physical Review B</i> , 1998, 58, 6963-6981.	3.2	41
31	Mechanism of Polymer Drag Reduction Using a Low-Dimensional Model. <i>Physical Review Letters</i> , 2006, 97, 234501.	7.8	40
32	Collective oscillations in bubble clouds. <i>Journal of Fluid Mechanics</i> , 2011, 680, 114-149.	3.4	36
33	Breakdown of the standard perturbation theory and moving boundary approximation for "pulled" fronts. <i>Physics Reports</i> , 2000, 337, 139-156.	25.6	34
34	Fluctuation and Relaxation Properties of Pulled Fronts: A Scenario for Nonstandard Kardar-Parisi-Zhang Scaling. <i>Physical Review Letters</i> , 2000, 85, 3556-3559.	7.8	32
35	Front propagation into unstable and metastable states in smectic-C* liquid crystals: Linear and nonlinear marginal-stability analysis. <i>Physical Review E</i> , 1995, 52, 1773-1777.	2.1	31
36	Directional solidification cells with grooves for a small partition coefficient. <i>Physical Review A</i> , 1989, 39, 2772-2775.	2.5	27

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37	Lateral instabilities of cubic autocatalytic reaction fronts in a constant electric field. <i>Journal of Chemical Physics</i> , 1999, 111, 10964-10968.	3.0	26
38	Stability and shapes of cellular profiles in directional solidification: expansion and matching methods. <i>Journal of Crystal Growth</i> , 1991, 112, 244-282.	1.5	25
39	Sources and sinks separating domains of left- and right-traveling waves: Experiment versus amplitude equations. <i>Physical Review E</i> , 1997, 56, R1306-R1309.	2.1	24
40	Diffusion coefficient of propagating fronts with multiplicative noise. <i>Physical Review E</i> , 2001, 65, 012102.	2.1	23
41	Localization behavior of vibrational modes in granular packings. <i>Europhysics Letters</i> , 2008, 83, 44001.	2.0	23
42	Coherent and Incoherent Drifting Pulse Dynamics in a Complex Ginzburg-Landau Equation. <i>Physical Review Letters</i> , 1995, 75, 3830-3833.	7.8	22
43	Universality Class of Fluctuating Pulled Fronts. <i>Physical Review Letters</i> , 2001, 86, 5215-5218.	7.8	22
44	Probing a subcritical instability with an amplitude expansion: An exploration of how far one can get. <i>Physica D: Nonlinear Phenomena</i> , 2009, 238, 1827-1840.	2.8	20
45	Boundary-Layer Formulation of Dendritic Growth: Existence of a Family of Steady-State Needle Solutions. <i>Physical Review Letters</i> , 1985, 55, 1685-1688.	7.8	19
46	Weakly pushed nature of "pulled" fronts with a cutoff. <i>Physical Review E</i> , 2002, 65, 057202.	2.1	19
47	Scaling of singular structures in extensional flow of dilute polymer solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2008, 153, 183-190.	2.4	18
48	Consistency of capillary wave theory in three dimensions: Divergence of the interface width and agreement with density functional theory. <i>Journal of Chemical Physics</i> , 1989, 91, 6494-6504.	3.0	17
49	Stress singularities and the formation of birefringent strands in stagnation flows of dilute polymer solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 157, 126-132.	2.4	16
50	Convection in rotating annuli: Ginzburg-Landau equations with tunable coefficients. <i>Physical Review E</i> , 1997, 55, R1259-R1262.	2.1	15
51	Subcritical Instabilities in Plane Poiseuille Flow of an Oldroyd-B Fluid. <i>Journal of Statistical Physics</i> , 2019, 175, 554-577.	1.2	15
52	Fronts with a growth cutoff but with speed higher than the linear spreading speed. <i>Physical Review E</i> , 2002, 66, 015206.	2.1	14
53	Modeling viscoelastic flow with discrete methods. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 362, 93-97.	2.6	14
54	Implications of the Triezenberg-Zwanzig surface tension formula for models of interface structure. <i>The Journal of Physical Chemistry</i> , 1989, 93, 6969-6975.	2.9	13

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55	Simple method for calculating the speed of sound in tight-binding models: Application to the Su-Schrieffer-Heeger model. <i>Physical Review B</i> , 1996, 53, R5986-R5989.	3.2	13
56	Su-Schrieffer-Heeger model applied to chains of finite length. <i>Physical Review B</i> , 1996, 53, 14922-14928.	3.2	12
57	Sources and holes in a one-dimensional traveling-wave convection experiment. <i>Physical Review E</i> , 2003, 67, 036305.	2.1	11
58	Local contact numbers in two-dimensional packings of frictional disks. <i>Soft Matter</i> , 2010, 6, 2935.	2.7	10
59	Stability of cellular patterns in directional solidification. <i>Physical Review A</i> , 1990, 42, 5056-5059.	2.5	9
60	Fluctuating pulled fronts: The origin and the effects of a finite particle cutoff. <i>Physical Review E</i> , 2002, 66, 036206.	2.1	9
61	Universal algebraic relaxation of velocity and phase in pulled fronts generating periodic or chaotic states. <i>Physical Review E</i> , 2000, 61, R6063-R6066.	2.1	8
62	Coherent structures in dissipative particle dynamics simulations of the transition to turbulence in compressible shear flows. <i>Physical Review E</i> , 2008, 78, 015701.	2.1	8
63	Boundary-layer approaches to dendritic growth. <i>Physical Review A</i> , 1987, 35, 3001-3023.	2.5	7
64	Universal algebraic convergence in time of pulled fronts: the common mechanism for difference-differential and partial differential equations. <i>European Journal of Applied Mathematics</i> , 2002, 13, 53-66.	2.9	7
65	Front propagation and diffusion in the A \rightarrow A \rightarrow A \rightarrow A hard-core reaction on a chain. <i>Physical Review E</i> , 2003, 67, 046206.	2.1	7
66	Asymptotic expansion of the full nonlocal solidification problem. <i>Physical Review A</i> , 1987, 35, 2288-2292.	2.5	6
67	Gas of elastic quantum strings in 2+1 dimensions: Finite temperatures. <i>Physical Review B</i> , 2001, 64, .	3.2	6
68	Pattern forming pulled fronts: bounds and universal convergence. <i>Physica D: Nonlinear Phenomena</i> , 2004, 199, 13-32.	2.8	6
69	Local coulomb versus global failure criterion for granular packings. <i>Soft Matter</i> , 2010, 6, 2939.	2.7	5
70	Physics of heat flow in the tails of needle crystals. <i>Physical Review A</i> , 1987, 35, 2357-2360.	2.5	4
71	Evidence for slow velocity relaxation in front propagation in Rayleigh-Bénard convection. <i>Physica D: Nonlinear Phenomena</i> , 2003, 174, 168-175.	2.8	4
72	Front Propagation into Unstable States: Some Recent Developments and Surprises. <i>NATO ASI Series Series B: Physics</i> , 1990, , 499-508.	0.2	2

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73	Exact differential renormalization group equations for Ising models on square lattices. Physica A: Statistical Mechanics and Its Applications, 1982, 112, 65-100.	2.6	1
74	Use of the star-triangle transformation for the application of differential real-space renormalization-group theory. Physical Review B, 1983, 27, 5678-5685.	3.2	0
75	Indications of microscopic solvability from counting arguments. Physical Review A, 1988, 37, 230-234.	2.5	0
76	Subcritical Instabilities in Plane Couette Flow of Visco-Elastic Fluids. Fluid Mechanics and Its Applications, 2005, , 313-330.	0.2	0
77	Cellular Profiles in Directional Solidification: Is the Saffman-Taylor Branch of Solutions the Physically Relevant One?. NATO ASI Series Series B: Physics, 1991, , 157-165.	0.2	0