

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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docs citations

77
times ranked

2588
citing authors

#	ARTICLE	IF	CITATIONS
1	Subcritical Instabilities in Plane Poiseuille Flow of an Oldroyd-B Fluid. <i>Journal of Statistical Physics</i> , 2019, 175, 554-577.	1.2	15
2	Collective oscillations in bubble clouds. <i>Journal of Fluid Mechanics</i> , 2011, 680, 114-149.	3.4	36
3	Local contact numbers in two-dimensional packings of frictional disks. <i>Soft Matter</i> , 2010, 6, 2935.	2.7	10
4	Local coulomb versus global failure criterion for granular packings. <i>Soft Matter</i> , 2010, 6, 2939.	2.7	5
5	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
6	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
7	Jammed frictionless disks: Connecting local and global response. <i>Physical Review E</i> , 2009, 80, 061307.	2.1	81
8	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
9	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
10	Localization behavior of vibrational modes in granular packings. <i>Europhysics Letters</i> , 2008, 83, 44001.	2.0	23
11	Critical and noncritical jamming of frictional grains. <i>Physical Review E</i> , 2007, 75, 020301.	2.1	126
12	Force mobilization and generalized isostaticity in jammed packings of frictional grains. <i>Physical Review E</i> , 2007, 75, 010301.	2.1	96
13	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
14	Modeling viscoelastic flow with discrete methods. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 362, 93-97.	2.6	14
15	Critical Scaling in Linear Response of Frictionless Granular Packings near Jamming. <i>Physical Review Letters</i> , 2006, 97, 258001.	7.8	180
16	Mechanism of Polymer Drag Reduction Using a Low-Dimensional Model. <i>Physical Review Letters</i> , 2006, 97, 234501.	7.8	40
17	Subcritical Finite-Amplitude Solutions for Plane Couette Flow of Viscoelastic Fluids. <i>Physical Review Letters</i> , 2005, 95, 024501.	7.8	82
18	Elastic wave propagation in confined granular systems. <i>Physical Review E</i> , 2005, 72, 021301.	2.1	128

#	ARTICLE	IF	CITATIONS
19	Subcritical Instabilities in Plane Couette Flow of Visco-Elastic Fluids. Fluid Mechanics and Its Applications, 2005, , 313-330.	0.2	0
20	Weakly nonlinear subcritical instability of visco-elastic Poiseuille flow. Journal of Non-Newtonian Fluid Mechanics, 2004, 116, 235-268.	2.4	52
21	Pattern forming pulled fronts: bounds and universal convergence. Physica D: Nonlinear Phenomena, 2004, 199, 13-32.	2.8	6
22	Front propagation into unstable states. Physics Reports, 2003, 386, 29-222.	25.6	732
23	Evidence for slow velocity relaxation in front propagation in Rayleigh-Bénard convection. Physica D: Nonlinear Phenomena, 2003, 174, 168-175.	2.8	4
24	Front propagation and diffusion in the A \rightarrow B hard-core reaction on a chain. Physical Review E, 2003, 67, 046206.	2.1	7
25	Intrinsic Route to Melt Fracture in Polymer Extrusion: A Weakly Nonlinear Subcritical Instability of Viscoelastic Poiseuille Flow. Physical Review Letters, 2003, 90, 024502.	7.8	57
26	Sources and holes in a one-dimensional traveling-wave convection experiment. Physical Review E, 2003, 67, 036305.	2.1	11
27	Experimental Evidence for an Intrinsic Route to Polymer Melt Fracture Phenomena: A Nonlinear Instability of Viscoelastic Poiseuille Flow. Physical Review Letters, 2003, 90, 114502.	7.8	52
28	Weakly pushed nature of ϵ -pulled fronts with a cutoff. Physical Review E, 2002, 65, 057202.	2.1	19
29	Fluctuating pulled fronts: The origin and the effects of a finite particle cutoff. Physical Review E, 2002, 66, 036206.	2.1	9
30	Fronts with a growth cutoff but with speed higher than the linear spreading speed. Physical Review E, 2002, 66, 015206.	2.1	14
31	Universal algebraic convergence in time of pulled fronts: the common mechanism for difference-differential and partial differential equations. European Journal of Applied Mathematics, 2002, 13, 53-66.	2.9	7
32	Morphological instability and dynamics of fronts in bacterial growth models with nonlinear diffusion. Physical Review E, 2002, 65, 061111.	2.1	48
33	Diffusion coefficient of propagating fronts with multiplicative noise. Physical Review E, 2001, 65, 012102.	2.1	23
34	Gas of elastic quantum strings in $2+1$ dimensions: Finite temperatures. Physical Review B, 2001, 64, .	3.2	6
35	Universality Class of Fluctuating Pulled Fronts. Physical Review Letters, 2001, 86, 5215-5218.	7.8	22
36	Breakdown of the standard perturbation theory and moving boundary approximation for ϵ -pulled fronts. Physics Reports, 2000, 337, 139-156.	25.6	34

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37	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
38	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
39	Subdiffusive fluctuations of "pulled" fronts with multiplicative noise. <i>Physical Review E</i> , 2000, 62, R13-R16.	2.1	56
40	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
41	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
42	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
43	Three basic issues concerning interface dynamics in nonequilibrium pattern formation. <i>Physics Reports</i> , 1998, 301, 9-43.	25.6	55
44	Charged domain walls as quantum strings on a lattice. <i>Physical Review B</i> , 1998, 58, 6963-6981.	3.2	41
45	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
46	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
47	Propagation and structure of planar streamer fronts. <i>Physical Review E</i> , 1997, 55, 1530-1549.	2.1	115
48	Convection in rotating annuli: Ginzburg-Landau equations with tunable coefficients. <i>Physical Review E</i> , 1997, 55, R1259-R1262.	2.1	15
49	Streamer Propagation as a Pattern Formation Problem: Planar Fronts. <i>Physical Review Letters</i> , 1996, 77, 4178-4181.	7.8	62
50	Su-Schrieffer-Heeger model applied to chains of finite length. <i>Physical Review B</i> , 1996, 53, 14922-14928.	3.2	12
51	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
52	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
53	Coherent and Incoherent Drifting Pulse Dynamics in a Complex Ginzburg-Landau Equation. <i>Physical Review Letters</i> , 1995, 75, 3830-3833.	7.8	22
54	Fronts, pulses, sources and sinks in generalized complex Ginzburg-Landau equations. <i>Physica D: Nonlinear Phenomena</i> , 1992, 56, 303-367.	2.8	499

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55	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
56	Cellular Profiles in Directional Solidification: Is the Saffman-Taylor Branch of Solutions the Physically Relevant One?. <i>NATO ASI Series Series B: Physics</i> , 1991, , 157-165.	0.2	0
57	Stability of cellular patterns in directional solidification. <i>Physical Review A</i> , 1990, 42, 5056-5059.	2.5	9
58	Experimental test of a fluctuation-induced first-order phase transition: The nematic \rightarrow smectic-A transition. <i>Physical Review A</i> , 1990, 41, 6749-6762.	2.5	101
59	Front Propagation into Unstable States: Some Recent Developments and Surprises. <i>NATO ASI Series Series B: Physics</i> , 1990, , 499-508.	0.2	2
60	Directional solidification cells with grooves for a small partition coefficient. <i>Physical Review A</i> , 1989, 39, 2772-2775.	2.5	27
61	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
62	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
63	Dynamical test of phase transition order. <i>Physical Review Letters</i> , 1989, 62, 1764-1767.	7.8	75
64	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
65	Indications of microscopic solvability from counting arguments. <i>Physical Review A</i> , 1988, 37, 230-234.	2.5	0
66	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
67	Bistable Systems with Propagating Fronts Leading to Pattern Formation. <i>Physical Review Letters</i> , 1988, 60, 2641-2644.	7.8	233
68	Boundary-layer approaches to dendritic growth. <i>Physical Review A</i> , 1987, 35, 3001-3023.	2.5	7
69	Asymptotic expansion of the full nonlocal solidification problem. <i>Physical Review A</i> , 1987, 35, 2288-2292.	2.5	6
70	Physics of heat flow in the tails of needle crystals. <i>Physical Review A</i> , 1987, 35, 2357-2360.	2.5	4
71	Dynamical velocity selection: Marginal stability. <i>Physical Review Letters</i> , 1987, 58, 2571-2574.	7.8	123
72	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

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73	Interface Hamiltonians and bulk critical behavior. <i>Physical Review B</i> , 1985, 32, 233-246.	3.2	52
74	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
75	Surface Undulations in Explosive Crystallization: A Thermal Instability. <i>Physical Review Letters</i> , 1983, 51, 1046-1049.	7.8	44
76	Use of the star-triangle transformation for the application of differential real-space renormalization-group theory. <i>Physical Review B</i> , 1983, 27, 5678-5685.	3.2	0
77	Exact differential renormalization group equations for Ising models on square lattices. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1982, 112, 65-100.	2.6	1