

Jaume Casademunt

List of Publications by Year in descending order

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124
papers

3,395
citations

136885

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131
all docs

131
docs citations

131
times ranked

2410
citing authors

#	ARTICLE	IF	CITATIONS
1	Noise focusing and the emergence of coherent activity in neuronal cultures. <i>Nature Physics</i> , 2013, 9, 582-590.	6.5	161
2	Active wetting of epithelial tissues. <i>Nature Physics</i> , 2019, 15, 79-88.	6.5	148
3	Phase-field model for Hele-Shaw flows with arbitrary viscosity contrast. I. Theoretical approach. <i>Physical Review E</i> , 1999, 60, 1724-1733.	0.8	135
4	Viscous fingering as a paradigm of interfacial pattern formation: Recent results and new challenges. <i>Chaos</i> , 2004, 14, 809-824.	1.0	135
5	Active Turbulence. <i>Annual Review of Condensed Matter Physics</i> , 2022, 13, 143-170.	5.2	106
6	Collective Dynamics of Interacting Molecular Motors. <i>Physical Review Letters</i> , 2006, 97, 038101.	2.9	95
7	Experiments in a rotating Hele-Shaw cell. <i>Physical Review E</i> , 1996, 54, 6260-6267.	0.8	91
8	Universal scaling of active nematic turbulence. <i>Nature Physics</i> , 2020, 16, 682-688.	6.5	85
9	Low viscosity contrast fingering in a rotating Hele-Shaw cell. <i>Physics of Fluids</i> , 2004, 16, 908-924.	1.6	82
10	Dynamics of Turing Patterns under Spatiotemporal Forcing. <i>Physical Review Letters</i> , 2003, 90, 128301.	2.9	81
11	Coordination of Kinesin Motors Pulling on Fluid Membranes. <i>Biophysical Journal</i> , 2008, 94, 5009-5017.	0.2	74
12	Brownian Motion of Spiral Waves Driven by Spatiotemporal Structured Noise. <i>Physical Review Letters</i> , 2000, 84, 2734-2737.	2.9	73
13	Dynamical organization of the cytoskeletal cortex probed by micropipette aspiration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 15415-15420.	3.3	69
14	Selection mechanism at the onset of active turbulence. <i>Nature Physics</i> , 2019, 15, 362-366.	6.5	66
15	Phase-field model for Hele-Shaw flows with arbitrary viscosity contrast. II. Numerical study. <i>Physical Review E</i> , 1999, 60, 1734-1740.	0.8	65
16	Ballistic and diffusive corrections to front propagation in the presence of multiplicative noise. <i>Physical Review E</i> , 1998, 58, 5494-5500.	0.8	60
17	Spontaneous Motility of Actin Lamellar Fragments. <i>Physical Review Letters</i> , 2013, 110, 078102.	2.9	59
18	Active Fingering Instability in Tissue Spreading. <i>Physical Review Letters</i> , 2019, 122, 088104.	2.9	56

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19	Intrinsic noise-induced phase transitions: Beyond the noise interpretation. <i>Physical Review E</i> , 2003, 67, 046110.	0.8	54
20	External Fluctuations in Front Propagation. <i>Physical Review Letters</i> , 1996, 76, 3045-3048.	2.9	53
21	Wave Propagation in a Medium with Disordered Excitability. <i>Physical Review Letters</i> , 1998, 80, 5437-5440.	2.9	47
22	Traveling-Stripe Forcing Generates Hexagonal Patterns. <i>Physical Review Letters</i> , 2004, 93, 048303.	2.9	46
23	Perturbing Hele-Shaw flow with a small gap gradient. <i>Physical Review A</i> , 1992, 45, 2455-2460.	1.0	45
24	Relaxation from a marginal state in optical bistability. <i>Physical Review A</i> , 1989, 39, 149-156.	1.0	44
25	Study of the parametric oscillator driven by narrow-band noise to model the response of a fluid surface to time-dependent accelerations. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 3147-3161.	1.6	43
26	Nonlinear amplitude dynamics in flagellar beating. <i>Royal Society Open Science</i> , 2017, 4, 160698.	1.1	41
27	Relevance of dynamic wetting in viscous fingering patterns. <i>Physical Review E</i> , 2006, 74, 025302.	0.8	39
28	Nonlinear Saffman-Taylor Instability. <i>Physical Review Letters</i> , 2004, 92, 054501.	2.9	38
29	Model for Probing Membrane-Cortex Adhesion by Micropipette Aspiration and Fluctuation Spectroscopy. <i>Biophysical Journal</i> , 2015, 108, 1878-1886.	0.2	38
30	Self-Organization and Cooperativity of Weakly Coupled Molecular Motors under Unequal Loading. <i>Physical Review Letters</i> , 2009, 102, 118104.	2.9	36
31	Formation of metastable phases by spinodal decomposition. <i>Nature Communications</i> , 2016, 7, 13067.	5.8	36
32	Theory of pattern forming systems under traveling-wave forcing. <i>Physics Reports</i> , 2007, 447, 73-111.	10.3	34
33	Systematic weakly nonlinear analysis of radial viscous fingering. <i>Physical Review E</i> , 2003, 68, 026308.	0.8	33
34	Dynamics and Mechanical Stability of the Developing Dorsal Organizer of the Wing Imaginal Disc. <i>PLoS Computational Biology</i> , 2011, 7, e1002153.	1.5	32
35	Pattern formation and interface pinch-off in rotating Hele-Shaw flows: A phase-field approach. <i>Physical Review E</i> , 2009, 80, 056305.	0.8	30
36	Relaxation times of non-Markovian processes. <i>Physical Review A</i> , 1987, 35, 5183-5190.	1.0	29

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37	Bifurcations and chaos in single-roll natural convection with low Prandtl number. <i>Physics of Fluids</i> , 2005, 17, 104108.	1.6	28
38	Dynamics and selection of fingering patterns. Recent developments in the Saffmanâ€“Taylor problem. <i>Physics Reports</i> , 2000, 337, 1-35.	10.3	27
39	Kinetic Roughening in Two-Phase Fluid Flow through a Random Hele-Shaw Cell. <i>Physical Review Letters</i> , 2003, 90, 144504.	2.9	27
40	Decay of unstable states in the presence of colored noise and random initial conditions. I. Theory of nonlinear relaxation times. <i>Physical Review A</i> , 1989, 40, 5905-5914.	1.0	26
41	Landscape-Inversion Phase Transition in Dipolar Colloids: Tuning the Structure and Dynamics of 2D Crystals. <i>Physical Review Letters</i> , 2014, 113, 198301.	2.9	25
42	Role of Substrate Stiffness in Tissue Spreading: Wetting Transition and Tissue Durotaxis. <i>Langmuir</i> , 2019, 35, 7571-7577.	1.6	25
43	Experimental Study of a Microchannel Bubble Injector for Microgravity Applications. <i>Microgravity Science and Technology</i> , 2009, 21, 107-111.	0.7	24
44	Stability of a fluid surface in a microgravity environment. <i>AIAA Journal</i> , 1993, 31, 2027-2032.	1.5	23
45	Diffusion coefficient of propagating fronts with multiplicative noise. <i>Physical Review E</i> , 2001, 65, 012102.	0.8	23
46	Defect dynamics in viscous fingering. <i>Physical Review Letters</i> , 1991, 67, 3677-3680.	2.9	22
47	Pattern formation during mesophase growth in a homologous series. <i>Physical Review E</i> , 1996, 54, 1574-1583.	0.8	22
48	Interface dynamics in Hele-Shaw flows with centrifugal forces: Preventing cusp singularities with rotation. <i>Physical Review E</i> , 2000, 62, R5887-R5890.	0.8	22
49	Universality Class of Fluctuating Pulled Fronts. <i>Physical Review Letters</i> , 2001, 86, 5215-5218.	2.9	22
50	Cooperative Force Generation of KIF1A Brownian Motors. <i>Physical Review Letters</i> , 2013, 111, 048103.	2.9	21
51	Formation of helical membrane tubes around microtubules by single-headed kinesin KIF1A. <i>Nature Communications</i> , 2015, 6, 8025.	5.8	21
52	Intensity correlation functions of dye lasers: Comparison of colored-gain-noise and colored-loss-noise models. <i>Physical Review A</i> , 1991, 44, 2094-2101.	1.0	20
53	Theory for correlation functions of processes driven by external colored noise. <i>Physical Review A</i> , 1991, 43, 1744-1753.	1.0	20
54	Systematic weakly nonlinear analysis of interfacial instabilities in Hele-Shaw flows. <i>Physical Review E</i> , 2001, 64, 016302.	0.8	20

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55	Coarsening of solid-liquid mixtures in a random acceleration field. <i>Physics of Fluids</i> , 1997, 9, 1336-1343.	1.6	19
56	Probing Elastic Anisotropy from Defect Dynamics in Langmuir Monolayers. <i>Physical Review Letters</i> , 2008, 100, 037801.	2.9	19
57	NLRT formalism for transient stochastic dynamics. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1989, 156, 628-650.	1.2	18
58	Phase-field simulations and experiments of faceted growth in liquid crystals. <i>Physica D: Nonlinear Phenomena</i> , 1996, 99, 359-368.	1.3	18
59	Wave competition in excitable modulated media. <i>Physical Review E</i> , 1997, 56, 6298-6301.	0.8	18
60	Heat diffusion anisotropy in dendritic growth. <i>Journal of Crystal Growth</i> , 1998, 193, 712-719.	0.7	18
61	Scaling Regimes of Active Turbulence with External Dissipation. <i>Physical Review X</i> , 2021, 11, .	2.8	18
62	Travelling-stripe forcing of Turing patterns. <i>Physica D: Nonlinear Phenomena</i> , 2004, 199, 235-242.	1.3	17
63	Cooperativity of self-organized Brownian motors pulling on soft cargoes. <i>Physical Review E</i> , 2010, 82, 061903.	0.8	17
64	Bleb Nucleation through Membrane Peeling. <i>Physical Review Letters</i> , 2016, 116, 068101.	2.9	17
65	Characteristic times of relaxation processes. Unstable state. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1988, 133, 364-368.	0.9	16
66	Surface tension and dynamics of fingering patterns. <i>Physical Review E</i> , 1998, 57, R3707-R3710.	0.8	16
67	Sidebranching induced by external noise in solutal dendritic growth. <i>Physical Review E</i> , 2001, 63, 051602.	0.8	16
68	Generation of a Monodisperse Microbubble Jet in Microgravity. <i>AIAA Journal</i> , 2008, 46, 2010-2019.	1.5	16
69	Characterization of the performance of a minibubble generator in conditions relevant to microgravity. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2010, 365, 52-55.	2.3	16
70	Fluidization and Active Thinning by Molecular Kinetics in Active Gels. <i>Physical Review Letters</i> , 2017, 118, 088002.	2.9	16
71	Percolation thresholds in chemical disordered excitable media. <i>Physical Review E</i> , 1998, 58, R1183-R1186.	0.8	15
72	Mixed-order phase transition in a colloidal crystal. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 12906-12909.	3.3	15

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73	Finger competition and viscosity contrast in viscous fingering. A topological approach. Physica D: Nonlinear Phenomena, 1994, 79, 387-408.	1.3	14
74	Cavity flow induced by a fluctuating acceleration field. Physics of Fluids, 1995, 7, 292-301.	1.6	13
75	Viscous fingering in liquid crystals: Anisotropy and morphological transitions. Physical Review E, 2000, 61, 6632-6638.	0.8	13
76	Motility and morphodynamics of confined cells. Physical Review E, 2020, 101, 022404.	0.8	13
77	Decay of unstable states in the presence of colored noise and random initial conditions. II. Analog experiments and digital simulations. Physical Review A, 1989, 40, 5915-5921.	1.0	12
78	Kinematic reduction of reaction-diffusion fronts with multiplicative noise: Derivation of stochastic sharp-interface equations. Physical Review E, 2002, 65, 056116.	0.8	12
79	INTERFACE EQUATION AND VISCOSITY CONTRAST IN HELE-SHAW FLOW. International Journal of Modern Physics B, 1992, 06, 1647-1656.	1.0	11
80	Morphology and growth of polarized tissues. European Physical Journal E, 2014, 37, 41.	0.7	11
81	A Brownian Ratchet Model Explains the Biased Sidestepping of Single-Headed Kinesin-3 KIF1A. Biophysical Journal, 2019, 116, 2266-2274.	0.2	11
82	Transient and preparation colored-noise effects: The nonlinear relaxation-time approach. Physical Review A, 1989, 39, 4915-4918.	1.0	10
83	Pattern and velocity selection of fronts propagating in modulated media. Europhysics Letters, 1996, 33, 429-434.	0.7	10
84	Effects of small surface tension in Hele-Shaw multifinger dynamics: An analytical and numerical study. Physical Review E, 2002, 66, 046205.	0.8	10
85	Subharmonic oscillations of collective molecular motors. Europhysics Letters, 2014, 107, 18002.	0.7	10
86	Dynamics of finger arrays in a diffusion-limited growth model with a drift. Physica D: Nonlinear Phenomena, 2002, 164, 127-151.	1.3	9
87	Pinch-off singularities in rotating Hele-Shaw flows at high viscosity contrast. Physical Review E, 2009, 80, 056306.	0.8	9
88	Correlation functions near instabilities in systems driven by parametric noise. European Physical Journal B, 1989, 76, 403-411.	0.6	8
89	Front propagation in spatially modulated media. Physical Review E, 1997, 56, 5405-5412.	0.8	7
90	Comment on "Selection of the Saffman-Taylor Finger Width in the Absence of Surface Tension: An Exact Result". Physical Review Letters, 1998, 81, 5950-5950.	2.9	7

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91	Two-finger selection theory in the Saffman-Taylor problem. <i>Physical Review E</i> , 1999, 60, R5013-R5016.	0.8	7
92	Periodic forcing in viscous fingering of a nematic liquid crystal. <i>Physical Review E</i> , 2001, 64, 056225.	0.8	7
93	Dynamical systems approach to Saffman-Taylor fingering: Dynamical solvability scenario. <i>Physical Review E</i> , 2002, 65, 056213.	0.8	7
94	Dynamics of Domain Walls in Pattern Formation with Traveling-Wave Forcing. <i>Physical Review Letters</i> , 2007, 99, 028302.	2.9	7
95	Exploring topological singularities with phase-field methods. <i>European Physical Journal Plus</i> , 2011, 126, 1.	1.2	7
96	Pattern forming instabilities of the nematic smectic-B interface. <i>Physics Reports</i> , 2000, 337, 37-65.	10.8	6
97	Dynamic stability of spindles controlled by molecular motor kinetics. <i>Europhysics Letters</i> , 2008, 81, 48003.	0.7	6
98	Collective durotaxis of cohesive cell clusters on a stiffness gradient. <i>European Physical Journal E</i> , 2022, 45, 7.	0.7	6
99	Cooperative action of KIF1A Brownian motors with finite dwell time. <i>Physical Review E</i> , 2014, 89, 032722.	0.8	5
100	Turbulent Bubble Jets in Microgravity. Spatial Dispersion and Velocity Fluctuations. <i>Microgravity Science and Technology</i> , 2015, 27, 207-220.	0.7	5
101	Generation and control of monodisperse bubble suspensions in microgravity. <i>Aerospace Science and Technology</i> , 2018, 77, 344-352.	2.5	5
102	Bubble Dynamics in Turbulent Duct Flows: Lattice-Boltzmann Simulations and Drop Tower Experiments. <i>Microgravity Science and Technology</i> , 2018, 30, 525-534.	0.7	5
103	Relaxation times in the presence of external dichotomous noise. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1987, 123, 271-275.	0.9	4
104	Numerical Studies of Fluid Flow in Microgravity Conditions for Confined Crystal Growth. <i>Astrophysics and Space Science</i> , 2001, 276, 135-140.	0.5	4
105	Intrinsic oscillations of polymerizing antiparallel microtubules in a motor bath. <i>Europhysics Letters</i> , 2012, 98, 68005.	0.7	4
106	Noise focusing in neuronal tissues: Symmetry breaking and localization in excitable networks with quenched disorder. <i>Physical Review E</i> , 2017, 95, 052304.	0.8	4
107	Linear relaxation times of stochastic processes driven by non-Gaussian noises. <i>Journal of Statistical Physics</i> , 1989, 56, 911-929.	0.5	3
108	Propagating fronts in reaction-diffusion systems. <i>Journal of Mathematical Chemistry</i> , 1998, 23, 239-260.	0.7	3

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109	Impact of stochastic accelerations on dopant segregation in microgravity semiconductor crystal growth. <i>Journal of Crystal Growth</i> , 2012, 355, 88-100.	0.7	3
110	Fluid front morphologies in gap-modulated Hele-Shaw cells. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	3
111	Kinks in stripe forming systems under traveling wave forcing. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2005, 5, 1027-1042.	0.5	3
112	Growth of unstable interfaces in disordered media. <i>Physical Review E</i> , 1998, 57, 5754-5760.	0.8	2
113	EFFECTS OF A QUENCHED DISORDER ON WAVE PROPAGATION IN EXCITABLE MEDIA. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1999, 09, 2353-2361.	0.7	2
114	Stochastic Modeling of the Residual Acceleration Field in a Microgravity Environment. , 2001, 276, 123-133.		2
115	Reply to "Comment on "Two-finger selection theory in the Saffman-Taylor problem" . <i>Physical Review E</i> , 2001, 63, .	0.8	2
116	Stochastic quorum percolation and noise focusing in neuronal networks. <i>Europhysics Letters</i> , 2021, 133, 48002.	0.7	2
117	Non-linear relaxation time for stochastic processes driven by non-Gaussian noises. Decay of unstable states. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993, 195, 163-173.	1.2	1
118	Multiplicative white-noise-induced phase transitions: the role of the stochastic interpretation. , 2004, , .		0
119	Lorenz Kramer, in memoriam. <i>Physics Reports</i> , 2007, 447, 69-70.	10.3	0
120	The emergence of spontaneous activity in neuronal cultures. , 2013, , .		0
121	Controlled Generation of Vapor/Liquid Slug Flows by Local Boiling in Microgravity. <i>AIAA Journal</i> , 2020, 58, 4017-4027.	1.5	0
122	Unraveling the hidden complexity of quasideterministic ratchets: Random walks, graphs, and circle maps. <i>Physical Review E</i> , 2020, 101, 012203.	0.8	0
123	Numerical Studies of Fluid Flow in Microgravity Conditions for Confined Crystal Growth. , 2001, , 135-140.		0
124	Stochastic Modeling of the Residual Acceleration Field in a Microgravity Environment. , 2001, , 123-133.		0