Julien Tailleur

List of Publications by Year
in descending order

68 papers	7,047 citations	87888 38 h-index	106344 65 g-index
69 all docs	69 docs citations	69 times ranked	2702 citing authors

#	Article	IF	Citations
1	Time irreversibility in active matter, from micro to macro. Nature Reviews Physics, 2022, 4, 167-183.	26.6	51
2	Disordered boundaries destroy bulk phase separation in scalar active matter. Physical Review E, 2022, 105, 044603.	2.1	12
3	Susceptibility of Polar Flocks to Spatial Anisotropy. Physical Review Letters, 2022, 128, .	7.8	13
4	Anomalous Transport of Tracers in Active Baths. Physical Review Letters, 2022, 129, .	7.8	28
5	Disorder-Induced Long-Ranged Correlations in Scalar Active Matter. Physical Review Letters, 2021, 126, 048003.	7.8	22
6	Statistical mechanics of active Ornstein-Uhlenbeck particles. Physical Review E, 2021, 103, 032607.	2.1	107
7	Fluctuation-Induced Phase Separation in Metric and Topological Models of Collective Motion. Physical Review Letters, 2021, 126, 148001.	7.8	18
8	Kinetic MonteÂCarlo Algorithms for Active Matter Systems. Physical Review Letters, 2021, 127, 150602.	7.8	5
9	Lamellar to Micellar Phases and Beyond: When Tactic Active Systems Admit Free Energy Functionals. Physical Review Letters, 2020, 125, 208003.	7.8	17
10	Cooperative pattern formation in multi-component bacterial systems through reciprocal motility regulation. Nature Physics, 2020, 16, 1152-1157.	16.7	44
11	Surface Tensions between Active Fluids and Solid Interfaces: Bare vs Dressed. Physical Review Letters, 2020, 124, 248003.	7.8	19
12	An alternative mechanism of early nodal clustering and myelination onset in GABAergic neurons of the central nervous system. Glia, 2020, 68, 1891-1909.	4.9	15
13	Focus on Active Colloids and Nanoparticles. New Journal of Physics, 2020, 22, 060201.	2.9	1
14	Distribution of active forces in the cell cortex. Soft Matter, 2019, 15, 6952-6966.	2.7	7
15	Activated Escape of a Self-Propelled Particle from a Metastable State. Physical Review Letters, 2019, 122, 258001.	7.8	59
16	Freezing a Flock: Motility-Induced Phase Separation in Polar Active Liquids. Physical Review X, 2019, 9, .	8.9	53
17	Optimizing active work: Dynamical phase transitions, collective motion, and jamming. Physical Review E, 2019, 99, 022605.	2.1	73
18	Generalized thermodynamics of phase equilibria in scalar active matter. Physical Review E, 2018, 97, 020602.	2.1	112

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19	Mechanical pressure and momentum conservation in dry active matter. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 044003.	2.1	57
20	Generalized thermodynamics of motility-induced phase separation: phase equilibria, Laplace pressure, and change of ensembles. New Journal of Physics, 2018, 20, 075001.	2.9	115
21	Sedimentation of self-propelled Janus colloids: polarization and pressure. New Journal of Physics, 2018, 20, 115001.	2.9	33
22	Non-Gaussian noise without memory in active matter. Physical Review E, 2018, 98, .	2.1	21
23	Exact Hydrodynamic Description of Active Lattice Gases. Physical Review Letters, 2018, 120, 268003.	7.8	57
24	Optimized Diffusion of Run-and-Tumble Particles in Crowded Environments. Physical Review Letters, 2018, 120, 198103.	7.8	49
25	Active depinning of bacterial droplets: The collective surfing of Bacillus subtilis. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5958-5963.	7.1	28
26	Reply to KovÃ¡cs et al.: Surfing or sliding: The act of naming and its implications. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8803-E8804.	7.1	1
27	Impact of a mechanical shear stress on intracellular trafficking. Soft Matter, 2017, 13, 5298-5306.	2.7	2
28	Entropy Production in Field Theories without Time-Reversal Symmetry: Quantifying the Non-Equilibrium Character of Active Matter. Physical Review X, 2017, 7, .	8.9	117
29	Active Particles with Soft and Curved Walls: Equation of State, Ratchets, and Instabilities. Physical Review Letters, 2016, 117, 098001.	7.8	132
30	How Far from Equilibrium Is Active Matter?. Physical Review Letters, 2016, 117, 038103.	7.8	429
31	Lyapunov exponents of stochastic systemsâ€”from micro to macro. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 034001.	2.3	1
32	Multilane driven diffusive systems. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 095601.	2.1	12
33	Flocking with discrete symmetry: The two-dimensional active Ising model. Physical Review E, 2015, 92, 042119.	2.1	47
34	Pattern formation in flocking models: A hydrodynamic description. Physical Review E, 2015, 92, 062111.	2.1	46
35	Motility-Induced Phase Separation. Annual Review of Condensed Matter Physics, 2015, 6, 219-244.	14.5	1,045
36	From Phase to Microphase Separation in Flocking Models: The Essential Role of Nonequilibrium Fluctuations. Physical Review Letters, 2015, 114, 068101.	7.8	156

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37	Pressure and Phase Equilibria in Interacting Active Brownian Spheres. Physical Review Letters, 2015, 114, 198301.	7.8	268
38	Pressure is not a state function for generic activeÂfluids. Nature Physics, 2015, 11, 673-678.	16.7	356
39	Large-scale fluctuations of the largest Lyapunov exponent in diffusive systems. Europhysics Letters, 2015, 110, 10006.	2.0	4
40	Active brownian particles and run-and-tumble particles: A comparative study. European Physical Journal: Special Topics, 2015, 224, 1231-1262.	2.6	195
41	Emergent Spatial Structures in Flocking Models: A Dynamical System Insight. Physical Review Letters, 2014, 112, 148102.	7.8	68
42	Revisiting the Flocking Transition Using Active Spins. Physical Review Letters, 2013, 111, 078101.	7.8	105
43	When are active Brownian particles and run-and-tumble particles equivalent? Consequences for motility-induced phase separation. Europhysics Letters, 2013, 101, 20010.	2.0	373
44	Large deviations of Lyapunov exponents. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 254002.	2.1	34
45	Pattern Formation in Self-Propelled Particles with Density-Dependent Motility. Physical Review Letters, 2012, 108, 248101.	7.8	227
46	Differential Dynamic Microscopy: A High-Throughput Method for Characterizing the Motility of Microorganisms. Biophysical Journal, 2012, 103, 1637-1647.	0.5	116
47	Differential Dynamic Microscopy of Bacterial Motility. Physical Review Letters, 2011, 106, 018101.	7.8	165
48	Simulating Rare Events in Dynamical Processes. Journal of Statistical Physics, 2011, 145, 787-811.	1.2	149
49	Phase diagrams of two-lane driven diffusive systems. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P06009.	2.3	38
50	Lattice models of nonequilibrium bacterial dynamics. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P02029.	2.3	102
51	Simulating structural transitions by direct transition current sampling: The example of LJ38. Journal of Chemical Physics, 2011, 135, 034108.	3.0	29
52	The role of noise and advection in absorbing state phase transitions. Europhysics Letters, 2010, 90, 16003.	2.0	3
53	Run-and-Tumble Particles with Hydrodynamics: Sedimentation, Trapping, and Upstream Swimming. Physical Review Letters, 2010, 104, 258101.	7.8	130
54	Arrested phase separation in reproducing bacteria creates a generic route to pattern formation. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 11715-11720.	7.1	241

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55	Zero-range processes with saturated condensation: the steady state and dynamics. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P02013.	2.3	9
56	First-order phase transitions from poles in asymptotic representations of partition functions. Physical Review E, 2010, 81, 030101.	2.1	8
57	Nonequilibrium Phase Transitions in the Extraction of Membrane Tubes by Molecular Motors. Physical Review Letters, 2009, 102, 118109.	7.8	29
58	Simulation of large deviation functions using population dynamics. , 2009, , .		21
59	Sedimentation, trapping, and rectification of dilute bacteria. Europhysics Letters, 2009, 86, 60002.	2.0	265
60	Mapping out-of-equilibrium into equilibrium in one-dimensional transport models. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 505001.	2.1	87
61	Statistical Mechanics of Interacting Run-and-Tumble Bacteria. Physical Review Letters, 2008, 100, 218103.	7.8	655
62	A numerical approach to large deviations in continuous time. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P03004-P03004.	2.3	109
63	Mapping Nonequilibrium onto Equilibrium: The Macroscopic Fluctuations of Simple Transport Models. Physical Review Letters, 2007, 99, 150602.	7.8	53
64	Probing rare physical trajectories with Lyapunov weighted dynamics. Nature Physics, 2007, 3, 203-207.	16.7	104
65	Kramers Equation and Supersymmetry. Journal of Statistical Physics, 2006, 122, 557-595.	1.2	27
66	MAPPING REACTION PATHS IN PHASE-SPACE. , 2006, , .		0
67	Dynamics of an unbounded interface between ordered phases. Physical Review E, 2004, 69, 026125.	2.1	11
68	Coherence-Preserving Trap Architecture for Long-Term Control of Giant Ryberg Atoms. Physical Review Letters, 2004, 93, 103001.	7.8	61