

Thomas Speck

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

105
papers

4,481
citations

35
h-index

65
g-index

114
ext. papers

5,075
ext. citations

4
avg, IF

6.29
L-index

#	Paper	IF	Citations
105	Efficiency of isothermal active matter engines: Strong driving beats weak driving.. <i>Physical Review E</i> , 2022 , 105, L012601	2.4	0
104	Predicting the Supramolecular Assembly of Amphiphilic Peptides from Comprehensive Coarse-Grained Simulations. <i>ACS Applied Polymer Materials</i> , 2022 , 4, 822-831	4.3	0
103	Hunting active Brownian particles: Learning optimal behavior.. <i>Physical Review E</i> , 2021 , 104, 054614	2.4	0
102	Modeling of biomolecular machines in non-equilibrium steady states.. <i>Journal of Chemical Physics</i> , 2021 , 155, 230901	3.9	1
101	Vorticity Determines the Force on Bodies Immersed in Active Fluids. <i>Physical Review Letters</i> , 2021 , 126, 138002	7.4	3
100	Critical behavior in active lattice models of motility-induced phase separation. <i>European Physical Journal E</i> , 2021 , 44, 53	1.5	6
99	High-order simulation scheme for active particles driven by stress boundary conditions. <i>Journal of Physics Condensed Matter</i> , 2021 , 33,	1.8	1
98	Multiscale modeling of structure formation of C on insulating CaF substrates. <i>Journal of Chemical Physics</i> , 2021 , 154, 234701	3.9	3
97	Modeling non-linear dielectric susceptibilities of supercooled molecular liquids. <i>Journal of Chemical Physics</i> , 2021 , 155, 014506	3.9	1
96	Rücktitelbild: Von geordneten zu mobilen Molekülen durch Kühlen (Angew. Chem. 35/2021). <i>Angewandte Chemie</i> , 2021 , 133, 19644-19644	3.6	
95	Mobilization upon Cooling. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 19117-19122	16.4	2
94	Coexistence of active Brownian disks: van der Waals theory and analytical results. <i>Physical Review E</i> , 2021 , 103, 012607	2.4	4
93	Von geordneten zu mobilen Molekülen durch Kühlen. <i>Angewandte Chemie</i> , 2021 , 133, 19265-19270	3.6	
92	Modeling of epitaxial film growth of C60 revisited. <i>Physical Review B</i> , 2020 , 101,	3.3	6
91	The 2020 motile active matter roadmap. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 193001	1.8	115
90	Dynamical coexistence in moderately polydisperse hard-sphere glasses. <i>Journal of Chemical Physics</i> , 2020 , 152, 014501	3.9	9
89	From scalar to polar active matter: Connecting simulations with mean-field theory. <i>Physical Review E</i> , 2020 , 101, 022602	2.4	11

88	Quorum-sensing active particles with discontinuous motility. <i>Physical Review E</i> , 2020 , 101, 012601	2.4	14
87	Collective forces in scalar active matter. <i>Soft Matter</i> , 2020 , 16, 2652-2663	3.6	22
86	Focus on Active Colloids and Nanoparticles. <i>New Journal of Physics</i> , 2020 , 22, 060201	2.9	1
85	Dynamical phase transitions and their relation to structural and thermodynamic aspects of glass physics. <i>Journal of Chemical Physics</i> , 2020 , 153, 090901	3.9	4
84	Devitrification of the Kob-Andersen glass former: Competition with the locally favored structure. <i>Journal of Physics: Conference Series</i> , 2019 , 1252, 012012	0.3	2
83	Spontaneous spatiotemporal ordering of shape oscillations enhances cell migration. <i>Soft Matter</i> , 2019 , 15, 4939-4946	3.6	2
82	Thermodynamic approach to the self-diffusiophoresis of colloidal Janus particles. <i>Physical Review E</i> , 2019 , 99, 060602	2.4	7
81	Classical nucleation theory for the crystallization kinetics in sheared liquids. <i>Physical Review E</i> , 2019 , 99, 062801	2.4	6
80	Dynamic facilitation theory: a statistical mechanics approach to dynamic arrest. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2019 , 2019, 084015	1.9	7
79	Modeling Supramolecular Polymerization: The Role of Steric Effects and Hydrophobic Interactions. <i>Macromolecules</i> , 2019 , 52, 7661-7667	5.5	8
78	Aggregation and sedimentation of active Brownian particles at constant affinity. <i>Journal of Chemical Physics</i> , 2019 , 150, 064910	3.9	6
77	Non-equilibrium Markov state modeling of periodically driven biomolecules. <i>Journal of Chemical Physics</i> , 2019 , 150, 054103	3.9	6
76	Three-body correlations and conditional forces in suspensions of active hard disks. <i>Physical Review E</i> , 2018 , 97, 012606	2.4	14
75	Structural-dynamical transition in the Wahnström mixture. <i>European Physical Journal E</i> , 2018 , 41, 54	1.5	10
74	Crystallization of hard spheres revisited. I. Extracting kinetics and free energy landscape from forward flux sampling. <i>Journal of Chemical Physics</i> , 2018 , 148, 124110	3.9	16
73	Dynamic coarse-graining fills the gap between atomistic simulations and experimental investigations of mechanical unfolding. <i>Journal of Chemical Physics</i> , 2018 , 148, 044109	3.9	4
72	Communication: Is directed percolation in colloid-polymer mixtures linked to dynamic arrest?. <i>Journal of Chemical Physics</i> , 2018 , 148, 241101	3.9	3
71	Self-organization of active particles by quorum sensing rules. <i>Nature Communications</i> , 2018 , 9, 3232	17.4	62

70	Active Brownian particles driven by constant affinity. <i>Europhysics Letters</i> , 2018 , 123, 20007	1.6	18
69	Crystallization of hard spheres revisited. II. Thermodynamic modeling, nucleation work, and the surface of tension. <i>Journal of Chemical Physics</i> , 2018 , 148, 224102	3.9	24
68	Unfolding dynamics of small peptides biased by constant mechanical forces. <i>Molecular Systems Design and Engineering</i> , 2018 , 3, 204-213	4.6	2
67	Dynamics of Binary Active Clusters Driven by Ion-Exchange Particles. <i>ACS Nano</i> , 2018 , 12, 10932-10938	16.7	23
66	Critical behavior of active Brownian particles. <i>Physical Review E</i> , 2018 , 98,	2.4	52
65	Highly controlled optical transport of cold atoms into a hollow-core fiber. <i>New Journal of Physics</i> , 2018 , 20, 083038	2.9	10
64	Coupling between criticality and gelation in "sticky" spheres: a structural analysis. <i>Soft Matter</i> , 2018 , 14, 5554-5564	3.6	14
63	Nonequilibrium Markov state modeling of the globule-stretch transition. <i>Physical Review E</i> , 2017 , 95, 012503	2.4	6
62	Phase behavior of active Brownian disks, spheres, and dimers. <i>Soft Matter</i> , 2017 , 13, 1020-1026	3.6	40
61	Thermodynamic formalism for transport coefficients with an application to the shear modulus and shear viscosity. <i>Journal of Chemical Physics</i> , 2017 , 146, 124130	3.9	4
60	Nonequilibrium depletion interactions in active microrheology. <i>Soft Matter</i> , 2017 , 13, 9093-9102	3.6	7
59	Estimation of the critical behavior in an active colloidal system with Vicsek-like interactions. <i>Journal of Chemical Physics</i> , 2017 , 146, 074901	3.9	10
58	Nonequilibrium Phase Transition in an Atomistic Glassformer: The Connection to Thermodynamics. <i>Physical Review X</i> , 2017 , 7,	9.1	26
57	Self-Assembly of Colloidal Molecules due to Self-Generated Flow. <i>Physical Review Letters</i> , 2017 , 119, 028001	7.4	50
56	Experimental Evidence for a Structural-Dynamical Transition in Trajectory Space. <i>Physical Review Letters</i> , 2017 , 119, 028004	7.4	35
55	Driven Brownian particle as a paradigm for a nonequilibrium heat bath: Effective temperature and cyclic work extraction. <i>Physical Review E</i> , 2017 , 95, 050103	2.4	13
54	Thermodynamic formalism and linear response theory for nonequilibrium steady states. <i>Physical Review E</i> , 2016 , 94, 022131	2.4	6
53	Collective behavior of active Brownian particles: From microscopic clustering to macroscopic phase separation. <i>European Physical Journal: Special Topics</i> , 2016 , 225, 2287-2299	2.3	38

52	Applicability of effective pair potentials for active Brownian particles. <i>European Physical Journal E</i> , 2016 , 39, 84	1.5	35
51	Ideal bulk pressure of active Brownian particles. <i>Physical Review E</i> , 2016 , 93, 062605	2.4	60
50	Collective Behavior of Quorum-Sensing Run-and-Tumble Particles under Confinement. <i>Physical Review Letters</i> , 2016 , 116, 058102	7.4	12
49	Stochastic thermodynamics for active matter. <i>Europhysics Letters</i> , 2016 , 114, 30006	1.6	77
48	Preface: Special Issue on Structure in Glassy and Jammed Systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2016 , 2016, 054045	1.9	
47	Gold Nanorods as Plasmonic Sensors for Particle Diffusion. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 4951-4955	6.4	17
46	Discontinuous thinning in active microrheology of soft complex matter. <i>Physical Review E</i> , 2016 , 94, 062610	1.0	5
45	Transmission of torque at the nanoscale. <i>Nature Physics</i> , 2016 , 12, 98-103	16.2	22
44	Nucleation pathway and kinetics of phase-separating active Brownian particles. <i>Soft Matter</i> , 2016 , 12, 5257-64	3.6	21
43	Polydisperse hard spheres: crystallization kinetics in small systems and role of local structure. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2016 , 2016, 084007	1.9	2
42	Finite-size scaling of charge carrier mobility in disordered organic semiconductors. <i>Physical Review B</i> , 2016 , 94,	3.3	16
41	Dynamical mean-field theory and weakly non-linear analysis for the phase separation of active Brownian particles. <i>Journal of Chemical Physics</i> , 2015 , 142, 224109	3.9	79
40	Active colloidal suspensions: Clustering and phase behavior. <i>Journal of Non-Crystalline Solids</i> , 2015 , 407, 367-375	3.9	105
39	Negative Interfacial Tension in Phase-Separated Active Brownian Particles. <i>Physical Review Letters</i> , 2015 , 115, 098301	7.4	112
38	The role of shear in crystallization kinetics: From suppression to enhancement. <i>Scientific Reports</i> , 2015 , 5, 14610	4.9	35
37	Cycle representatives for the coarse-graining of systems driven into a non-equilibrium steady state. <i>New Journal of Physics</i> , 2015 , 17, 115004	2.9	16
36	Effective Cahn-Hilliard Equation for the Phase Separation of Active Brownian Particles. <i>Physical Review Letters</i> , 2014 , 112,	7.4	184
35	Meta-work and the analogous Jarzynski relation in ensembles of dynamical trajectories. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2014 , 2014, P09017	1.9	3

34	Crystallization in a sheared colloidal suspension. <i>Journal of Chemical Physics</i> , 2013 , 138, 224907	3.9	24
33	Application of classical nucleation theory to the formation of adhesion domains. <i>Soft Matter</i> , 2013 , 9, 11197	3.6	2
32	Dynamical clustering and phase separation in suspensions of self-propelled colloidal particles. <i>Physical Review Letters</i> , 2013 , 110, 238301	7.4	711
31	Stochastic thermodynamics of fluctuating density fields: non-equilibrium free energy differences under coarse-graining. <i>Journal of Chemical Physics</i> , 2013 , 139, 204109	3.9	15
30	Microscopic theory for the phase separation of self-propelled repulsive disks. <i>Europhysics Letters</i> , 2013 , 103, 30008	1.6	185
29	Gaussian field theory for the Brownian motion of a solvated particle. <i>Physical Review E</i> , 2013 , 88, 014103	2.4	2
28	Crystallization in a dense suspension of self-propelled particles. <i>Physical Review Letters</i> , 2012 , 108, 168301	7.4	182
27	First-order phase transition in a model glass former: coupling of local structure and dynamics. <i>Physical Review Letters</i> , 2012 , 109, 195703	7.4	100
26	Constrained dynamics of localized excitations causes a non-equilibrium phase transition in an atomistic model of glass formers. <i>Journal of Chemical Physics</i> , 2012 , 136, 184509	3.9	55
25	Effective confinement as origin of the equivalence of kinetic temperature and fluctuation-dissipation ratio in a dense shear-driven suspension. <i>Physical Review E</i> , 2012 , 85, 021103	2.4	11
24	Random pinning limits the size of membrane adhesion domains. <i>Physical Review E</i> , 2012 , 86, 031923	2.4	18
23	The large deviation function for entropy production: the optimal trajectory and the role of fluctuations. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2012 , 2012, P12001	1.9	33
22	Work distribution for the driven harmonic oscillator with time-dependent strength: exact solution and slow driving. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011 , 44, 305001	2	28
21	Space-time phase transitions in driven kinetically constrained lattice models. <i>European Physical Journal B</i> , 2011 , 79, 1-6	1.2	20
20	Effective free energy for pinned membranes. <i>Physical Review E</i> , 2011 , 83, 050901	2.4	6
19	Driven Soft Matter: Entropy Production and the Fluctuation-Dissipation Theorem. <i>Progress of Theoretical Physics Supplement</i> , 2010 , 184, 248-261		10
18	Fluctuation-dissipation theorem in nonequilibrium steady states. <i>Europhysics Letters</i> , 2010 , 89, 10007	1.6	165
17	Specific adhesion of membranes: Mapping to an effective bond lattice gas. <i>Physical Review E</i> , 2010 , 82, 021923	2.4	24

16	Mobility and diffusion of a tagged particle in a driven colloidal suspension. <i>Europhysics Letters</i> , 2010 , 92, 58001	1.6	11
15	Extended fluctuation-dissipation theorem for soft matter in stationary flow. <i>Physical Review E</i> , 2009 , 79, 040102	2.4	44
14	Large deviation function for entropy production in driven one-dimensional systems. <i>Physical Review E</i> , 2008 , 78, 011123	2.4	53
13	Role of external flow and frame invariance in stochastic thermodynamics. <i>Physical Review Letters</i> , 2008 , 100, 178302	7.4	40
12	The Jarzynski relation, fluctuation theorems, and stochastic thermodynamics for non-Markovian processes. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007 , 2007, L09002-L09002	1.9	58
11	Entropy Production for Mechanically or Chemically Driven Biomolecules. <i>Journal of Statistical Physics</i> , 2007 , 128, 77-93	1.5	45
10	Distribution of entropy production for a colloidal particle in a nonequilibrium steady state. <i>Europhysics Letters</i> , 2007 , 79, 30002	1.6	60
9	Einstein relation generalized to nonequilibrium. <i>Physical Review Letters</i> , 2007 , 98, 210601	7.4	118
8	Characterizing potentials by a generalized Boltzmann factor. <i>Physical Review E</i> , 2007 , 75, 060101	2.4	40
7	Restoring a fluctuation-dissipation theorem in a nonequilibrium steady state. <i>Europhysics Letters</i> , 2006 , 74, 391-396	1.6	184
6	Measurement of stochastic entropy production. <i>Physical Review Letters</i> , 2006 , 97, 050602	7.4	89
5	Thermodynamics of a colloidal particle in a time-dependent nonharmonic potential. <i>Physical Review Letters</i> , 2006 , 96, 070603	7.4	246
4	Dissipated work in driven harmonic diffusive systems: General solution and application to stretching Rouse polymers. <i>European Physical Journal B</i> , 2005 , 43, 521-527	1.2	46
3	Integral fluctuation theorem for the housekeeping heat. <i>Journal of Physics A</i> , 2005 , 38, L581-L588		128
2	Experimental test of the fluctuation theorem for a driven two-level system with time-dependent rates. <i>Physical Review Letters</i> , 2005 , 94, 180602	7.4	119
1	Distribution of work in isothermal nonequilibrium processes. <i>Physical Review E</i> , 2004 , 70, 066112	2.4	69