Shin-ichi Sasa

List of Publications by Year
in descending order

78 papers	2,738 citations	304743 22 h-index	175258 52 g-index
78 all docs	78 docs citations	78 times ranked	1376 citing authors

#	Article	IF	Citations
1	Steady-State Thermodynamics of Langevin Systems. Physical Review Letters, 2001, 86, 3463-3466.	7.8	634
2	Kink soliton characterizing traffic congestion. Physical Review E, 1995, 52, 5574-5582.	2.1	305
3	Equality Connecting Energy Dissipation with a Violation of the Fluctuation-Response Relation. Physical Review Letters, 2005, 95, 130602.	7.8	268
4	Steady State Thermodynamics. Journal of Statistical Physics, 2006, 125, 125-224.	1.2	138
5	Complementarity Relation for Irreversible Process Derived from Stochastic Energetics. Journal of the Physical Society of Japan, 1997, 66, 3326-3328.	1.6	132
6	Steady-State Thermodynamics for Heat Conduction: Microscopic Derivation. Physical Review Letters, 2008, 100, 230602.	7.8	85
7	Fluctuation–response inequality out of equilibrium. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6430-6436.	7.1	84
8	Stochastic energetics of non-uniform temperature systems. Physica A: Statistical Mechanics and Its Applications, 2000, 276, 188-200.	2.6	73
9	Pattern Selection of Cracks in Directionally Drying Fracture. Japanese Journal of Applied Physics, 1997, 36, 391-395.	1.5	60
10	Entropic bounds on currents in Langevin systems. Physical Review E, 2018, 97, 062101.	2.1	58
11	Thermodynamic formula for the cumulant generating function of time-averaged current. Physical Review E, 2011, 84, 061113.	2.1	54
12	Representation of Nonequilibrium Steady States in Large Mechanical Systems. Journal of Statistical Physics, 2009, 134, 401-423.	1.2	47
13	Oscillatory instability of crack propagations in quasistatic fracture. Physical Review E, 1994, 50, R1733-R1736.	2.1	46
14	Nonequilibrium Dissipation-free Transport in F1-ATPase and the Thermodynamic Role of Asymmetric Allosterism. Biophysical Journal, 2014, 106, 2450-2457.	0.5	45
15	Void-Fraction Dynamics in Fluidization. Europhysics Letters, 1992, 17, 685-689.	2.0	40
16	Entropy and Nonlinear Nonequilibrium Thermodynamic Relation for Heat Conducting Steady States. Journal of Statistical Physics, 2011, 142, 127-153.	1.2	40
17	Derivation of Hydrodynamics from the Hamiltonian Description of Particle Systems. Physical Review Letters, 2014, 112, 100602.	7.8	38
18	Entropy Production of Nanosystems with Time Scale Separation. Physical Review Letters, 2016, 117, 070601.	7.8	32

#	ARTICLE	IF	CITATIONS
19	Anomalous pressure in fluctuating shear flow. Physical Review E, 2003, 67, 065302.	2.1	29
20	Criticality and Scaling Relations in a Sheared Granular Material. Journal of the Physical Society of Japan, 2007, 76, 023001.	1.6	29
21	Thermodynamic relations in a driven lattice gas: Numerical experiments. Physical Review E, 2003, 68, 035104.	2.1	26
22	The law of action and reaction for the effective force in a non-equilibrium colloidal system. Journal of Physics Condensed Matter, 2006, 18, 2825-2836.	1.8	25
23	Thermodynamic Entropy as a Noether Invariant. Physical Review Letters, 2016, 116, 140601.	7.8	22
24	Exact Equalities and Thermodynamic Relations for Nonequilibrium Steady States. Journal of Statistical Physics, 2015, 159, 1237-1285.	1.2	20
25	Linear response theory in stochastic many-body systems revisited. Physica A: Statistical Mechanics and Its Applications, 2006, 370, 407-429.	2.6	18
26	Geometric decomposition of entropy production in out-of-equilibrium systems. Physical Review Research, 2022, 4, .	3.6	18
27	Stability of phase-singular solutions to the one-dimensional complex Ginzburg-Landau equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 175, 289-294.	2.1	17
28	Liquid-Gas Transitions in Steady Heat Conduction. Physical Review Letters, 2017, 119, 260602.	7.8	17
29	Renormalization group derivation of phase equations. Physica D: Nonlinear Phenomena, 1997, 108, 45-59.	2.8	16
30	Finite-size effects in a mean-field kinetically constrained model: dynamical glassiness and quantum criticality. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P10001.	2.3	16
31	Nonequilibrium Statistical Mechanics for Adiabatic Piston Problem. Journal of Statistical Physics, 2015, 158, 37-56.	1.2	16
32	Replica Symmetry Breaking in Trajectories of a Driven Brownian Particle. Physical Review Letters, 2015, 115, 080605.	7.8	15
33	Thermodynamic Entropy and Excess Information Loss in Dynamical Systems with Time-Dependent Hamiltonians. Physical Review Letters, 1999, 82, 912-915.	7.8	13
34	Possible extended forms of thermodynamic entropy. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P01004.	2.3	13
35	Universal Form of Stochastic Evolution for Slow Variables in Equilibrium Systems. Journal of Statistical Physics, 2017, 167, 46-63.	1.2	13
36	Kinetic uncertainty relation on first-passage time for accumulated current. Physical Review E, 2021, 103, L050103.	2.1	13

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37	An order parameter equation for the dynamic yield stress in dense colloidal suspensions. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, L10004-L10004.	2.3	12
38	Fluctuations, responses and energetics of molecular motors. Mathematical Biosciences, 2007, 207, 365-386.	1.9	12
39	Collective dynamics from stochastic thermodynamics. New Journal of Physics, 2015, 17, 045024.	2.9	11
40	Statistical Mechanical Expressions of Slip Length. Journal of Statistical Physics, 2019, 176, 312-357.	1.2	11
41	Thermodynamic transition associated with irregularly ordered ground states in a lattice gas model. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 465002.	2.1	10
42	Long-Range Phase Order in Two Dimensions under Shear Flow. Physical Review Letters, 2021, 126, 160604.	7.8	10
43	Global Thermodynamics for Heat Conduction Systems. Journal of Statistical Physics, 2019, 177, 825-888.	1.2	9
44	Microscopic determination of macroscopic boundary conditions in Newtonian liquids. Physical Review E, 2019, 99, 013106.	2.1	9
45	Microscopic Theory of Fluctuating Hydrodynamics in Nonlinear Lattices. Physical Review Letters, 2021, 127, 010601.	7.8	9
46	Two Langevin equations in the Doi–Peliti formalism. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 125001.	2.1	8
47	Replica symmetry breaking in trajectory space for the trap model. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 125001.	2.1	8
48	Equilibrium Chemical Engines. Journal of the Physical Society of Japan, 1998, 67, 2666-2670.	1.6	7
49	Pure Glass in Finite Dimensions. Physical Review Letters, 2012, 109, 165702.	7.8	7
50	Macroscopically measurable force induced by temperature discontinuities at solid-gas interfaces. Physical Review E, 2014, 89, 052106.	2.1	7
51	Gaussian white noise as a resource for work extraction. Physical Review E, 2017, 95, 032132.	2.1	7
52	Equilibrium measurement method of slip length based on fluctuating hydrodynamics. Physical Review E, 2020, 101, 033109.	2.1	7
53	Long range spatial correlation between two Brownian particles under external driving. Physica D: Nonlinear Phenomena, 2005, 205, 233-241.	2.8	6
54	Stationary Distribution and Thermodynamic Relation in Nonequilibrium Steady States. Progress of Theoretical Physics Supplement, 2010, 184, 329-338.	0.1	6

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55	Derivation of Stokes' Law from Kirkwood's Formula and the Green–Kubo Formula via Large Deviation Theory. Journal of Statistical Physics, 2015, 161, 532-552.	1.2	6
56	How Does Pressure Fluctuate in Equilibrium?. Journal of Statistical Physics, 2018, 173, 285-294.	1.2	6
57	Thermodynamical path integral and emergent symmetry. Physical Review E, 2019, 99, 022109.	2.1	6
58	Stochastic order parameter dynamics for phase coexistence in heat conduction. Physical Review E, 2021, 103, 062129.	2.1	6
59	Brownian Motors Driven by Particle Exchange. Journal of the Physical Society of Japan, 1998, 67, 1918-1923.	1.6	5
60	The Dynamics near Zigzag Instability. Progress of Theoretical Physics, 1990, 84, 1009-1013.	2.0	5
61	Oscillating Interfaces in Parametrically Forced Systems. Progress of Theoretical Physics, 1993, 89, 599-605.	2.0	5
62	Non-ergodic transitions in many-body Langevin systems: a method of dynamical system reduction. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, L10003-L10003.	2.3	4
63	Microscopic Reversibility and Macroscopic Irreversibility: From the Viewpoint of Algorithmic Randomness. Journal of Statistical Physics, 2019, 177, 727-751.	1.2	3
64	Van der Waals cascade in supercritical turbulence near a critical point. Physical Review Research, 2021, 3, .	3.6	3
65	Perturbative solution of a propagating interface in the phase field model. Journal of Statistical Mechanics: Theory and Experiment, 2021, 2021, 103203.	2.3	3
66	Hybrid topological defects in nonequilibrium systems. Physical Review A, 1992, 46, 5268-5270.	2.5	2
67	Effective Description of Small Non-Equilibrium Systems. Progress of Theoretical Physics Supplement, 2006, 165, 18-32.	0.1	2
68	Jamming Transition in Kinetically Constrained Models with Reflection Symmetry. Journal of Statistical Physics, 2014, 155, 827-842.	1.2	2
69	Ueda and Sasa Reply. Physical Review Letters, 2018, 121, 128902.	7.8	2
70	XY model for cascade transfer. Physical Review Research, 2022, 4, .	3.6	2
71	Collective patterns arising out of spatio–temporal chaos. Chaos, 1996, 6, 238-242.	2.5	1
72	Singular perturbation near mode-coupling transition. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 245001.	2.1	1

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73	Calculation of the 1RSB transition temperature of spin glass models on regular random graphs under the replica symmetric ansatz. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P02005.	2.3	1
74	Singular behaviour of time-averaged stress fluctuations on surfaces. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 123210.	2.3	1
75	Characterizing the Asymmetry in Hardness between Synthesis and Destruction of Heteropolymers. Physical Review Letters, 2022, 128, .	7.8	1
76	The Most Effective Model for Describing the Universal Behavior of a Noisy Kuramotoâ€"Sivashinsky Equation as a Paradigmatic Model. Journal of Statistical Physics, 2018, 173, 120-139.	1.2	0
77	Surface Critical Phenomena of a Free Bose Gas with Enhanced Hopping at the Surface. Journal of Statistical Physics, 2019, 174, 762-799.	1.2	0
78	Effective Langevin equations leading to large deviation function of time-averaged velocity for a nonequilibrium Rayleigh piston. Physical Review E, 2021, 103, 022125.	2.1	0