

Mark Dykman

List of Publications by Year in descending order

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139
papers

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81434

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139
docs citations

139
times ranked

3255
citing authors

#	ARTICLE	IF	CITATIONS
1	CONTROLLING ACTIVATED PROCESSES. , 2022, , 27-32.		0
2	Amplification and spectral evidence of squeezing in the response of a strongly driven nanoresonator to a probe field. Physical Review A, 2021, 103, .	1.0	7
3	Many-Electron System on Helium and Color Center Spectroscopy. Physical Review Letters, 2021, 127, 016801.	2.9	2
4	Suppressing Frequency Fluctuations of Self-Sustained Vibrations in Underdamped Nonlinear Resonators. Physical Review Applied, 2021, 15, .	1.5	7
5	Resonant nonlinear response of a nanomechanical system with broken symmetry. Physical Review B, 2021, 104, .	1.1	7
6	Spectral Evidence of Squeezing of a Weakly Damped Driven Nanomechanical Mode. Physical Review X, 2020, 10, .	2.8	17
7	Noise-induced switching from a symmetry-protected shallow metastable state. Scientific Reports, 2020, 10, 10413.	1.6	7
8	Mobility of a spatially modulated electron liquid on the helium surface. Physical Review B, 2020, 101, .	1.1	5
9	Resonantly Induced Friction and Frequency Combs in Driven Nanomechanical Systems. Physical Review Letters, 2019, 122, 254301.	2.9	17
10	Coherent multiple-period states of periodically modulated qubits. Physical Review A, 2019, 100, .	1.0	5
11	Self-Diffusion in a Spatially Modulated System of Electrons on Helium. Journal of Low Temperature Physics, 2019, 195, 266-288.	0.6	5
12	Nonlocal random walk over Floquet states of a dissipative nonlinear oscillator. Physical Review E, 2019, 100, 052148.	0.8	9
13	Quantum state preparation for coupled period tripling oscillators. Physical Review Research, 2019, 1, .	1.3	18
14	Interaction-induced time-symmetry breaking in driven quantum oscillators. Physical Review B, 2018, 98, .	1.1	29
15	Quantum Dynamics of a Domain Wall in the Presence of Dephasing. Semiconductors, 2018, 52, 539-542.	0.2	0
16	Strong negative nonlinear friction from induced two-phonon processes in vibrational systems. Nature Communications, 2018, 9, 3241.	5.8	22
17	Driven nonlinear nanomechanical resonators as digital signal detectors. Scientific Reports, 2018, 8, 11284.	1.6	24
18	Strong vibration nonlinearity in semiconductor-based nanomechanical systems. Physical Review B, 2017, 95, .	1.1	6

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19	Time-translation-symmetry breaking in a driven oscillator: From the quantum coherent to the incoherent regime. <i>Physical Review A</i> , 2017, 96, .	1.0	30
20	Preparing quasienergy states on demand: A parametric oscillator. <i>Physical Review A</i> , 2017, 95, .	1.0	30
21	Ripplonic Lamb Shift for Electrons on Liquid Helium. <i>Physical Review Letters</i> , 2017, 119, 256802.	2.9	11
22	Anomalous Decay of Nanomechanical Modes Going Through Nonlinear Resonance. <i>Scientific Reports</i> , 2017, 7, 18091.	1.6	34
23	Nonlinear damping and dephasing in nanomechanical systems. <i>Physical Review B</i> , 2016, 94, .	1.1	28
24	Correlated anomalous phase diffusion of coupled phononic modes in a sideband-driven resonator. <i>Nature Communications</i> , 2016, 7, 12694.	5.8	28
25	Computational multiqubit tunnelling in programmable quantum annealers. <i>Nature Communications</i> , 2016, 7, 10327.	5.8	157
26	Critical fluctuations and the rates of interstate switching near the excitation threshold of a quantum parametric oscillator. <i>Physical Review E</i> , 2015, 92, 022105.	0.8	19
27	Spectral effects of dispersive mode coupling in driven mesoscopic systems. <i>Physical Review B</i> , 2015, 92, .	1.1	14
28	Noise-induced switching and extinction in systems with delay. <i>Physical Review E</i> , 2015, 91, 012139.	0.8	11
29	Quantum fluctuations in modulated nonlinear oscillators. <i>New Journal of Physics</i> , 2014, 16, 015011.	1.2	10
30	Interplay of Driving and Frequency Noise in the Spectra of Vibrational Systems. <i>Physical Review Letters</i> , 2014, 113, 255502.	2.9	38
31	Nanotube mechanical resonators with quality factors of up to 5 million. <i>Nature Nanotechnology</i> , 2014, 9, 1007-1011.	15.6	190
32	Vibration multistability and quantum switching for dispersive coupling. <i>Physical Review B</i> , 2014, 89, .	1.1	6
33	Moshe Gitterman, Phase Transitions: Modern Applications. <i>Journal of Statistical Physics</i> , 2014, 156, 1025-1026.	0.5	0
34	Symmetry breaking in a mechanical resonator made from a carbon nanotube. <i>Nature Communications</i> , 2013, 4, 2843.	5.8	47
35	Ultrasensitive force detection with a nanotube mechanical resonator. <i>Nature Nanotechnology</i> , 2013, 8, 493-496.	15.6	327
36	Singular probability distribution of shot-noise driven systems. <i>Physical Review E</i> , 2013, 87, 012119.	0.8	5

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37	Quantum critical temperature of a modulated oscillator. Physical Review A, 2013, 87, .	1.0	8
38	Large rare fluctuations in systems with delayed dissipation. Physical Review E, 2012, 86, 031145.	0.8	8
39	Bistability and hysteresis of intersubband absorption in strongly interacting electrons on liquid helium. Physical Review B, 2012, 85, .	1.1	5
40	Singular response of bistable systems driven by telegraph noise. Physical Review E, 2012, 85, 031106.	0.8	12
41	Detecting and characterizing frequency fluctuations of vibrational modes. Physical Review B, 2011, 84, .	1.1	17
42	Quantum heating of a parametrically modulated oscillator: Spectral signatures. Physical Review A, 2011, 83, .	1.0	42
43	Diffusion-Induced Bistability of Driven Nanomechanical Resonators. Physical Review Letters, 2011, 106, 227202.	2.9	28
44	Diffusion-induced dephasing in nanomechanical resonators. Physical Review B, 2011, 83, .	1.1	24
45	Poisson-noise-induced escape from a metastable state. Physical Review E, 2010, 81, 051124.	0.8	20
46	Switching Exponent Scaling near Bifurcation Points for Non-Gaussian Noise. Physical Review Letters, 2010, 104, 140601.	2.9	19
47	Proposal for Manipulating and Detecting Spin and Orbital States of Trapped Electrons on Helium Using Cavity Quantum Electrodynamics. Physical Review Letters, 2010, 105, 040503.	2.9	75
48	Relaxation of a qubit measured by a driven Duffing oscillator. Physical Review A, 2010, 81, .	1.0	24
49	Spectrum of an Oscillator with Jumping Frequency and the Interference of Partial Susceptibilities. Physical Review Letters, 2010, 105, 230601.	2.9	31
50	Ideal mean-field transition in a modulated cold atom system. Physical Review E, 2010, 82, 031134.	0.8	24
51	Resonant Correlation-Induced Optical Bistability in an Electron System on Liquid Helium. Physical Review Letters, 2009, 103, 096801.	2.9	25
52	Quantum measurements of coupled systems. Physical Review A, 2009, 80, .	1.0	2
53	Predicting extinction rates in stochastic epidemic models. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01005.	0.9	40
54	Switching-path distribution in multidimensional systems. Physical Review E, 2008, 78, 051109.	0.8	19

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55	Paths of Fluctuation Induced Switching. Physical Review Letters, 2008, 100, 130602.	2.9	52
56	Exponential peak and scaling of work fluctuations in modulated systems. Physical Review E, 2008, 77, 021123.	0.8	4
57	Theoretical Study of Spontaneous Symmetry Breaking in Parametrically Driven Magneto-Optical Trap. , 2007, , .		0
58	Critical exponents in metastable decay via quantum activation. Physical Review E, 2007, 75, 011101.	0.8	60
59	Quantum interference in the classically forbidden region: A parametric oscillator. Physical Review A, 2007, 76, .	1.0	37
60	Resonant symmetry lifting in a parametrically modulated oscillator. Physical Review E, 2006, 74, 061118.	0.8	26
61	Pathways of activated escape in periodically modulated systems. Physical Review E, 2006, 73, 061109.	0.8	10
62	Quantum Computing Using Electrons Floating on Liquid Helium. , 2005, , 325-338.		2
63	Many-particle localization by constructed disorder and quantum computing. AIP Conference Proceedings, 2005, , .	0.3	1
64	Many-particle confinement by constructed disorder and quantum computing. Journal of Optics B: Quantum and Semiclassical Optics, 2005, 7, S363-S370.	1.4	7
65	Multiphoton Antiresonance And Quantum Activation In Driven Systems. AIP Conference Proceedings, 2005, , .	0.3	0
66	Multiphoton antiresonance. Physical Review B, 2005, 71, .	1.1	29
67	Strong many-particle localization and quantum computing with perpetually coupled qubits. Physical Review A, 2005, 71, .	1.0	33
68	Activated Escape of Periodically Modulated Systems. Physical Review Letters, 2005, 94, 070602.	2.9	22
69	Scaling in activated escape of underdamped systems. Physical Review E, 2005, 72, 021102.	0.8	24
70	Critical Exponent Crossovers in Escape near a Bifurcation Point. Physical Review Letters, 2004, 92, 080602.	2.9	22
71	Low-frequency conductivity of a nondegenerate two-dimensional electron liquid in strong magnetic fields. Physical Review B, 2003, 67, .	1.1	6
72	Qubits with electrons on liquid helium. Physical Review B, 2003, 67, .	1.1	99

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73	Universality in Escape from a Modulated Potential Well. AIP Conference Proceedings, 2003, , .	0.3	2
74	Tunneling decay in a magnetic field. Physical Review A, 2002, 65, .	1.0	13
75	CONTROLLING ACTIVATED PROCESSES. Fluctuation and Noise Letters, 2001, 01, C1-C6.	1.0	0
76	Enhancement of Tunneling from a Correlated 2D Electron System by a Many-Electron MÄřssbauer-Type Recoil in a Magnetic Field. Physical Review Letters, 2001, 86, 2408-2411.	2.9	7
77	Activated escape of periodically driven systems. Chaos, 2001, 11, 587-594.	1.0	53
78	Single-electron magnetoconductivity of a nondegenerate two-dimensional electron system in a quantizing magnetic field. Physical Review B, 2001, 63, .	1.1	2
79	A phase transition in a system driven by coloured noise. AIP Conference Proceedings, 2000, , .	0.3	0
80	Quantum Computing Using Electrons Floating on Liquid Helium. Fortschritte Der Physik, 2000, 48, 1095-1108.	1.5	32
81	Nonlinear dynamics of large fluctuations, and how they can be controlled. AIP Conference Proceedings, 2000, , .	0.3	1
82	Activated escape of driven systems. AIP Conference Proceedings, 2000, , .	0.3	0
83	Tunneling Transverse to a Magnetic Field and Its Occurrence in Correlated 2D Electron Systems. Physical Review Letters, 2000, 84, 2227-2230.	2.9	7
84	Symmetry Breaking of Fluctuation Dynamics by Noise Color. Physical Review Letters, 2000, 84, 5470-5473.	2.9	14
85	Dynamics of Activated Escape and Its Observation in a Semiconductor Laser. Physical Review Letters, 2000, 85, 78-81.	2.9	50
86	Quantum Computing Using Electrons Floating on Liquid Helium. , 2000, 48, 1095.		1
87	Nucleation in periodically driven electrochemical systems. Journal of Chemical Physics, 1999, 110, 11488-11504.	1.2	18
88	Thermally activated transitions in a bistable three-dimensional optical trap. Nature, 1999, 402, 785-787.	13.7	167
89	Quantum Computing with Electrons Floating on Liquid Helium. Science, 1999, 284, 1967-1969.	6.0	303
90	Time Oscillations of Escape Rates in Periodically Driven Systems. Physical Review Letters, 1999, 82, 3193-3197.	2.9	91

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91	What can stochastic resonance do?. Nature, 1998, 391, 344-344.	13.7	91
92	Magnetotransport in the two-dimensional electron fluid and solid on liquid helium. Physica B: Condensed Matter, 1998, 249-251, 628-635.	1.3	13
93	Analogue studies of nonlinear systems. Reports on Progress in Physics, 1998, 61, 889-997.	8.1	158
94	Fluctuational phase-flip transitions in parametrically driven oscillators. Physical Review E, 1998, 57, 5202-5212.	0.8	70
95	Large Fluctuations in a Periodically Driven Dynamical System. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1998, 08, 747-754.	0.7	11
96	Magnetoconductivity of two-dimensional electrons on liquid helium: Experiments in the fluid phase. Physical Review B, 1997, 55, 16280-16292.	1.1	22
97	Resonant Directed Diffusion in Nonadiabatically Driven Systems. Physical Review Letters, 1997, 79, 1178-1181.	2.9	78
98	Many-electron transport in strongly correlated nondegenerate two-dimensional electron systems. Physical Review B, 1997, 55, 16249-16271.	1.1	27
99	Internal forces in nondegenerate two-dimensional electron systems. Physical Review B, 1997, 55, 16272-16279.	1.1	21
100	Bragg-Cherenkov Scattering and Nonlinear Conductivity of a Two-Dimensional Wigner Crystal. Physical Review Letters, 1997, 78, 4813-4816.	2.9	57
101	Optimal control of large fluctuations. Physical Review E, 1997, 55, 2516-2521.	0.8	34
102	Topological features of large fluctuations to the interior of a limit cycle. Physical Review E, 1997, 55, 2369-2391.	0.8	57
103	Fluctuations, Escape, and Nucleation in Driven Systems: Logarithmic Susceptibility. Physical Review Letters, 1997, 79, 3113-3116.	2.9	57
104	Corrals and Critical Behavior of the Distribution of Fluctuational Paths. Physical Review Letters, 1996, 77, 5229-5232.	2.9	72
105	Magnetotransport of 2D electrons on liquid helium in the fluid and solid phases. European Physical Journal D, 1996, 46, 3056-3062.	0.4	6
106	Many-electron magnetoconductivity of 2D electrons on liquid helium. European Physical Journal D, 1996, 46, 329-330.	0.4	1
107	Stochastic resonance in perspective. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1995, 17, 661-683.	0.4	178
108	Noise-enhanced optical heterodyning in an all-optical bistable system. Applied Physics Letters, 1995, 67, 308-310.	1.5	28

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109	Statistical distribution and stochastic resonance in a periodically driven chemical system. <i>Journal of Chemical Physics</i> , 1995, 103, 966-972.	1.2	55
110	Noise-enhanced heterodyning in bistable systems. <i>Physical Review E</i> , 1994, 49, 1935-1942.	0.8	20
111	Noise-induced linearisation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 193, 61-66.	0.9	33
112	Large fluctuations and optimal paths in chemical kinetics. <i>Journal of Chemical Physics</i> , 1994, 100, 5735-5750.	1.2	304
113	Supernarrow spectral peaks and high-frequency stochastic resonance in systems with coexisting periodic attractors. <i>Physical Review E</i> , 1994, 49, 1198-1215.	0.8	63
114	Linear response theory in stochastic resonance. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 180, 332-336.	0.9	44
115	Stochastic resonance: Linear response and giant nonlinearity. <i>Journal of Statistical Physics</i> , 1993, 70, 463-478.	0.5	40
116	Nonconventional stochastic resonance. <i>Journal of Statistical Physics</i> , 1993, 70, 479-499.	0.5	48
117	Giant nonlinearity in the low-frequency response of a fluctuating bistable system. <i>Physical Review E</i> , 1993, 47, 1629-1632.	0.8	22
118	Magnetoresistance in 2D electrons on liquid helium: Many-electron versus single-electron kinetics. <i>Physical Review Letters</i> , 1993, 70, 3975-3978.	2.9	43
119	Dissipative corrections to escape probabilities of thermal-nonequilibrium systems. <i>Physical Review E</i> , 1993, 47, 2448-2461.	0.8	30
120	Probability distributions and escape rates for systems driven by quasimonochromatic noise. <i>Physical Review E</i> , 1993, 47, 3996-4009.	0.8	51
121	Phase Shifts in Stochastic Resonance. <i>Physical Review Letters</i> , 1992, 68, 2985-2988.	2.9	99
122	Stochastic resonance for periodically modulated noise intensity. <i>Physical Review A</i> , 1992, 46, R1713-R1716.	1.0	80
123	Optimal paths and the prehistory problem for large fluctuations in noise-driven systems. <i>Physical Review Letters</i> , 1992, 68, 2718-2721.	2.9	128
124	Quasimonochromatic noise: New features of fluctuations in noise-driven nonlinear systems. <i>Physical Review Letters</i> , 1991, 67, 933-936.	2.9	46
125	Zero-frequency spectral peaks of underdamped nonlinear oscillators with asymmetric potentials. <i>Physical Review A</i> , 1991, 43, 1701-1708.	1.0	14
126	Noise-induced narrowing of peaks in the power spectra of underdamped nonlinear oscillators. <i>Physical Review A</i> , 1990, 42, 7041-7049.	1.0	42

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127	Fluctuation-induced transitions between periodic attractors: Observation of supernarrow spectral peaks near a kinetic phase transition. <i>Physical Review Letters</i> , 1990, 65, 48-51.	2.9	35
128	Comment on "Stochastic resonance in bistable systems". <i>Physical Review Letters</i> , 1990, 65, 2606-2609.	0.9	151
129	Fluctuational transitions between stable states of a nonlinear oscillator driven by random resonant force. <i>Physical Review A</i> , 1990, 41, 3090-3102.	1.0	15
130	Large fluctuations and fluctuational transitions in systems driven by colored Gaussian noise: A high-frequency noise. <i>Physical Review A</i> , 1990, 42, 2020-2029.	1.0	120
131	Spectral density of fluctuations of a double-well Duffing oscillator driven by white noise. <i>Physical Review A</i> , 1988, 37, 1303-1313.	1.0	53
132	Spectral distribution of a nonlinear oscillator performing Brownian motion in a double-well potential. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1985, 133, 53-73.	1.2	27
133	Cyclotron resonance of a two-dimensional Wigner crystal. <i>Journal of Physics C: Solid State Physics</i> , 1982, 15, 7397-7316.	1.5	32
134	Fluctuations in nonlinear systems near bifurcations corresponding to the appearance of new stable states. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1980, 104, 480-494.	1.2	83
135	Time correlation functions and spectral distributions of the duffing oscillator in a random force field. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1980, 104, 495-508.	1.2	23
136	Self-induced resonant optical rotation in crystals KCl:Li. <i>Solid State Communications</i> , 1979, 30, 133-136.	0.9	24
137	Theory of Cyclotron Resonance of Two-Dimensional Electrons Interacting With Surface and Volume Phonons. <i>Physica Status Solidi (B): Basic Research</i> , 1978, 88, 463-475.	0.7	17
138	Spectral distribution of nonlinear oscillators with nonlinear friction due to a medium. <i>Physica Status Solidi (B): Basic Research</i> , 1975, 68, 111-123.	0.7	45
139	Classical theory of nonlinear oscillators interacting with a medium. <i>Physica Status Solidi (B): Basic Research</i> , 1971, 48, 497-512.	0.7	54