

Jerzy Auczka

List of Publications by Year in descending order

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156
papers

2,987
citations

147566

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156
all docs

156
docs citations

156
times ranked

1134
citing authors

#	ARTICLE	IF	CITATIONS
1	Absolute Negative Mobility Induced by Thermal Equilibrium Fluctuations. Physical Review Letters, 2007, 98, 040601.	2.9	158
2	Brownian motors: Current fluctuations and rectification efficiency. Physical Review E, 2004, 70, 061105.	0.8	99
3	Non-Markovian stochastic processes: Colored noise. Chaos, 2005, 15, 026107.	1.0	95
4	Spin in contact with thermostat: Exact reduced dynamics. Physica A: Statistical Mechanics and Its Applications, 1990, 167, 919-934.	1.2	88
5	Distance growth of quantum states due to initial system-environment correlations. Physical Review A, 2010, 82, .	1.0	74
6	Distance between quantum states in the presence of initial qubit-environment correlations: A comparative study. Physical Review A, 2011, 84, .	1.0	71
7	Non-Markovian entanglement evolution of two uncoupled qubits. Physical Review A, 2008, 77, .	1.0	68
8	Symmetric white noise can induce directed current in ratchets. Physical Review E, 1997, 56, 3968-3975.	0.8	67
9	Anomalous transport in biased ac-driven Josephson junctions: Negative conductances. Physical Review B, 2008, 77, .	1.1	65
10	Tunneling Center as a Source of Voltage Rectification in Josephson Junctions. Physical Review Letters, 1998, 80, 829-832.	2.9	63
11	Brownian motors in the microscale domain: Enhancement of efficiency by noise. Physical Review E, 2014, 90, 032104.	0.8	62
12	Transient anomalous diffusion in periodic systems: ergodicity, symmetry breaking and velocity relaxation. Scientific Reports, 2016, 6, 30948.	1.6	62
13	Noise-induced transport in symmetric periodic potentials: White shot noise versus deterministic noise. Europhysics Letters, 1996, 35, 315-317.	0.7	59
14	Consistent description of quantum Brownian motors operating at strong friction. Physical Review E, 2004, 70, 031107.	0.8	59
15	Brownian Ratchets: Transport Controlled by Thermal Noise. Physical Review Letters, 1998, 80, 1377-1380.	2.9	57
16	Multiple current reversal in Brownian ratchets. Physical Review E, 2001, 63, 021101.	0.8	51
17	Transport of particles for a spatially periodic stochastic system with correlated noises. Physical Review E, 2001, 64, 011113.	0.8	45
18	Forcing inertial Brownian motors: Efficiency and negative differential mobility. Physica A: Statistical Mechanics and Its Applications, 2006, 371, 20-24.	1.2	41

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19	Tunable Mass Separation via Negative Mobility. <i>Physical Review Letters</i> , 2019, 122, 070602.	2.9	40
20	Statistics of transition times, phase diffusion and synchronization in periodically driven bistable systems. <i>New Journal of Physics</i> , 2005, 7, 14-14.	1.2	39
21	Negative mobility induced by colored thermal fluctuations. <i>Physical Review E</i> , 2009, 80, 051121.	0.8	39
22	Coexistence of absolute negative mobility and anomalous diffusion. <i>New Journal of Physics</i> , 2019, 21, 083029.	1.2	39
23	Transport generated by dichotomous fluctuations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 214, 14-20.	0.9	38
24	Rate description of Fokker-Planck processes with time-dependent parameters. <i>Physical Review E</i> , 2004, 69, 046109.	0.8	38
25	Thermal ratchets driven by Poissonian white shot noise. <i>Physical Review E</i> , 1997, 55, 4057-4066.	0.8	37
26	Diffusion of Brownian particles governed by fluctuating friction. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 278, 18-31.	1.2	37
27	Quantum diffusion in biased washboard potentials: Strong friction limit. <i>Physical Review E</i> , 2006, 73, 031105.	0.8	36
28	Absolute negative mobility induced by white Poissonian noise. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P02044.	0.9	35
29	Brownian motion in a fluctuating medium. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 249, 409-414.	0.9	33
30	Optimal strategy for controlling transport in inertial Brownian motors. <i>Journal of Physics Condensed Matter</i> , 2005, 17, S3741-S3752.	0.7	33
31	Thermal-inertial ratchet effects: Negative mobility, resonant activation, noise-enhanced stability, and noise-weakened stability. <i>Physical Review E</i> , 2010, 82, 041104.	0.8	33
32	Diffusion anomalies in ac-driven Brownian ratchets. <i>Physical Review E</i> , 2015, 91, 062104.	0.8	33
33	The diffusion in the quantum Smoluchowski equation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2005, 351, 60-68.	1.2	31
34	Subdiffusion via dynamical localization induced by thermal equilibrium fluctuations. <i>Scientific Reports</i> , 2017, 7, 16451.	1.6	31
35	Origination and survival of qudit-qudit entanglement in open systems. <i>Physical Review A</i> , 2008, 77, .	1.0	30
36	Diffusion of clusters with randomly growing masses. <i>Physical Review E</i> , 1995, 51, 5762-5769.	0.8	29

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37	Application of statistical mechanics to stochastic transport. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 274, 200-215.	1.2	28
38	Non-Markovian process driven by quadratic noise: Kramers-Moyal expansion and Fokker-Planck modeling. <i>Physical Review E</i> , 1995, 51, 2933-2938.	0.8	27
39	Brownian transport controlled by dichotomic and thermal fluctuations. <i>Chemical Physics</i> , 1998, 235, 27-37.	0.9	26
40	Geometric phase as a determinant of a qubitâ€™ environment coupling. <i>Quantum Information Processing</i> , 2011, 10, 85-96.	1.0	23
41	Colossal Brownian yet non-Gaussian diffusion induced by nonequilibrium noise. <i>Physical Review E</i> , 2020, 102, 042121.	0.8	23
42	Nonequilibrium coupled Brownian phase oscillators. <i>Physical Review E</i> , 2002, 65, 051115.	0.8	22
43	Brownian ratchets: How stronger thermal noise can reduce diffusion. <i>Chaos</i> , 2017, 27, 023111.	1.0	22
44	Negative mobility of a Brownian particle: Strong damping regime. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2018, 55, 316-325.	1.7	22
45	SQUID ratchet: Statistics of transitions in dynamical localization. <i>Chaos</i> , 2019, 29, 013105.	1.0	22
46	Inertial Brownian motors driven by biharmonic signals. <i>Chemical Physics</i> , 2010, 375, 445-449.	0.9	21
47	Josephson junction ratchet: The impact of finite capacitances. <i>Physical Review B</i> , 2014, 90, .	1.1	21
48	Non-monotonic temperature dependence of chaos-assisted diffusion in driven periodic systems. <i>New Journal of Physics</i> , 2016, 18, 123029.	1.2	21
49	Quantum analogue of energy equipartition theorem. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019, 52, 15LT01.	0.7	21
50	Geometric phase of a qubit in dephasing environments. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008, 41, 012001.	0.7	20
51	Diffusion in a biased washboard potential revisited. <i>Physical Review E</i> , 2020, 101, 032123.	0.8	20
52	Entanglement persistence in contact with the environment: exact results. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007, 40, F879-F886.	0.7	19
53	Indirect control of transport and interaction-induced negative mobility in an overdamped system of two coupled particles. <i>Physical Review E</i> , 2011, 83, 051117.	0.8	19
54	Efficiency of the SQUID ratchet driven by external current. <i>New Journal of Physics</i> , 2015, 17, 023054.	1.2	19

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55	Randomly interrupted diffusion. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 167, 475-478.	0.9	18
56	Fidelity of asymmetric dephasing channels. Physical Review A, 2009, 79, .	1.0	18
57	Efficiency of transport in periodic potentials: dichotomous noise contra deterministic force. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 054038.	0.9	18
58	Work distributions for random sudden quantum quenches. Physical Review E, 2017, 95, 052137.	0.8	18
59	Geometric phase of neutrino propagating through dissipative matter. Physical Review D, 2011, 83, .	1.6	17
60	Negativity and quantum discord in Davies environments. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 485306.	0.7	17
61	Josephson phase diffusion in the superconducting quantum interference device ratchet. Chaos, 2015, 25, 053110.	1.0	17
62	The growing processes in diffusive and convective fields. Chemical Engineering Science, 1993, 48, 3713-3721.	1.9	16
63	Negative conductances of Josephson junctions: Voltage fluctuations and energetics. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 590-594.	1.3	16
64	Partition of energy for a dissipative quantum oscillator. Scientific Reports, 2018, 8, 16080.	1.6	16
65	Kinetic Energy of a Free Quantum Brownian Particle. Entropy, 2018, 20, 123.	1.1	16
66	On temperature- and space-dimension dependent matter agglomerations in a mature growing stage. Chemical Physics, 2005, 310, 153-161.	0.9	15
67	Transport driven by biharmonic forces: Impact of correlated thermal noise. Physical Review E, 2010, 82, 031133.	0.8	15
68	Swapping of correlations via teleportation with decoherence. Physical Review A, 2013, 87, .	1.0	15
69	Quantum partition of energy for a free Brownian particle: Impact of dissipation. Physical Review A, 2018, 98, .	1.0	15
70	Transport characteristics of molecular motors. BioSystems, 2008, 94, 253-257.	0.9	14
71	Dephasing of qubits by the SchrÅdinger cat. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 374-377.	1.3	14
72	Leggett-Garg inequality for qubits coupled to thermal environment. Physical Review A, 2015, 91, .	1.0	14

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73	Quantum Counterpart of Classical Equipartition of Energy. Journal of Statistical Physics, 2020, 179, 839-845.	0.5	14
74	Temperature-Induced Tunable Particle Separation. Physical Review Applied, 2019, 12, .	1.5	13
75	Generalized kinetic equations with memory. Physics Letters, Section A: General, Atomic and Solid State Physics, 1979, 69, 393-395.	0.9	12
76	Currents in a system of noisy mesoscopic rings. Physical Review B, 2003, 67, .	1.1	12
77	Bifurcations of the geometric phase of a qubit asymmetrically coupled to the environment. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 442001.	0.7	12
78	Phase transformation kinetics in d-dimensional grains-containing systems: diffusion-type model. Physica A: Statistical Mechanics and Its Applications, 1998, 248, 365-378.	1.2	11
79	Optimal strategy for controlling transport in inertial Brownian motors. Journal of Physics Condensed Matter, 2006, 18, 4111-4112.	0.7	11
80	Arcsine law and multistable Brownian dynamics in a tilted periodic potential. Physical Review E, 2021, 104, 024132.	0.8	11
81	Quantum open systems in a two-state stochastic reservoir. European Physical Journal D, 1991, 41, 289-292.	0.4	10
82	Some remarks concerning spherulitic growth. International Journal of Quantum Chemistry, 1994, 52, 301-308.	1.0	10
83	First-passage time for randomly flashing diffusion. Physical Review E, 1995, 52, 5810-5816.	0.8	10
84	Rectified steady flow induced by white shot noise: diffusive and non-diffusive regimes. Annalen Der Physik, 2000, 9, 721-734.	0.9	10
85	Kinetics of growth process controlled by convective fluctuations. Physical Review E, 2002, 65, 051401.	0.8	10
86	Energetics of a driven Brownian harmonic oscillator. Journal of Statistical Mechanics: Theory and Experiment, 2017, 2017, 113206.	0.9	10
87	An approximate master equation for systems driven by linear Ornstein-Uhlenbeck noise. Physica A: Statistical Mechanics and Its Applications, 1988, 153, 619-635.	1.2	9
88	Dynamical bimodality in equilibrium monostable systems. Physical Review E, 2006, 74, 041102.	0.8	9
89	Magnetic flux in mesoscopic rings: Quantum Smoluchowski regime. Physical Review B, 2007, 76, .	1.1	9
90	Conundrum of weak-noise limit for diffusion in a tilted periodic potential. Physical Review E, 2021, 104, 034104.	0.8	9

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91	Many Faces of Non-equilibrium: Anomalous Transport Phenomena in Driven Periodic Systems. Acta Physica Polonica B, 2020, 51, 1131.	0.3	9
92	Exact probability distribution for soluble model with quadratic noise. Journal of Statistical Physics, 1986, 42, 1009-1018.	0.5	8
93	Relaxation problem with a quadratic noise: Analysis. Journal of Statistical Physics, 1987, 47, 505-526.	0.5	8
94	Randomly flashing diffusion: Asymptotic properties. Journal of Statistical Physics, 1996, 83, 1149-1164.	0.5	8
95	On the kinetics of polymer crystallization: a possible mechanism. Journal of Molecular Liquids, 2000, 86, 237-247.	2.3	8
96	Finite volume effects in a model grain growth. Physica A: Statistical Mechanics and Its Applications, 2003, 325, 284-291.	1.2	8
97	Energy of a free Brownian particle coupled to thermal vacuum. Scientific Reports, 2021, 11, 4088.	1.6	8
98	On Markovian kinetic equations: Zubarev's nonequilibrium statistical operator approach. Physica A: Statistical Mechanics and Its Applications, 1988, 149, 245-266.	1.2	7
99	Diffusion-migration concept applied to growth and structure formation in model biomembranes. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 203, 367-372.	0.9	7
100	On superstatistics of energy for a free quantum Brownian particle. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 064002.	0.9	7
101	On the diffusion-driven growth: The perturbed sphere problem revisited. European Physical Journal D, 1992, 42, 577-590.	0.4	6
102	Interference phenomenon and geometric phase for Dirac neutrino in ν -decay. Physical Review D, 2013, 87, .	1.6	6
103	Kinetic theory of resonance and relaxation in spin systems. Physica A: Statistical Mechanics and Its Applications, 1982, 111, 240-254.	1.2	5
104	Stochastic processes with colored Gaussian noise: The small noise limit revisited. Physics Letters, Section A: General, Atomic and Solid State Physics, 1989, 139, 29-34.	0.9	5
105	Collective behavior of coupled mesoscopic cylinders. Physica Status Solidi (B): Basic Research, 2005, 242, 196-202.	0.7	5
106	Relation Between Purity of an Open Qubit Dynamics and Its Initial Correlation with an Environment. International Journal of Theoretical Physics, 2013, 52, 1148-1159.	0.5	5
107	KINETICS OF CRYSTAL GROWTH LIMITED BY RANDOM VELOCITY FIELDS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2008, 18, 2673-2679.	0.7	4
108	Magnetic flux in a mesoscopic SQUID controlled by nonclassical electromagnetic fields. Physical Review B, 2009, 80, .	1.1	4

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109	Currentâ€“flux characteristics in mesoscopic non-superconducting rings. Journal of Physics Condensed Matter, 2010, 22, 422201.	0.7	4
110	Current in Hubbard rings manipulated via magnetic flux. Journal of Physics Condensed Matter, 2010, 22, 245301.	0.7	4
111	Gazeauâ€“Klauder cat states. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 244006.	0.7	4
112	The Trace Distance and Linear Entropy of Qubit States: The Role of Initial Qubit-Environment Correlations. Reports on Mathematical Physics, 2012, 70, 193-204.	0.4	4
113	Two coupled Josephson junctions: dc voltage controlled by biharmonic current. Journal of Physics Condensed Matter, 2012, 24, 085702.	0.7	4
114	Poissonian noise assisted transport in periodic systems. Physica Scripta, 2015, T165, 014015.	1.2	4
115	Self-averaging of random quantum dynamics. Physical Review A, 2018, 98, .	1.0	4
116	Binary Communication with Gazeauâ€“Klauder Coherent States. Entropy, 2020, 22, 201.	1.1	4
117	Kinetic theory of resonance and relaxation in spin systems I. Physica A: Statistical Mechanics and Its Applications, 1980, 101, 552-570.	1.2	3
118	The exact equation of motion for a two level system. Zubarev like approach. European Physical Journal D, 1985, 35, 386-400.	0.4	3
119	On anomalous diffusion of fractal clusters under certain realistic physical conditions. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1994, 16, 1265-1270.	0.4	3
120	LONG-TIME ASYMPTOTICS FOR DIFFUSING CLUSTERS WITH POISSON GROWTH STATISTICS. Fractals, 1996, 04, 543-546.	1.8	3
121	Kinetic theory of resonance and relaxation in spin systems. Physica A: Statistical Mechanics and Its Applications, 1983, 120, 219-237.	1.2	2
122	Dynamics of a class of processes with Smoluchowski noises. Physics Letters, Section A: General, Atomic and Solid State Physics, 1984, 102, 401-404.	0.9	2
123	Geometric phase of interacting qubits: Mean-field analysis. Physical Review A, 2009, 80, .	1.0	2
124	Entanglement swapping in presence of dephasing. Physica Status Solidi (B): Basic Research, 2009, 246, 936-940.	0.7	2
125	Transmission of magnetic signals in noisy mesorings. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01030.	0.9	2
126	Leggettâ€“Garg inequalities for a quantum top affected by classical noise. Quantum Information Processing, 2016, 15, 4911-4925.	1.0	2

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127	Quantum cloning disturbed by thermal Davies environment. Quantum Information Processing, 2016, 15, 2661-2673.	1.0	2
128	Rectified steady flow induced by white shot noise: diffusive and non-diffusive regimes. , 2000, 9, 721.		2
129	Velocity Multistability vs. Ergodicity Breaking in a Biased Periodic Potential. Entropy, 2022, 24, 98.	1.1	2
130	Evolution equation for two level systems interacting with pump and relaxation mechanisms. European Physical Journal D, 1984, 34, 1150-1156.	0.4	1
131	Simple Derivation of the Direct Spin-Phonon Interaction. Physica Status Solidi (B): Basic Research, 1986, 136, K27.	0.7	1
132	The Dynamics of Classical Spins Interacting with Pump Field and Quantum Reservoir. Physica Scripta, 1986, 34, 97-100.	1.2	1
133	The asymptotic dynamics of processes with multiplicative quadratic noise. European Physical Journal D, 1989, 39, 689-695.	0.4	1
134	Optimal transport and phase transition in dichotomic ratchets. Physica A: Statistical Mechanics and Its Applications, 2003, 325, 69-77.	1.2	1
135	Can Self-Sustaining Currents Be Induced In A System Of Mesoscopic Rings?. AIP Conference Proceedings, 2005, , .	0.3	1
136	Flux-biased mesoscopic rings. Physica Status Solidi (B): Basic Research, 2007, 244, 2432-2436.	0.7	1
137	Analytically solvable model for the entanglement via scattering-like mechanisms. Quantum Information Processing, 2009, 8, 461-475.	1.0	1
138	Current characteristics of mesoscopic rings in quantum Smoluchowski regime. European Physical Journal: Special Topics, 2010, 187, 5-14.	1.2	1
139	Hyperbolic diffusion in chaotic systems. European Physical Journal B, 2011, 83, 223-233.	0.6	1
140	Title is missing!. Acta Physica Polonica B, 2012, 43, 921.	0.3	1
141	Directed transport in coupled noisy Josephson junctions controlled via ac signals. Physica Scripta, 2012, T151, 014021.	1.2	1
142	Energetics of an rf SQUID Coupled to Two Thermal Reservoirs. PLoS ONE, 2015, 10, e0143912.	1.1	1
143	Brownian Motion in a d-Dimensional Space with Fluctuating Friction. , 2000, , 85-96.		1
144	Brownian motors: Current fluctuations and rectification efficiency. , 0, .		1

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145	Relaxation of a single two-level system. European Physical Journal D, 1986, 36, 674-680.	0.4	0
146	Noisy dynamics of magnetic flux in mesoscopic cylinders. Journal of Physics: Conference Series, 2006, 30, 321-324.	0.3	0
147	Frequency Windows of Absolute Negative Conductance in Josephson Junctions. AIP Conference Proceedings, 2007, , .	0.3	0
148	Title is missing!. Acta Physica Polonica B, 2012, 43, 1203.	0.3	0
149	Squeezing of magnetic flux in nanorings. Journal of Physics Condensed Matter, 2012, 24, 495701.	0.7	0
150	Absolute negative mobility of inertial Brownian particles induced by noise. , 2013, , .		0
151	Reply to Comment on "Gazeau" Klauder cat states™. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 238002.	0.7	0
152	Persistent currents in metallic rings containing a quantum dot. Physics Letters, Section A: General, Atomic and Solid State Physics, 2015, 379, 1654-1660.	0.9	0
153	Brownian motor efficiency enhanced by nonequilibrium noise. , 2015, , .		0
154	Comment on "Absolute negative mobility in a one-dimensional overdamped system™. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 1499-1501.	0.9	0
155	Comment on "Deformed Fokker-Planck equation: Inhomogeneous medium with a position-dependent mass". Physical Review E, 2021, 103, 036101.	0.8	0
156	STATIONARY FLUX IN MESOSCOPIC NOISY CYLINDERS. , 2003, , .		0