Jerzy Luczka

List of Publications by Citations

148 papers	2,557 citations	29 h-index	43 g-index
156 ext. papers	2,808 ext. citations	2.6 avg, IF	5.46 L-index

#	Paper	IF	Citations
148	Absolute negative mobility induced by thermal equilibrium fluctuations. *Physical Review Letters*, **2007**, 98, 040601	7.4	136
147	Brownian motors: current fluctuations and rectification efficiency. *Physical Review E*, **2004**, 70, 061105	2.4	96
146	Spin in contact with thermostat: Exact reduced dynamics. *Physica A: Statistical Mechanics and Its Applications*, **1990**, 167, 919-934	3.3	78
145	Non-Markovian stochastic processes: colored noise. *Chaos*, **2005**, 15, 26107	3.3	73
144	Symmetric white noise can induce directed current in ratchets. *Physical Review E*, **1997**, 56, 3968-3975	2.4	63
143	Non-Markovian entanglement evolution of two uncoupled qubits. *Physical Review A*, **2008**, 77,	2.6	63
142	Distance growth of quantum states due to initial system-environment correlations. *Physical Review A*, **2010**, 82,	2.6	62
141	Tunneling Center as a Source of Voltage Rectification in Josephson Junctions. *Physical Review Letters*, **1998**, 80, 829-832	7.4	59
140	Anomalous transport in biased ac-driven Josephson junctions: Negative conductances. *Physical Review B*, **2008**, 77,	3.3	58
139	Distance between quantum states in the presence of initial qubit-environment correlations: A comparative study. *Physical Review A*, **2011**, 84,	2.6	57
138	Consistent description of quantum Brownian motors operating at strong friction. *Physical Review E*, **2004**, 70, 031107	2.4	57
137	Noise-induced transport in symmetric periodic potentials: White shot noise versus deterministic noise. *Europhysics Letters*, **1996**, 35, 315-317	1.6	56
136	Brownian Ratchets: Transport Controlled by Thermal Noise. *Physical Review Letters*, **1998**, 80, 1377-1380	7.4	55
135	Multiple current reversal in Brownian ratchets. *Physical Review E*, **2001**, 63, 021101	2.4	49
134	Transient anomalous diffusion in periodic systems: ergodicity, symmetry breaking and velocity relaxation. *Scientific Reports*, **2016**, 6, 30948	4.9	48
133	Brownian motors in the microscale domain: enhancement of efficiency by noise. *Physical Review E*, **2014**, 90, 032104	2.4	47
132	Transport of particles for a spatially periodic stochastic system with correlated noises. *Physical Review E*, **2001**, 64, 011113	2.4	43

131	Statistics of transition times, phase diffusion and synchronization in periodically driven bistable systems. *New Journal of Physics*, **2005**, 7, 14-14	2.9	38
130	Forcing inertial Brownian motors: Efficiency and negative differential mobility. *Physica A: Statistical Mechanics and Its Applications*, **2006**, 371, 20-24	3.3	37
129	Transport generated by dichotomous fluctuations. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1996**, 214, 14-20	2.3	37
128	Thermal ratchets driven by Poissonian white shot noise. *Physical Review E*, **1997**, 55, 4057-4066	2.4	36
127	Diffusion of Brownian particles governed by fluctuating friction. *Physica A: Statistical Mechanics and Its Applications*, **2000**, 278, 18-31	3.3	35
126	Negative mobility induced by colored thermal fluctuations. *Physical Review E*, **2009**, 80, 051121	2.4	34
125	Quantum diffusion in biased washboard potentials: strong friction limit. *Physical Review E*, **2006**, 73, 031105	2.4	34
124	Rate description of Fokker-Planck processes with time-dependent parameters. *Physical Review E*, **2004**, 69, 046109	2.4	34
123	Thermal-inertial ratchet effects: negative mobility, resonant activation, noise-enhanced stability, and noise-weakened stability. *Physical Review E*, **2010**, 82, 041104	2.4	32
122	Optimal strategy for controlling transport in inertial Brownian motors. *Journal of Physics Condensed Matter*, **2005**, 17, S3741-52	1.8	32
121	Brownian motion in a fluctuating medium. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1998**, 249, 409-414	2.3	31
120	The diffusion in the quantum Smoluchowski equation. *Physica A: Statistical Mechanics and Its Applications*, **2005**, 351, 60-68	3.3	31
119	Absolute negative mobility induced by white Poissonian noise. *Journal of Statistical Mechanics: Theory and Experiment*, **2013**, 2013, P02044	1.9	27
118	Origination and survival of qudit-qudit entanglement in open systems. *Physical Review A*, **2008**, 77,	2.6	27
117	Diffusion anomalies in ac-driven Brownian ratchets. *Physical Review E*, **2015**, 91, 062104	2.4	25
116	Application of statistical mechanics to stochastic transport. *Physica A: Statistical Mechanics and Its Applications*, **1999**, 274, 200-215	3.3	25
115	Diffusion of clusters with randomly growing masses. *Physical Review E*, **1995**, 51, 5762-5769	2.4	25
114	Coexistence of absolute negative mobility and anomalous diffusion. *New Journal of Physics*, **2019**, 21, 083029	2.9	24

113	Tunable Mass Separation via Negative Mobility. *Physical Review Letters*, **2019**, 122, 070602	7.4	24
112	Non-Markovian process driven by quadratic noise: Kramers-Moyal expansion and Fokker-Planck modeling. *Physical Review E*, **1995**, 51, 2933-2938	2.4	24
111	Brownian transport controlled by dichotomic and thermal fluctuations. *Chemical Physics*, **1998**, 235, 27-37	2.3	23
110	Geometric phase as a determinant of a qubit environment coupling. *Quantum Information Processing*, **2011**, 10, 85-96	1.6	22
109	Subdiffusion via dynamical localization induced by thermal equilibrium fluctuations. *Scientific Reports*, **2017**, 7, 16451	4.9	21
108	Inertial Brownian motors driven by biharmonic signals. *Chemical Physics*, **2010**, 375, 445-449	2.3	20
107	Josephson junction ratchet: The impact of finite capacitances. *Physical Review B*, **2014**, 90,	3.3	19
106	Entanglement persistence in contact with the environment: exact results. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, F879-F886	2	19
105	Negative mobility of a Brownian particle: Strong damping regime. *Communications in Nonlinear Science and Numerical Simulation*, **2018**, 55, 316-325	3.7	19
104	Efficiency of transport in periodic potentials: dichotomous noise contra deterministic force. *Journal of Statistical Mechanics: Theory and Experiment*, **2016**, 2016, 054038	1.9	18
103	Indirect control of transport and interaction-induced negative mobility in an overdamped system of two coupled particles. *Physical Review E*, **2011**, 83, 051117	2.4	18
102	Geometric phase of a qubit in dephasing environments. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 012001	2	18
101	Nonequilibrium coupled Brownian phase oscillators. *Physical Review E*, **2002**, 65, 051115	2.4	18
100	Randomly interrupted diffusion. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1992**, 167, 475-478	2.3	18
99	Brownian ratchets: How stronger thermal noise can reduce diffusion. *Chaos*, **2017**, 27, 023111	3.3	17
98	Efficiency of the SQUID ratchet driven by external current. *New Journal of Physics*, **2015**, 17, 023054	2.9	17
97	Non-monotonic temperature dependence of chaos-assisted diffusion in driven periodic systems. *New Journal of Physics*, **2016**, 18, 123029	2.9	17
96	Geometric phase of neutrino propagating through dissipative matter. *Physical Review D*, **2011**, 83,	4.9	15

95	Fidelity of asymmetric dephasing channels. *Physical Review A*, **2009**, 79,	2.6	15
94	Josephson phase diffusion in the superconducting quantum interference device ratchet. *Chaos*, **2015**, 25, 053110	3.3	14
93	Transport driven by biharmonic forces: impact of correlated thermal noise. *Physical Review E*, **2010**, 82, 031133	2.4	14
92	Negativity and quantum discord in Davies environments. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 485306	2	14
91	Leggett-Garg inequality for qubits coupled to thermal environment. *Physical Review A*, **2015**, 91,	2.6	13
90	Swapping of correlations via teleportation with decoherence. *Physical Review A*, **2013**, 87,	2.6	13
89	Negative conductances of Josephson junctions: Voltage fluctuations and energetics. *Physica E: Low-Dimensional Systems and Nanostructures*, **2010**, 42, 590-594	3	13
88	Dephasing of qubits by the Schrödinger cat. *Physica E: Low-Dimensional Systems and Nanostructures*, **2010**, 42, 374-377	3	13
87	The growing processes in diffusive and convective fields. *Chemical Engineering Science*, **1993**, 48, 3713-3721	4	13
86	SQUID ratchet: Statistics of transitions in dynamical localization. *Chaos*, **2019**, 29, 013105	3.3	13
85	Diffusion in a biased washboard potential revisited. *Physical Review E*, **2020**, 101, 032123	2.4	12
84	Kinetic Energy of a Free Quantum Brownian Particle. *Entropy*, **2018**, 20,	2.8	12
83	Work distributions for random sudden quantum quenches. *Physical Review E*, **2017**, 95, 052137	2.4	12
82	Transport characteristics of molecular motors. *BioSystems*, **2008**, 94, 253-7	1.9	12
81	Currents in a system of noisy mesoscopic rings. *Physical Review B*, **2003**, 67,	3.3	12
80	On temperature- and space-dimension dependent matter agglomerations in a mature growing stage. *Chemical Physics*, **2005**, 310, 153-161	2.3	12
79	Generalized kinetic equations with memory. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1979**, 69, 393-395	2.3	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	3.3	11

77	Bifurcations of the geometric phase of a qubit asymmetrically coupled to the environment. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 442001	2	11
76	Optimal strategy for controlling transport in inertial Brownian motors. *Journal of Physics Condensed Matter*, **2006**, 18, 4111-4112	1.8	10
75	Some remarks concerning spherulitic growth. *International Journal of Quantum Chemistry*, **1994**, 52, 301-308	2.0	10
74	Colossal Brownian yet non-Gaussian diffusion induced by nonequilibrium noise. *Physical Review E*, **2020**, 102, 042121	2.4	10
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72	Quantum analogue of energy equipartition theorem. *Journal of Physics A: Mathematical and Theoretical*, **2019**, 52, 15LT01	2	9
71	Magnetic flux in mesoscopic rings: Quantum Smoluchowski regime. *Physical Review B*, **2007**, 76,	3.3	9
70	Kinetics of growth process controlled by convective fluctuations. *Physical Review E*, **2002**, 65, 051401	2.4	9
69	Rectified steady flow induced by white shot noise: diffusive and non-diffusive regimes. *Annalen Der Physik*, **2000**, 9, 721-734	2.6	9
68	First-passage time for randomly flashing diffusion. *Physical Review E*, **1995**, 52, 5810-5816	2.4	9
67	Quantum open systems in a two-state stochastic reservoir. *European Physical Journal D*, **1991**, 41, 289-292		9
66	An approximate master equation for systems driven by linear Ornstein-Uhlenbeck noise. *Physica A: Statistical Mechanics and Its Applications*, **1988**, 153, 619-635	3.3	9
65	Temperature-Induced Tunable Particle Separation. *Physical Review Applied*, **2019**, 12,	4.3	8
64	Exact probability distribution for soluble model with quadratic noise. *Journal of Statistical Physics*, **1986**, 42, 1009-1018	1.5	8
63	Relaxation problem with a quadratic noise: Analysis. *Journal of Statistical Physics*, **1987**, 47, 505-526	1.5	8
62	Dynamical bimodality in equilibrium monostable systems. *Physical Review E*, **2006**, 74, 041102	2.4	7
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60	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	2.3	7

59	Randomly flashing diffusion: Asymptotic properties. *Journal of Statistical Physics*, **1996**, 83, 1149-1164	1.5	7
58	On Markovian kinetic equations: Zubarev's nonequilibrium statistical operator approach. *Physica A: Statistical Mechanics and Its Applications*, **1988**, 149, 245-266	3.3	7
57	Many Faces of Non-equilibrium: Anomalous Transport Phenomena in Driven Periodic Systems. *Acta Physica Polonica B*, **2020**, 51, 1131	1.9	7
56	Quantum partition of energy for a free Brownian particle: Impact of dissipation. *Physical Review A*, **2018**, 98,	2.6	7
55	Finite volume effects in a model grain growth. *Physica A: Statistical Mechanics and Its Applications*, **2003**, 325, 284-291	3.3	6
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50	Interference phenomenon and geometric phase for Dirac neutrino in β decay. *Physical Review D*, **2013**, 87,	4.9	5
49	Collective behavior of coupled mesoscopic cylinders. *Physica Status Solidi (B): Basic Research*, **2005**, 242, 196-202	1.3	5
48	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	2.3	5
47	Kinetic theory of resonance and relaxation in spin systems. *Physica A: Statistical Mechanics and Its Applications*, **1982**, 111, 240-254	3.3	5
46	Self-averaging of random quantum dynamics. *Physical Review A*, **2018**, 98,	2.6	4
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42	Arcsine law and multistable Brownian dynamics in a tilted periodic potential. *Physical Review E*, **2021**, 104, 024132	2.4	4

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40	Two coupled Josephson junctions: dc voltage controlled by biharmonic current. *Journal of Physics Condensed Matter*, **2012**, 24, 085702	1.8	3
39	Current-flux characteristics in mesoscopic non-superconducting rings. *Journal of Physics Condensed Matter*, **2010**, 22, 422201	1.8	3
38	Current in Hubbard rings manipulated via magnetic flux. *Journal of Physics Condensed Matter*, **2010**, 22, 245301	1.8	3
37	Magnetic flux in a mesoscopic SQUID controlled by nonclassical electromagnetic fields. *Physical Review B*, **2009**, 80,	3.3	3
36	Gazeau-Klauder cat states. *Journal of Physics A: Mathematical and Theoretical*, **2012**, 45, 244006	2	3
35	KINETICS OF CRYSTAL GROWTH LIMITED BY RANDOM VELOCITY FIELDS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2008**, 18, 2673-2679	2	3
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32	The exact equation of motion for a two level system. Zubarev like approach. *European Physical Journal D*, **1985**, 35, 386-400		3
31	Kinetic theory of resonance and relaxation in spin systems I. *Physica A: Statistical Mechanics and Its Applications*, **1980**, 101, 552-570	3.3	3
30	Leggett-Garg inequalities for a quantum top affected by classical noise. *Quantum Information Processing*, **2016**, 15, 4911-4925	1.6	2
29	Quantum cloning disturbed by thermal Davies environment. *Quantum Information Processing*, **2016**, 15, 2661-2673	1.6	2
28	Transmission of magnetic signals in noisy mesorings. *Journal of Statistical Mechanics: Theory and Experiment*, **2009**, 2009, P01030	1.9	2
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25	Rectified steady flow induced by white shot noise: diffusive and non-diffusive regimes **2000**, 9, 721		2
24	Binary Communication with Gazeau-Klauder Coherent States. *Entropy*, **2020**, 22,	2.8	1

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22	Geometric phase of interacting qubits: Mean-field analysis. *Physical Review A*, **2009**, 80,	2.6	1
21	Analytically solvable model for the entanglement via scattering-like mechanisms. *Quantum Information Processing*, **2009**, 8, 461-475	1.6	1
20	Entanglement swapping in presence of dephasing. *Physica Status Solidi (B): Basic Research*, **2009**, 246, 936-940	1.3	1
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17	Optimal transport and phase transition in dichotomic ratchets. *Physica A: Statistical Mechanics and Its Applications*, **2003**, 325, 69-77	3.3	1
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15	Simple Derivation of the Direct Spin-Phonon Interaction. *Physica Status Solidi (B): Basic Research*, **1986**, 136, K27-K31	1.3	1
14	The Dynamics of Classical Spins Interacting with Pump Field and Quantum Reservoir. *Physica Scripta* , **1986**, 34, 97-100	2.6	1
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12			
11	Conundrum of weak-noise limit for diffusion in a tilted periodic potential. *Physical Review E*, **2021**, 104, 034104	2.4	1
10	Brownian Motion in a d-Dimensional Space with Fluctuating Friction **2000**, 85-96		1
9	Directed transport in coupled noisy Josephson junctions controlled via ac signals. *Physica Scripta*, **2012**, T151, 014021	2.6	0
8	Hyperbolic diffusion in chaotic systems. *European Physical Journal B*, **2011**, 83, 223-233	1.2	0
7	Persistent currents in metallic rings containing a quantum dot. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2015**, 379, 1654-1660	2.3	
6	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	2.3	

5   Reply to Comment on ☐azeau☐lauder cat states☐ *Journal of Physics A: Mathematical and Theoretical*, **2015**, 48, 238002   2

4   Squeezing of magnetic flux in nanorings. *Journal of Physics Condensed Matter*, **2012**, 24, 495701   1.8

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2   Relaxation of a single two-level system. *European Physical Journal D*, **1986**, 36, 674-680

1   Comment on "Deformed Fokker-Planck equation: Inhomogeneous medium with a position-dependent mass". *Physical Review E*, **2021**, 103, 036101   2.4