Gleb Oshanin

List of Publications by Year
in descending order

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151 papers	4,478 citations	76326 40 h-index	149698 56 g-index
152 all docs	152 docs citations	152 times ranked	2070 citing authors

#	Article	IF	Citations
1	Spectral density of individual trajectories of an active Brownian particle. New Journal of Physics, 2022, 24, 013018.	2.9	10
2	Ionic liquids in conducting nanoslits: how important is the range of the screened electrostatic interactions?. Journal of Physics Condensed Matter, 2022, 34, 26LT01.	1.8	4
3	Exact first-passage time distributions for three random diffusivity models. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 04LT01.	2.1	9
4	Time-dependence of the effective temperatures of a two-dimensional Brownian gyrator with cold and hot components. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 105002.	2.1	6
5	Exact distributions of the maximum and range of random diffusivity processes. New Journal of Physics, 2021, 23, 023014.	2.9	8
6	Superionic Liquids in Conducting Nanoslits: Insights from Theory and Simulations. Journal of Physical Chemistry C, 2021, 125, 4968-4976.	3.1	11
7	Recognition capabilities of a Hopfield model with auxiliary hidden neurons. Physical Review E, 2021, 103, L060401.	2.1	1
8	Binary lattice-gases of particles with soft exclusion: exact phase diagrams for tree-like lattices. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 385003.	2.1	0
9	A molecular relay race: sequential first-passage events to the terminal reaction centre in a cascade of diffusion controlled processes. New Journal of Physics, 2021, 23, 093004.	2.9	4
10	Distribution of first-reaction times with target regions on boundaries of shell-like domains. New Journal of Physics, 2021, 23, 123049.	2.9	7
11	Field-driven tracer diffusion through curved bottlenecks: fine structure of first passage events. Physical Chemistry Chemical Physics, 2020, 22, 18414-18422.	2.8	7
12	Equilibrium properties of two-species reactive lattice gases on random catalytic chains. Physical Review E, 2020, 102, 032121.	2.1	1
13	Tracer diffusion on a crowded random Manhattan lattice. New Journal of Physics, 2020, 22, 033024.	2.9	10
14	Passive advection of fractional Brownian motion by random layered flows. New Journal of Physics, 2020, 22, 053052.	2.9	6
15	Universal spectral features of different classes of random-diffusivity processes. New Journal of Physics, 2020, 22, 063056.	2.9	32
16	From single-particle stochastic kinetics to macroscopic reaction rates: fastest first-passage time of N random walkers. New Journal of Physics, 2020, 22, 103004.	2.9	32
17	Covariance of the running range of a Brownian trajectory. Journal of Physics A: Mathematical and Theoretical, 2019, 52, 345003.	2.1	4
18	Single-trajectory spectral analysis of scaled Brownian motion. New Journal of Physics, 2019, 21, 073043.	2.9	36

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19	Special issue on transport in narrow channels. Journal of Physics Condensed Matter, 2019, 31, 270201.	1.8	4
20	Spectral Content of a Single Non-Brownian Trajectory. Physical Review X, 2019, 9, .	8.9	65
21	Trapping of diffusing particles by periodic absorbing rings on a cylindrical tube. Journal of Chemical Physics, 2019, 150, 206101.	3.0	3
22	Polymer Translocation Across a Corrugated Channel: Fickâ€“Jacobs Approximation Extended Beyond the Mean First-Passage Time. Polymers, 2019, 11, 251.	4.5	14
23	Current-mediated synchronization of a pair of beating non-identical flagella. New Journal of Physics, 2019, 21, 033036.	2.9	9
24	Superionic liquids in conducting nanoslits: A variety of phase transitions and ensuing charging behavior. Journal of Chemical Physics, 2019, 151, 184105.	3.0	9
25	Full distribution of first exit times in the narrow escape problem. New Journal of Physics, 2019, 21, 122001.	2.9	50
26	Bath-mediated interactions between driven tracers in dense single files. Physical Review Research, 2019, 1, .	3.6	7
27	Order-disorder transitions in lattice gases with annealed reactive constraints. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 043206.	2.3	5
28	Strong defocusing of molecular reaction times results from an interplay of geometry and reaction control. Communications Chemistry, 2018, 1, .	4.5	93
29	Power spectral density of a single Brownian trajectory: what one can and cannot learn from it. New Journal of Physics, 2018, 20, 023029.	2.9	62
30	Asymmetry relations and effective temperatures for biased Brownian gyrators. Physical Review E, 2018, 98, .	2.1	22
31	Tracer diffusion in crowded narrow channels. Journal of Physics Condensed Matter, 2018, 30, 443001.	1.8	34
32	Spectral content of fractional Brownian motion with stochastic reset. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 435001.	2.1	46
33	Nonequilibrium Fluctuations and Enhanced Diffusion of a Driven Particle in a Dense Environment. Physical Review Letters, 2018, 120, 200606.	7.8	26
34	Towards a full quantitative description of single-molecule reaction kinetics in biological cells. Physical Chemistry Chemical Physics, 2018, 20, 16393-16401.	2.8	50
35	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>N</mml:mi></mml:math> -tag probability law of the symmetric exclusion process. Physical Review E, 2018, 97, 062119.	2.1	5
36	Smoluchowski rate for diffusion-controlled reactions of molecules with antenna. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 264004.	2.1	5

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37	Universal Long Ranged Correlations in Driven Binary Mixtures. Physical Review Letters, 2017, 118, 118002.	7.8	39
38	Diffusive escape through a narrow opening: new insights into a classic problem. Physical Chemistry Chemical Physics, 2017, 19, 2723-2739.	2.8	62
39	Cooperative behavior of biased probes in crowded interacting systems. Soft Matter, 2017, 13, 7617-7624.	2.7	15
40	Active colloids in the context of chemical kinetics. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 134001.	2.1	47
41	Effects of the target aspect ratio and intrinsic reactivity onto diffusive search in bounded domains. New Journal of Physics, 2017, 19, 103025.	2.9	25
42	A single predator charging a herd of prey: effects of self volume and predatorâ€“prey decision-making. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 225601.	2.1	21
43	Phase behaviour and structure of a superionic liquid in nonpolarized nanoconfinement. Journal of Physics Condensed Matter, 2016, 28, 464007.	1.8	18
44	Temporal Correlations of the Running Maximum of a Brownian Trajectory. Physical Review Letters, 2016, 117, 080601.	7.8	24
45	Nonlinear response and emerging nonequilibrium microstructures for biased diffusion in confined crowded environments. Physical Review E, 2016, 93, 032128.	2.1	37
46	Random pure states: Quantifying bipartite entanglement beyond the linear statistics. Physical Review E, 2016, 93, 052106.	2.1	42
47	Joint distributions of partial and global maxima of a Brownian bridge. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 335002.	2.1	11
48	Sample-to-sample fluctuations of power spectrum of a random motion in a periodic Sinai model. Physical Review E, 2016, 94, 032131.	2.1	19
49	Diffusion and Subdiffusion of Interacting Particles on Comblike Structures. Physical Review Letters, 2015, 115, 220601.	7.8	48
50	Distribution of the position of a driven tracer in a hardcore lattice gas. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P11016.	2.3	11
51	Microscopic Theory for Negative Differential Mobility in Crowded Environments. Physical Review Letters, 2014, 113, 268002.	7.8	62
52	Charging dynamics of supercapacitors with narrow cylindrical nanopores. Nanotechnology, 2014, 25, 315401.	2.6	41
53	Velocity Anomaly of a Driven Tracer in a Confined Crowded Environment. Physical Review Letters, 2014, 113, 030603.	7.8	17
54	Approach to asymptotically diffusive behavior for Brownian particles in periodic potentials: Extracting information from transients. Physical Review E, 2014, 90, 022112.	2.1	11

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55	Diffusion in periodic, correlated random forcing landscapes. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 372001.	2.1	26
56	Trajectory-to-Trajectory Fluctuations in First-Passage Phenomena in Bounded Domains. , 2014, , 203-225.		7
57	First-Passage Phenomena and Their Applications. , 2014, , .		186
58	Active Transport in Dense Diffusive Single-File Systems. Physical Review Letters, 2013, 111, 038102.	7.8	63
59	Anomalous field-induced growth of fluctuations in dynamics of a biased intruder moving in a quiescent medium. Physical Review E, 2013, 87, 020103.	2.1	14
60	Optimal least-squares estimators of the diffusion constant from a single Brownian trajectory. European Physical Journal: Special Topics, 2013, 216, 57-71.	2.6	8
61	Geometry-Induced Superdiffusion in Driven Crowded Systems. Physical Review Letters, 2013, 111, 260601.	7.8	74
62	On the non-equivalence of two standard random walks. Physica A: Statistical Mechanics and Its Applications, 2013, 392, 3909-3911.	2.6	4
63	Fluctuations and correlations of a driven tracer in a hard-core lattice gas. Physical Review E, 2013, 87, .	2.1	14
64	Anomalous Fluctuations of Currents in Sinai-Type Random Chains with Strongly Correlated Disorder. Physical Review Letters, 2013, 110, 100602.	7.8	31
65	The shadow principle: An optimal survival strategy for a prey chased by random predators. Physica A: Statistical Mechanics and Its Applications, 2013, 392, 2837-2846.	2.6	1
66	Distribution of the least-squares estimators of a single Brownian trajectory diffusion coefficient. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P04017.	2.3	13
67	A biased intruder in a dense quiescent medium: looking beyond the forceâ€“velocity relation. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P05008.	2.3	27
68	Distribution of Schmidt-like eigenvalues for Gaussian ensembles of the random matrix theory. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 115002.	2.1	2
69	Two-temperature Langevin dynamics in a parabolic potential. Physical Review E, 2013, 87, 062130.	2.1	59
70	On the structure and phase transitions of power-law Poissonian ensembles. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 405003.	2.1	7
71	Two stock options at the races: Blackâ€“Scholes forecasts. Quantitative Finance, 2012, 12, 1325-1333.	1.7	18
72	Optimal fits of diffusion constants from single-time data points of Brownian trajectories. Physical Review E, 2012, 86, 060101.	2.1	13

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73	Precursor films in wetting phenomena. Journal of Physics Condensed Matter, 2012, 24, 243102.	1.8	136
74	First passages in bounded domains: When is the mean first passage time meaningful?. Physical Review E, 2012, 86, 031143.	2.1	124
75	Optimal estimates of the diffusion coefficient of a single Brownian trajectory. Physical Review E, 2012, 85, 031136.	2.1	44
76	Bias- and bath-mediated pairing of particles driven through a quiescent medium. Soft Matter, 2011, 7, 993-1000.	2.7	52
77	First passages for a search by a swarm of independent random searchers. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P06022.	2.3	100
78	Proportionate vs disproportionate distribution of wealth of two individuals in a tempered Paretian ensemble. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 4340-4346.	2.6	14
79	Symmetry breaking between statistically equivalent, independent channels in few-channel chaotic scattering. Physical Review E, 2011, 84, 035203.	2.1	22
80	Ballistic deposition patterns beneath a growing Kardar-Parisi-Zhang interface. Physical Review E, 2010, 82, 061107.	2.1	14
81	Intermittent search strategies revisited: effect of the jump length and biased motion. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 345001.	2.1	19
82	Narrow-escape times for diffusion in microdomains with a particle-surface affinity: Mean-field results. Journal of Chemical Physics, 2010, 132, 235101.	3.0	40
83	Post-Tanner stages of droplet spreading: the energy balance approach revisited. Journal of Physics Condensed Matter, 2009, 21, 464131.	1.8	10
84	Helix or coil? Fate of a melting heteropolymer. Europhysics Letters, 2009, 85, 10008.	2.0	33
85	Survival of an evasive prey. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 13696-13701.	7.1	101
86	Dynamics of wetting. Journal of Physics Condensed Matter, 2009, 21, 460302.	1.8	0
87	Finding passwords by random walks: how long does it take?. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 434016.	2.1	4
88	Efficient search by optimized intermittent random walks. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 434008.	2.1	49
89	Confinement effects on diffusiophoretic self-propellers. Journal of Chemical Physics, 2009, 130, 194702.	3.0	73
90	Post-Tanner spreading of nematic droplets. Journal of Physics Condensed Matter, 2009, 21, 464134.	1.8	7

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91	Survival probability of a particle in a sea of mobile traps: A tale of tails. Physical Review E, 2008, 78, 021105.	2.1	50
92	Contact line stability of ridges and drops. Europhysics Letters, 2007, 80, 66002.	2.0	24
93	Binary reactive adsorbate on a random catalytic substrate. Journal of Physics Condensed Matter, 2007, 19, 065126.	1.8	4
94	Intermittent random walks for an optimal search strategy: one-dimensional case. Journal of Physics Condensed Matter, 2007, 19, 065142.	1.8	58
95	On the Distribution of Surface Extrema in Several One- and Two-dimensional Random Landscapes. Journal of Statistical Physics, 2007, 126, 243-279.	1.2	10
96	Microscopic model of charge carrier transfer in complex media. Chemical Physics, 2005, 319, 16-27.	1.9	3
97	Reversible diffusion-limited reactions: â€œChemical Equilibriumâ€•state and the Law of Mass Action revisited. Europhysics Letters, 2005, 69, 177-183.	2.0	8
98	Saltatory drift in a randomly driven two-wave potential. Journal of Physics Condensed Matter, 2005, 17, S3697-S3707.	1.8	7
99	Diffusive spreading and mixing of fluid monolayers. Journal of Physics Condensed Matter, 2005, 17, S4189-S4198.	1.8	7
100	Kinetics of diffusion-limited catalytically activated reactions: An extension of the Wilemskiâ€“Fixman approach. Journal of Chemical Physics, 2005, 123, 194506.	3.0	24
101	Molecular motor with a built-in escapement device. Europhysics Letters, 2004, 68, 26-32.	2.0	17
102	Exactly Solvable Model of Monomer-Monomer Reactions on a Two-Dimensional Random Catalytic Substrate. Physical Review Letters, 2004, 93, 020602.	7.8	14
103	Catalytic reactions with bulk-mediated excursions: Mixing fails to restore chemical equilibrium. Physical Review E, 2004, 69, 036115.	2.1	11
104	Lattice theory of trapping reactions with mobile species. Physical Review E, 2004, 69, 046101.	2.1	42
105	Biased Tracer Diffusion in Hard-Core Lattice Gases: Some Notes on the Validity of the Einstein Relation. Nonlinear Phenomena and Complex Systems, 2004, , 33-74.	0.0	8
106	Exactly Solvable Model of Reactions on a Random Catalytic Chain. Journal of Statistical Physics, 2003, 112, 541-586.	1.2	17
107	Stochastic theory of diffusion-controlled reactions. Physica A: Statistical Mechanics and Its Applications, 2003, 327, 99-104.	2.6	7
108	Adsorption of reactive particles on a random catalytic chain: An exact solution. Physical Review E, 2003, 67, 016115.	2.1	25

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109	Pascal principle for diffusion-controlled trapping reactions. Physical Review E, 2003, 67, 045104.	2.1	54
110	Exactly solvable model of A + A â†' 0 reactions on a heterogeneous catalytic chain. Europhysics Letters, 2003, 62, 69-75.	2.0	8
111	Ultraslow vacancy-mediated tracer diffusion in two dimensions: The Einstein relation verified. Physical Review E, 2002, 66, 031101.	2.1	49
112	Single-species reactions on a random catalytic chain. Journal of Physics A, 2002, 35, L695-L705.	1.6	21
113	Trapping reactions with randomly moving traps: Exact asymptotic results for compact exploration. Physical Review E, 2002, 66, 060101.	2.1	56
114	Dynamical disorder in diffusion-limited reactions. Physica A: Statistical Mechanics and Its Applications, 2002, 306, 169-179.	2.6	3
115	Intrinsic friction of adsorbed monolayers. Journal of Physics Condensed Matter, 2001, 13, 4835-4851.	1.8	1
116	Force-velocity relation and density profiles for biased diffusion in an adsorbed monolayer. Physical Review B, 2001, 63, .	3.2	26
117	Influence of auto-organization and fluctuations on the kinetics of a monomer-monomer catalytic scheme. Physical Review E, 2001, 63, 021110.	2.1	16
118	Atomic slide puzzle:â€ƒSelf-diffusion of an impure atom. Physical Review E, 2001, 64, 020103.	2.1	9
119	Anchoring of Polymers by Traps Randomly Placed on a Line. Journal of Statistical Physics, 2000, 98, 281-303.	1.2	13
120	Stokes Formula and Density Perturbances for Driven Tracer Diffusion in an Adsorbed Monolayer. Physical Review Letters, 2000, 84, 511-514.	7.8	32
121	Polymer dynamics in time-dependent Matheronâ€“de Marsily flows: An exactly solvable model. Physical Review E, 2000, 63, 011801.	2.1	11
122	Generalized model for dynamic percolation. Physical Review E, 2000, 62, 3327-3339.	2.1	24
123	Kinetics of stochastically gated diffusion-limited reactions and geometry of random walk trajectories. Physical Review E, 2000, 61, 3388-3406.	2.1	66
124	Directed random walk in adsorbed monolayer. Physica A: Statistical Mechanics and Its Applications, 1999, 272, 56-86.	2.6	13
125	Biased Diffusion in a One-Dimensional Adsorbed Monolayer. Journal of Statistical Physics, 1999, 97, 351-371.	1.2	29
126	Droplet Spreading:â€‰ Partial Wetting Regime Revisited. Langmuir, 1999, 15, 2209-2216.	3.5	230

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127	Dissipation Processes at the Mesoscopic and Molecular Scale. The Case of Polymer Films. Langmuir, 1999, 15, 1522-1527.	3.5	13
128	Microscopic model for spreading of a two-dimensional monolayer. Journal of Molecular Liquids, 1998, 76, 195-219.	4.9	19
129	Dynamics of Spreading of Liquid Microdroplets on Substrates of Increasing Surface Energies. Langmuir, 1998, 14, 5951-5958.	3.5	55
130	Kinetic description of diffusion-limited reactions in random catalytic media. Journal of Chemical Physics, 1998, 108, 1140-1147.	3.0	46
131	Molecular Weight Dependence of Spreading Rates of Ultrathin Polymeric Films. Physical Review Letters, 1998, 80, 5377-5380.	7.8	52
132	Dewetting, partial wetting, and spreading of a two-dimensional monolayer on solid surface. Physical Review E, 1998, 58, R20-R23.	2.1	27
133	Kinetics of anchoring of polymer chains on substrates with chemically active sites. Physical Review E, 1998, 58, 6134-6144.	2.1	14
134	Dynamics of a driven probe molecule in a liquid monolayer. Europhysics Letters, 1997, 38, 527-532.	2.0	18
135	Microscopic Model of Upward Creep of an Ultrathin Wetting Film. Physical Review Letters, 1996, 76, 86-89.	7.8	71
136	Dynamics and conformational properties of polyampholytes in external electrical fields: Influence of the charge distribution. Macromolecular Theory and Simulations, 1996, 5, 45-66.	1.4	27
137	Fluctuationâ€dominated A+Bâ†'0 kinetics under shortâ€ranged interparticle interactions. Journal of Chemical Physics, 1996, 105, 6304-6314.	3.0	10
138	Spreading of a thin wetting film: Microscopic approach. Physical Review E, 1996, 54, 3832-3845.	2.1	40
139	Sample-size dependence of the ground-state energy in a one-dimensional localization problem. Physical Review E, 1996, 54, 231-242.	2.1	41
140	Motion of a driven tracer particle in a one-dimensional symmetric lattice gas. Physical Review E, 1996, 54, 3165-3172.	2.1	65
141	Dynamics and conformational properties of Rouse polymers in random layered flows. Macromolecular Theory and Simulations, 1995, 4, 87-109.	1.4	18
142	Correlation-induced non-monotonic behavior of reversible chemical reactions. Journal of Molecular Liquids, 1995, 63, 175-197.	4.9	7
143	Influence of transport limitations on the kinetics of homopolymerization reactions. Journal of Chemical Physics, 1995, 102, 2977-2985.	3.0	38
144	Smoluchowski approach for three-body reactions in one dimension. Physical Review E, 1995, 52, 5800-5805.	2.1	20

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145	Comment on â€œPair and Triple Correlations in theA+Bâ†’BDiffusion-Controlled Reactionâ€• Physical Review Letters, 1995, 75, 585-585.	7.8	14
146	Direct energy transfer in solutions of ideal polymer chains. Journal of Chemical Physics, 1995, 103, 9864-9875.	3.0	11
147	Dynamics and conformational properties of polyampholytes in external electrical fields. Journal of Chemical Physics, 1995, 103, 5070-5074.	3.0	44
148	Rouse chain dynamics in layered random flows. Physical Review E, 1994, 49, 4185-4191.	2.1	23
149	Models of chemical reactions with participation of polymers. Advances in Colloid and Interface Science, 1994, 49, 1-46.	14.7	58
150	Behavior of transport characteristics in several one-dimensional disordered systems. Chemical Physics, 1993, 177, 803-819.	1.9	26
151	Steady flux in a continuous-space Sinai chain. Journal of Statistical Physics, 1993, 73, 379-388.	1.2	40