

Vasily Zaburdaev

List of Publications by Year in descending order

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Version: 2024-02-01

70
papers

2,880
citations

236925

25
h-index

189892

50
g-index

83
all docs

83
docs citations

83
times ranked

3253
citing authors

#	ARTICLE	IF	CITATIONS
1	LÃ©vy walks. <i>Reviews of Modern Physics</i> , 2015, 87, 483-530.	45.6	567
2	A pH-driven transition of the cytoplasm from a fluid- to a solid-like state promotes entry into dormancy. <i>ELife</i> , 2016, 5, .	6.0	355
3	Liquid transport facilitated by channels in <i>Bacillus subtilis</i> biofilms. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 848-852.	7.1	278
4	A tunable refractive index matching medium for live imaging cells, tissues and model organisms. <i>ELife</i> , 2017, 6, .	6.0	128
5	Competition between histone and transcription factor binding regulates the onset of transcription in zebrafish embryos. <i>ELife</i> , 2017, 6, .	6.0	117
6	A Bacterial Swimmer with Two Alternating Speeds of Propagation. <i>Biophysical Journal</i> , 2013, 105, 1915-1924.	0.5	103
7	How the Motility Pattern of Bacteria Affects Their Dispersal and Chemotaxis. <i>PLoS ONE</i> , 2013, 8, e81936.	2.5	99
8	Transcription organizes euchromatin via microphase separation. <i>Nature Communications</i> , 2021, 12, 1360.	12.8	83
9	Histone H3K27 acetylation precedes active transcription during zebrafish zygotic genome activation as revealed by live-cell analysis. <i>Development (Cambridge)</i> , 2019, 146, .	2.5	81
10	Perturbation Spreading in Many-Particle Systems: A Random Walk Approach. <i>Physical Review Letters</i> , 2011, 106, 180601.	7.8	56
11	Random walks with random velocities. <i>Physical Review E</i> , 2008, 78, 011119.	2.1	46
12	RNA polymerase II clusters form in line with surface condensation on regulatory chromatin. <i>Molecular Systems Biology</i> , 2021, 17, e10272.	7.2	46
13	Enhanced superdiffusion and finite velocity of Levy flights. <i>Journal of Experimental and Theoretical Physics</i> , 2002, 94, 252-259.	0.9	45
14	Liquid Phase Separation Controlled by pH. <i>Biophysical Journal</i> , 2020, 119, 1590-1605.	0.5	43
15	Uncovering the Mechanism of Trapping and Cell Orientation during <i>Neisseria gonorrhoeae</i> Twitching Motility. <i>Biophysical Journal</i> , 2014, 107, 1523-1531.	0.5	40
16	Asymptotic densities of ballistic LÃ©vy walks. <i>Physical Review E</i> , 2015, 91, 022131.	2.1	40
17	Collective dynamics of model microorganisms with chemotactic signaling. <i>Physical Review E</i> , 2012, 85, 051901.	2.1	38
18	Multiscale modeling of bacterial colonies: how pili mediate the dynamics of single cells and cellular aggregates. <i>New Journal of Physics</i> , 2017, 19, 015003.	2.9	37

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19	Modeling a self-propelled autochemotactic walker. <i>Physical Review E</i> , 2011, 84, 041924.	2.1	33
20	Space-Time Velocity Correlation Function for Random Walks. <i>Physical Review Letters</i> , 2013, 110, 170604.	7.8	32
21	Pili-Induced Clustering of <i>N. gonorrhoeae</i> Bacteria. <i>PLoS ONE</i> , 2015, 10, e0137661.	2.5	32
22	Superdiffusive Dispersals Impart the Geometry of Underlying Random Walks. <i>Physical Review Letters</i> , 2016, 117, 270601.	7.8	32
23	Random Walk Model with Waiting Times Depending on the Preceding Jump Length. <i>Journal of Statistical Physics</i> , 2006, 123, 871-881.	1.2	29
24	Elasticity-based polymer sorting in active fluids: a Brownian dynamics study. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 18338-18347.	2.8	29
25	On moments and scaling regimes in anomalous random walks. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P12020.	2.3	27
26	Random walk patterns of a soil bacterium in open and confined environments. <i>Europhysics Letters</i> , 2015, 109, 28007.	2.0	27
27	Pili mediated intercellular forces shape heterogeneous bacterial microcolonies prior to multicellular differentiation. <i>Scientific Reports</i> , 2018, 8, 16567.	3.3	27
28	Langevin Dynamics Deciphers the Motility Pattern of Swimming Parasites. <i>Physical Review Letters</i> , 2011, 106, 208103.	7.8	24
29	Reaction front propagation of actin polymerization in a comb-reaction system. <i>Chaos, Solitons and Fractals</i> , 2016, 92, 115-122.	5.1	24
30	Langevin description of superdiffusive Lévy processes. <i>Physical Review E</i> , 2012, 86, 041134.	2.1	23
31	Intracellular Mass Density Increase Is Accompanying but Not Sufficient for Stiffening and Growth Arrest of Yeast Cells. <i>Frontiers in Physics</i> , 2018, 6, .	2.1	23
32	Ultrahigh-Speed Imaging of Rotational Diffusion on a Lipid Bilayer. <i>Nano Letters</i> , 2020, 20, 7213-7219.	9.1	21
33	Live cell X-ray imaging of autophagic vacuoles formation and chromatin dynamics in fission yeast. <i>Scientific Reports</i> , 2017, 7, 13775.	3.3	18
34	Continuum Theory of Active Phase Separation in Cellular Aggregates. <i>Physical Review Letters</i> , 2021, 126, 018102.	7.8	18
35	Lévy walks with velocity fluctuations. <i>Physical Review E</i> , 2012, 85, 031148.	2.1	16
36	Pulled Polymer Loops as a Model for the Alignment of Meiotic Chromosomes. <i>Physical Review Letters</i> , 2015, 115, 208102.	7.8	16

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37	Memory effects in stochastic transport. JETP Letters, 2003, 77, 551-555.	1.4	14
38	Formation and dissolution of bacterial colonies. Physical Review E, 2015, 92, 032704.	2.1	14
39	Identifying the mechanism for superdiffusivity in mouse fibroblast motility. PLoS Computational Biology, 2019, 15, e1006732.	3.2	14
40	Nucleosomal arrangement affects single-molecule transcription dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12733-12738.	7.1	13
41	Free Cooling of the One-Dimensional Wet Granular Gas. Physical Review Letters, 2006, 97, 018001.	7.8	12
42	Microscopic Approach to Random Walks. Journal of Statistical Physics, 2008, 133, 159-167.	1.2	11
43	Exogenous ethanol induces a metabolic switch that prolongs the survival of <i>Caenorhabditis elegans</i> dauer larva and enhances its resistance to desiccation. Aging Cell, 2020, 19, e13214.	6.7	11
44	How bacterial cells and colonies move on solid substrates. Physical Review E, 2019, 99, 042419.	2.1	10
45	The shape of pinned forced polymer loops. Soft Matter, 2019, 15, 1785-1792.	2.7	10
46	Subdiffusion in random compressible flows. Physical Review E, 2005, 71, 061105.	2.1	9
47	Comment on "Towards deterministic equations for Lévy walks: The fractional material derivative". Physical Review E, 2003, 68, 033101.	2.1	7
48	Nonlinear dynamics of electron vortex lattices. Plasma Physics Reports, 2004, 30, 214-217.	0.9	7
49	Limit theorems for Lévy walks in dimensions: rare and bulk fluctuations. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 154002.	2.1	7
50	Chemotactic drift speed for bacterial motility pattern with two alternating turning events. PLoS ONE, 2018, 13, e0190434.	2.5	7
51	Rectification of Bacterial Diffusion in Microfluidic Labyrinths. Frontiers in Physics, 2019, 7, .	2.1	7
52	High-Precision Protein-Tracking With Interferometric Scattering Microscopy. Frontiers in Cell and Developmental Biology, 2020, 8, 590158.	3.7	7
53	Stochastic transport through complex comb structures. Journal of Experimental and Theoretical Physics, 2008, 106, 999-1005.	0.9	6
54	Kolmogorov-Sinai Entropy of the Dilute Wet Granular Gas. Physical Review Letters, 2005, 95, 198001.	7.8	4

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55	Relative distance between tracers as a measure of diffusivity within moving aggregates. <i>European Physical Journal B</i> , 2018, 91, 1.	1.5	4
56	Exactly solvable dynamics of forced polymer loops. <i>New Journal of Physics</i> , 2018, 20, 113005.	2.9	4
57	Theory of nondiffusive penetration of a magnetic field into a conducting medium. <i>Plasma Physics Reports</i> , 2000, 26, 462-464.	0.9	3
58	Chaoticity of the wet granular gas. <i>Physical Review E</i> , 2007, 75, 061301.	2.1	3
59	The hierarchical packing of euchromatin domains can be described as multiplicative cascades. <i>PLoS Computational Biology</i> , 2021, 17, e1008974.	3.2	3
60	Skin Effects in a Dusty Plasma. <i>Plasma Physics Reports</i> , 2001, 27, 407-411.	0.9	2
61	Theory of heat transport in a magnetized high-temperature plasma. <i>Plasma Physics Reports</i> , 2005, 31, 1071-1077.	0.9	1
62	Dry and wet granular shock waves. <i>Physical Review E</i> , 2007, 75, 031304.	2.1	1
63	Genetic noise mechanism for power-law switching in bacterial flagellar motors. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018, 51, 265601.	2.1	1
64	A Pili-Driven Bacterial Turbine. <i>Frontiers in Physics</i> , 2022, 10, .	2.1	1
65	'Hermite' states in the quantum interaction of vortices. <i>Physics-Uspexhi</i> , 2005, 48, 841-846.	2.2	0
66	Subnuclear Spatial Structuring of Chromatin and Polymerase II during Transcription Activation of the Zebrafish Zygotic Genome. <i>Biophysical Journal</i> , 2016, 110, 232a-233a.	0.5	0
67	Transcription Locally Disperses Chromatin and Thereby Organizes the Global Architecture of Interphase Nuclei. <i>Biophysical Journal</i> , 2017, 112, 211a.	0.5	0
68	Biophysical Techniques for the Study of Phase Transitions in Protein Droplets and Cells. <i>Biophysical Journal</i> , 2018, 114, 204a.	0.5	0
69	Thermal fluctuations assist mechanical signal propagation in coiled-coil proteins. <i>Physical Review E</i> , 2021, 104, 054403.	2.1	0
70	Unbiased retrieval of frequency-dependent mechanical properties from noisy time-dependent signals. <i>Biophysical Reports</i> , 2022, , 100054.	1.2	0