Alexander M Berezhkovskii

List of Publications by Year
in descending order

62 papers	1,782 citations	236925 25 h-index	276875 41 g-index
63 all docs	63 docs citations	63 times ranked	961 citing authors

#	Article	IF	Citations
1	Optimizing Transport of Metabolites through Large Channels: Molecular Sieves with and without Binding. Biophysical Journal, 2005, 88, L17-L19.	0.5	145
2	Channel-facilitated membrane transport: Transit probability and interaction with the channel. Journal of Chemical Physics, 2002, 116, 9952-9956.	3.0	122
3	Boundary homogenization for trapping by patchy surfaces. Journal of Chemical Physics, 2004, 121, 11390.	3.0	109
4	Time scale separation leads to position-dependent diffusion along a slow coordinate. Journal of Chemical Physics, 2011, 135, 074108.	3.0	94
5	Particle number fluctuations in a membrane channel. Journal of Chemical Physics, 2000, 113, 8206-8211.	3.0	91
6	Channel-facilitated membrane transport:â€‚Average lifetimes in the channel. Journal of Chemical Physics, 2003, 119, 3943-3951.	3.0	89
7	Homogenization of boundary conditions for surfaces with regular arrays of traps. Journal of Chemical Physics, 2006, 124, 036103.	3.0	71
8	Identity of Distributions of Direct Uphill and Downhill Translocation Times for Particles Traversing Membrane Channels. Physical Review Letters, 2006, 97, 020601.	7.8	70
9	Diffusion model of solute dynamics in a membrane channel: Mapping onto the two-site model and optimizing the flux. Journal of Chemical Physics, 2007, 127, 115101.	3.0	61
10	Diffusion along the Splitting/Commitment Probability Reaction Coordinate. Journal of Physical Chemistry B, 2013, 117, 13115-13119.	2.6	57
11	Channel-facilitated membrane transport: Constructive role of particle attraction to the channel pore. Chemical Physics, 2005, 319, 342-349.	1.9	56
12	Committors, first-passage times, fluxes, Markov states, milestones, and all that. Journal of Chemical Physics, 2019, 150, 054106.	3.0	55
13	Effect of ligand diffusion on occupancy fluctuations of cell-surface receptors. Journal of Chemical Physics, 2013, 139, 121910.	3.0	47
14	Conductivity and microviscosity of electrolyte solutions containing polyethylene glycols. Journal of Chemical Physics, 2003, 119, 6973-6978.	3.0	42
15	Homogenization of boundary conditions on surfaces randomly covered by patches of different sizes and shapes. Journal of Chemical Physics, 2005, 122, 236102.	3.0	41
16	Discriminating between Anomalous Diffusion and Transient Behavior in Microheterogeneous Environments. Biophysical Journal, 2014, 106, L09-L11.	0.5	40
17	Field-Dependent Effect of Crown Ether (18-Crown-6) on Ionic Conductance of Î±-Hemolysin Channels. Biophysical Journal, 2004, 87, 3162-3171.	0.5	39
18	Ensemble of transition states for two-state protein folding from the eigenvectors of rate matrices. Journal of Chemical Physics, 2004, 121, 9186-9187.	3.0	38

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19	Mean Direct-Transit and Looping Times as Functions of the Potential Shape. Journal of Physical Chemistry B, 2017, 121, 5455-5460.	2.6	34
20	Broad distributions of transition-path times are fingerprints of multidimensionality of the underlying free energy landscapes. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27116-27123.	7.1	33
21	Diffusion-influenced ligand binding to buried sites in macromolecules and transmembrane channels. Journal of Chemical Physics, 2011, 135, 075103.	3.0	31
22	Alpha-Synuclein Lipid-Dependent Membrane Binding and Translocation through the Î±-Hemolysin Channel. Biophysical Journal, 2014, 106, 556-565.	0.5	30
23	Conductance hysteresis in the voltage-dependent anion channel. European Biophysics Journal, 2015, 44, 465-472.	2.2	30
24	Boundary homogenization for a sphere with an absorbing cap of arbitrary size. Journal of Chemical Physics, 2016, 145, 214101.	3.0	28
25	Range of applicability of modified Fick-Jacobs equation in two dimensions. Journal of Chemical Physics, 2015, 143, 164102.	3.0	27
26	On the applicability of entropy potentials in transport problems. European Physical Journal: Special Topics, 2014, 223, 3063-3077.	2.6	23
27	Multidimensional reaction rate theory with anisotropic diffusion. Journal of Chemical Physics, 2014, 141, 204106.	3.0	22
28	On the forward/backward symmetry of transition path time distributions in nonequilibrium systems. Journal of Chemical Physics, 2019, 151, 065102.	3.0	20
29	From normal to anomalous diffusion in comb-like structures in three dimensions. Journal of Chemical Physics, 2014, 141, 054907.	3.0	18
30	Drift and diffusion in periodic potentials: Upstream and downstream step times are distributed identically. Journal of Chemical Physics, 2009, 131, 056101.	3.0	17
31	Biased diffusion in three-dimensional comb-like structures. Journal of Chemical Physics, 2015, 142, 134101.	3.0	16
32	Trapping by Clusters of Channels, Receptors, and Transporters: Quantitative Description. Biophysical Journal, 2014, 106, 500-509.	0.5	14
33	A new approach to the problem of bulk-mediated surface diffusion. Journal of Chemical Physics, 2015, 143, 084103.	3.0	14
34	Site model for channel-facilitated membrane transport: invariance of the translocation time distribution with respect to direction of passage. Journal of Physics Condensed Matter, 2007, 19, 065148.	1.8	12
35	First passage, looping, and direct transition in expanding and narrowing tubes: Effects of the entropy potential. Journal of Chemical Physics, 2017, 147, 134104.	3.0	12
36	From Nonequilibrium Single-Molecule Trajectories to Underlying Dynamics. Journal of Physical Chemistry Letters, 2020, 11, 1682-1688.	4.6	12

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37	Trapping of diffusing particles by striped cylindrical surfaces. Boundary homogenization approach. Journal of Chemical Physics, 2015, 142, 234902.	3.0	11
38	Optimal Length of Conformational Transition Region in Protein Search for Targets on DNA. Journal of Physical Chemistry Letters, 2017, 8, 4049-4054.	4.6	11
39	Perturbation theory of Î¦-value analysis of two-state protein folding: Relation between pfold and Î¦ values. Journal of Chemical Physics, 2006, 125, 104902.	3.0	10
40	Biased Random Walk in Crowded Environment: Breaking Uphill/Downhill Symmetry of Transition Times. Journal of Physical Chemistry Letters, 2020, 11, 4530-4535.	4.6	9
41	On distributions of barrier crossing times as observed in single-molecule studies of biomolecules. Biophysical Reports, 2021, 1, 100029.	1.2	8
42	Steady-state flux of diffusing particles to a rough boundary formed by absorbing spikes periodically protruding from a reflecting base. Journal of Chemical Physics, 2019, 150, 194109.	3.0	7
43	Effective drift and diffusion of a particle jumping between mobile and immobile states. Journal of Electroanalytical Chemistry, 2011, 660, 352-355.	3.8	6
44	Note: Boundary homogenization for a circle with periodic absorbing arcs. Exact expression for the effective trapping rate. Journal of Chemical Physics, 2015, 143, 226101.	3.0	6
45	Biased diffusion in periodic potentials: Three types of force dependence of effective diffusivity and generalized Lifson-Jackson formula. Journal of Chemical Physics, 2019, 151, 131102.	3.0	6
46	Evaluating diffusion resistance of a constriction in a membrane channel by the method of boundary homogenization. Physical Review E, 2021, 103, 012408.	2.1	6
47	Trapping of diffusing particles by spiky absorbers. Journal of Chemical Physics, 2018, 148, 084103.	3.0	5
48	Mapping Intrachannel Diffusive Dynamics of Interacting Molecules onto a Two-Site Model: Crossover in Flux Concentration Dependence. Journal of Physical Chemistry B, 2018, 122, 10996-11001.	2.6	5
49	Capturing single molecules by nanopores: measured times and thermodynamics. Physical Chemistry Chemical Physics, 2021, 23, 1610-1615.	2.8	5
50	Two-site versus continuum diffusion model of blocker dynamics in a membrane channel: Comparative analysis of escape kinetics. Journal of Chemical Physics, 2019, 151, 054113.	3.0	4
51	Note: Effect of a small surface defect on the Smoluchowski rate constant and capacitance of a spherical capacitor. Journal of Chemical Physics, 2017, 147, 106101.	3.0	3
52	Blocker escape kinetics from a membrane channel analyzed by mapping blocker diffusive dynamics onto a two-site model. Journal of Chemical Physics, 2019, 150, 194103.	3.0	3
53	Trapping of diffusing particles by periodic absorbing rings on a cylindrical tube. Journal of Chemical Physics, 2019, 150, 206101.	3.0	3
54	Intrinsic diffusion resistance of a membrane channel, mean first-passage times between its ends, and equilibrium unidirectional fluxes. Journal of Chemical Physics, 2022, 156, 071103.	3.0	3

#	Article	IF	Citations
55	Trapping of diffusing particles by short absorbing spikes periodically protruding from reflecting base. Journal of Chemical Physics, 2018, 149, 044106.	3.0	2
56	Localized potential well vs binding site: Mapping solute dynamics in a membrane channel onto one-dimensional description. Journal of Chemical Physics, 2021, 154, 111101.	3.0	2
57	Crowding breaks the forward/backward symmetry of transition times in biased random walks. Journal of Chemical Physics, 2021, 154, 204104.	3.0	2
58	Diffusive barrier crossing rates from variationally determined eigenvalues. Journal of Chemical Physics, 2021, 155, 034104.	3.0	2
59	Coarse-graining of asymmetric discrete-time random walk on a one-dimensional lattice. Journal of Chemical Physics, 2019, 151, 224110.	3.0	1
60	Detailed balance for diffusion in a potential with trapping and forwardâ€“backward symmetry of trapping time distributions. Journal of Chemical Physics, 2020, 152, 226101.	3.0	1
61	Surface-facilitated trapping by active sites: From catalysts to viruses. Journal of Chemical Physics, 2021, 155, 184106.	3.0	1
62	Effective Diffusivity for Transport with Fluctuating Drift Velocity. Journal of Physical Chemistry B, 2021, 125, 4489-4493.	2.6	0