David Holcman

List of Publications by Year
in descending order

194	6,670	76326	85541
papers	citations	40 h-index	71 g-index

237	237	237	5464
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Adaptive Single-Channel EEG Artifact Removal With Applications to Clinical Monitoring. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 286-295.	4.9	13
2	Exit Versus Escape for Stochastic Dynamical Systems and Application to the Computation of the Bursting Time Duration in Neuronal Networks. Journal of Nonlinear Science, 2022, 32, 1.	2.1	3
3	Combining transient statistical markers from the EEG signal to predict brain sensitivity to general anesthesia. Biomedical Signal Processing and Control, 2022, 77, 103713.	5.7	5
4	Calcium Dynamics in Neuronal Microdomains: Modeling, Stochastic Simulations, and Data Analysis. , 2022, , 612-641.		0
5	Modeling bursting in neuronal networks using facilitation-depression and afterhyperpolarization. Communications in Nonlinear Science and Numerical Simulation, 2021, 94, 105555.	3.3	6
6	Chromatin stability generated by stochastic binding and unbinding of cross-linkers at looping sites revealed by Markov models. Physical Biology, 2021, 18, 046006.	1.8	0
7	Asymptotics for the fastest among N stochastic particles: role of an extended initial distribution and an additional drift component. Journal of Physics A: Mathematical and Theoretical, 2021, 54, 285601.	2.1	3
8	Modeling the voltage distribution in a non-locally but globally electroneutral confined electrolyte medium: applications for nanophysiology. Journal of Mathematical Biology, 2021, 82, 65.	1.9	1
9	Escape from an attractor generated by recurrent exit. Physical Review Research, 2021, 3, .	3.6	2
10	Physics meets biology: The joining of two forces to further our understanding of cellular function. Molecular Cell, 2021, 81, 3033-3037.	9.7	2
11	Nanoscale molecular architecture controls calcium diffusion and ER replenishment in dendritic spines. Science Advances, 2021, 7, eabh1376.	10.3	13
12	Reconstructing a point source from diffusion fluxes to narrow windows in three dimensions. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210271.	2.1	3
13	Modelling and asymptotic analysis of the concentration difference in a nanoregion between an influx andoutflux diffusion acrossnarrow windows. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	2.1	0
14	Emergence and fragmentation of the alpha-band driven by neuronal network dynamics. PLoS Computational Biology, 2021, 17, e1009639.	3.2	4
15	Reply to â€˜Only negligible deviations from electroneutrality are expected in dendritic spinesâ€™. Nature Reviews Neuroscience, 2020, 21, 54-55.	10.2	1
16	Triangulation Sensing to Determine the Gradient Source from Diffusing Particles to Small Cell Receptors. Physical Review Letters, 2020, 125, 148102.	7.8	3
17	Active flow network generates molecular transport by packets: case of the endoplasmic reticulum. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200493.	2.6	11
18	Post-replicative pairing of sister ter regions in Escherichia coli involves multiple activities of MatP. Nature Communications, 2020, 11, 3796.	12.8	13

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19	The structure and global distribution of the endoplasmic reticulum network are actively regulated by lysosomes. Science Advances, 2020, 6, .	10.3	58
20	Preface: new trends in first-passage methods and applications in the life sciences and engineering. Journal of Physics A: Mathematical and Theoretical, 2020, 53, 190301.	2.1	23
21	Asymmetry Between Pre- and Postsynaptic Transient Nanodomains Shapes Neuronal Communication. Trends in Neurosciences, 2020, 43, 182-196.	8.6	27
22	Extreme escape from a cusp: When does geometry matter for the fastest Brownian particles moving in crowded cellular environments?. Journal of Chemical Physics, 2020, 152, 134104.	3.0	2
23	Topographical Guidance of Highly Motile Amoeboid Cell Migration. Biophysical Journal, 2020, 118, 606a.	0.5	1
24	Single Particle Trajectories Reveal Active Endoplasmic Reticulum Luminal Flow. Biophysical Journal, 2019, 116, 173a-174a.	0.5	0
25	Advances Using Single-Particle Trajectories to Reconstruct Chromatin Organization and Dynamics. Trends in Genetics, 2019, 35, 685-705.	6.7	33
26	Electrodiffusion Theory to Map the Voltage Distribution in Dendritic Spines at a Nanometer Scale. Neuron, 2019, 104, 440-441.	8.1	2
27	Alpha rhythm collapse predicts iso-electric suppressions during anesthesia. Communications Biology, 2019, 2, 327.	4.4	23
28	Fastest among equals: a novel paradigm in biology. Physics of Life Reviews, 2019, 28, 96-99.	2.8	14
29	Statistics of chromatin organization during cell differentiation revealed by heterogeneous cross-linked polymers. Nature Communications, 2019, 10, 2626.	12.8	11
30	Fast calcium transients in dendritic spines driven by extreme statistics. PLoS Biology, 2019, 17, e2006202.	5.6	34
31	Transient Confinement of CaV2.1 Ca2+-Channel Splice Variants Shapes Synaptic Short-Term Plasticity. Neuron, 2019, 103, 66-79.e12.	8.1	47
32	Steady-state voltage distribution in three-dimensional cusp-shaped funnels modeled by PNP. Journal of Mathematical Biology, 2019, 79, 155-185.	1.9	3
33	Biophysics of high density nanometer regions extracted from super-resolution single particle trajectories: application to voltage-gated calcium channels and phospholipids. Scientific Reports, 2019, 9, 18818.	3.3	5
34	Redundancy principle and the role of extreme statistics in molecular and cellular biology. Physics of Life Reviews, 2019, 28, 52-79.	2.8	52
35	Asymptotic Formulas for Extreme Statistics of Escape Times in 1, 2 and 3-Dimensions. Journal of Nonlinear Science, 2019, 29, 461-499.	2.1	34
36	Analysis of Chromatin Dynamics and Search Processes in the Nucleus. , 2019, , 177-206.		0

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37	Chemical Reactions for Molecular and Cellular Biology. , 2019, , 353-407.		0
38	Encounter times of chromatin loci influenced by polymer decondensation. Physical Review E, 2018, 97, 032417.	2.1	6
39	Deconvolution of Voltage Sensor Time Series and Electro-diffusion Modeling Reveal the Role of Spine Geometry in Controlling Synaptic Strength. Neuron, 2018, 97, 1126-1136.e10.	8.1	38
40	Reconstructing the gradient source position from steady-state fluxes to small receptors. Scientific Reports, 2018, 8, 941.	3.3	6
41	Mixed analytical-stochastic simulation method for the recovery of a Brownian gradient source from probability fluxes to small windows. Journal of Computational Physics, 2018, 355, 22-36.	3.8	13
42	The First 100 nm Inside the Pre-synaptic Terminal Where Calcium Diffusion Triggers Vesicular Release. Frontiers in Synaptic Neuroscience, 2018, 10, 23.	2.5	21
43	Mobile Calcium Channels Contribute to Variability of Pre-synaptic Transmitter Release. Biophysical Journal, 2018, 114, 152a-153a.	0.5	0
44	Extreme Narrow Escape: Shortest paths for the first particles among n to reach a target window. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 3449-3454.	2.1	23
45	Stochastic coagulation-fragmentation processes with a finite number of particles and applications. Annals of Applied Probability, 2018, 28, .	1.3	0
46	Single particle trajectories reveal active endoplasmic reticulum luminal flow. Nature Cell Biology, 2018, 20, 1118-1125.	10.3	86
47	Asymptotics of Elliptic and Parabolic PDEs. Applied Mathematical Sciences (Switzerland), 2018, , .	0.8	5
48	The Poissonâ€“Nernstâ€“Planck Equations in a Ball. Applied Mathematical Sciences (Switzerland), 2018, , 341-383.	0.8	1
49	Electrical transient laws in neuronal microdomains based on electro-diffusion. Physical Chemistry Chemical Physics, 2018, 20, 21062-21067.	2.8	3
50	Do cells sense time by number of divisions?. Journal of Theoretical Biology, 2018, 452, 10-16.	1.7	2
51	Histone degradation in response to DNA damage enhances chromatin dynamics and recombination rates. Nature Structural and Molecular Biology, 2017, 24, 99-107.	8.2	220
52	100 years after Smoluchowski: stochastic processes in cell biology. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 093002.	2.1	24
53	Polymer physics of nuclear organization and function. Physics Reports, 2017, 678, 1-83.	25.6	38
54	Visualization of Chromatin Decompaction and Break Site Extrusion as Predicted by Statistical Polymer Modeling of Single-Locus Trajectories. Cell Reports, 2017, 18, 1200-1214.	6.4	96

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55	Multiscale models and stochastic simulation methods for computing rare but key binding events in cell biology. Journal of Computational Physics, 2017, 340, 617-638.	3.8	7
56	Statistical Methods for Large Ensembles of Super-Resolution Stochastic Single Particle Trajectories in Cell Biology. Annual Review of Statistics and Its Application, 2017, 4, 189-223.	7.0	28
57	Extended Narrow Escape with Many Windows for Analyzing Viral Entry into the Cell Nucleus. Journal of Statistical Physics, 2017, 166, 244-266.	1.2	23
58	Coagulation-Fragmentation with a Finite Number of Particles: Models, Stochastic Analysis, and Applications to Telomere Clustering and Viral Capsid Assembly. , 2017, , 205-239.		5
59	Modeling and Stochastic Analysis of the Single Photon Response. , 2017, , 315-348.		0
60	Electrostatics of non-neutral biological microdomains. Scientific Reports, 2017, 7, 11269.	3.3	12
61	Two loci single particle trajectories analysis: constructing a first passage time statistics of local chromatin exploration. Scientific Reports, 2017, 7, 10346.	3.3	8
62	Geometrical Effects on Nonlinear Electrodiffusion in Cell Physiology. Journal of Nonlinear Science, 2017, 27, 1971-2000.	2.1	4
63	Statistics of randomly cross-linked polymer models to interpret chromatin conformation capture data. Physical Review E, 2017, 96, 012503.	2.1	24
64	Analysis of the Poissonâ€“Nernstâ€“Planck equation in a ball for modeling the Voltageâ€–Current relation in neurobiological microdomains. Physica D: Nonlinear Phenomena, 2017, 339, 39-48.	2.8	22
65	Stochastic Model of Acidification, Activation of Hemagglutinin and Escape of Influenza Viruses from an Endosome. Frontiers in Physics, 2017, 5, .	2.1	15
66	Transient chromatin properties revealed by polymer models and stochastic simulations constructed from Chromosomal Capture data. PLoS Computational Biology, 2017, 13, e1005469.	3.2	35
67	Oscillatory Survival Probability: Analytical and Numerical Study of a Non-Poissonian Exit Time. Multiscale Modeling and Simulation, 2016, 14, 772-798.	1.6	4
68	Commentary: New mathematical physics needed for life sciences. Physics Today, 2016, 69, 10-12.	0.3	1
69	Structural Fluctuations of the Chromatin Fiber within Topologically Associating Domains. Biophysical Journal, 2016, 110, 1234-1245.	0.5	58
70	Hybrid Markov-mass action law model for cell activation by rare binding events: Application to calcium induced vesicular release at neuronal synapses. Scientific Reports, 2016, 6, 35506.	3.3	16
71	Search for a small egg by spermatozoa in restricted geometries. Journal of Mathematical Biology, 2016, 73, 423-446.	1.9	18
72	Recovering a stochastic process from super-resolution noisy ensembles of single-particle trajectories. Physical Review E, 2015, 92, 052109.	2.1	16

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73	How rods respond to single photons: Key adaptations of a Gâ€protein cascade that enable vision at the physical limit of perception. BioEssays, 2015, 37, 1243-1252.	2.5	25
74	Synaptic dynamics and neuronal network connectivity are reflected in the distribution of times in Up states. Frontiers in Computational Neuroscience, 2015, 9, 96.	2.1	15
75	Analysis of Single Locus Trajectories for Extracting In Vivo Chromatin Tethering Interactions. PLoS Computational Biology, 2015, 11, e1004433.	3.2	37
76	Why so many sperm cells?. Communicative and Integrative Biology, 2015, 8, e1017156.	1.4	18
77	Search Time for a Small Ribbon and Application to Vesicular Release at Neuronal Synapses. Multiscale Modeling and Simulation, 2015, 13, 1173-1193.	1.6	5
78	Kinetics of aggregation with a finite number of particles and application to viral capsid assembly. Journal of Mathematical Biology, 2015, 70, 1685-1705.	1.9	8
79	Robust network oscillations during mammalian respiratory rhythm generation driven by synaptic dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9728-9733.	7.1	49
80	The Neuroglial Potassium Cycle during Neurotransmission: Role of Kir4.1 Channels. PLoS Computational Biology, 2015, 11, e1004137.	3.2	74
81	Elementary Theory of Stochastic Narrow Escape. , 2015, , 1-44.		0
82	Narrow Escape in Other Cellular Processes. , 2015, , 183-201.		0
83	Modeling the Early Steps of Viral Infection in Cells. , 2015, , 203-245.		0
84	The new nanophysiology: regulation of ionic flow in neuronal subcompartments. Nature Reviews Neuroscience, 2015, 16, 685-692.	10.2	65
85	Stochastic Narrow Escape in Molecular and Cellular Biology. , 2015, , .		53
86	Analysis and Interpretation of Superresolution Single-Particle Trajectories. Biophysical Journal, 2015, 109, 1761-1771.	0.5	30
87	Post-transcriptional regulation in the nucleus and cytoplasm: study of mean time to threshold (MTT) and narrow escape problem. Journal of Mathematical Biology, 2015, 70, 805-828.	1.9	4
88	Bursting Reverberation as a Multiscale Neuronal Network Process Driven by Synaptic Depression-Facilitation. PLoS ONE, 2015, 10, e0124694.	2.5	12
89	Applications to Cellular Biology and Simulations. , 2015, , 113-134.		0
90	Random Search with Switching. , 2015, , 169-182.		0

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91	NET in Molecular and Cellular Biology. , 2015, , 95-112.		0
92	Multiscale modeling, stochastic and asymptotic approaches for analyzing neural networks based on synaptic dynamics. ESAIM Proceedings and Surveys, 2014, 47, 36-54.	0.4	0
93	Brownian search for targets hidden in cusp-like pockets: Progress and Applications. European Physical Journal: Special Topics, 2014, 223, 3273-3285.	2.6	8
94	The Narrow Escape Problem. SIAM Review, 2014, 56, 213-257.	9.5	119
95	Oscillatory Survival Probability and Eigenvalues of the Non-Self-Adjoint Fokker–Planck Operator. Multiscale Modeling and Simulation, 2014, 12, 1294-1308.	1.6	3
96	Residence Times of Receptors in Dendritic Spines Analyzed by Stochastic Simulations in Empirical Domains. Biophysical Journal, 2014, 107, 3008-3017.	0.5	30
97	Modeling capsid kinetics assembly from the steady state distribution of multi-sizes aggregates. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 531-534.	2.1	6
98	Connexin 30 sets synaptic strength by controlling astroglial synapse invasion. Nature Neuroscience, 2014, 17, 549-558.	14.8	269
99	Oscillatory decay of the survival probability of activated diffusion across a limit cycle. Physical Review E, 2014, 89, 030101.	2.1	4
100	Computational and mathematical methods for morphogenetic gradient analysis, boundary formation and axonal targeting. Seminars in Cell and Developmental Biology, 2014, 35, 189-202.	5.0	15
101	Time scale of diffusion in molecular and cellular biology. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 173001.	2.1	47
102	The Length of the Shortest Telomere as the Major Determinant of the Onset of Replicative Senescence. Genetics, 2013, 194, 847-857.	2.9	69
103	Computing the Length of the Shortest Telomere in the Nucleus. Physical Review Letters, 2013, 111, 228104.	7.8	6
104	Kinetics of Diffusing Polymer Encounter in Confined Cellular Microdomains. Journal of Statistical Physics, 2013, 153, 1107-1131.	1.2	4
105	Spatial telomere organization and clustering in yeast Saccharomyces cerevisiae nucleus is generated by a random dynamics of aggregationâ€“dissociation. Molecular Biology of the Cell, 2013, 24, 1791-1800.	2.1	34
106	Polymer model with long-range interactions: Analysis and applications to the chromatin structure. Physical Review E, 2013, 88, 052604.	2.1	43
107	Reconstruction of Surface and Stochastic Dynamics from a Planar Projection of Trajectories. SIAM Journal on Imaging Sciences, 2013, 6, 2430-2449.	2.2	4
108	Diffusing Polymers in Confined Microdomains and Estimation of Chromosomal Territory Sizes from Chromosome Capture Data. Physical Review Letters, 2013, 110, 248105.	7.8	30

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109	Dissection of a Krox20 positive feedback loop driving cell fate choices in hindbrain patterning. Molecular Systems Biology, 2013, 9, 690.	7.2	29
110	Control of flux by narrow passages and hidden targets in cellular biology. Reports on Progress in Physics, 2013, 76, 074601.	20.1	51
111	Detection of single photons by toad and mouse rods. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19378-19383.	7.1	33
112	Unraveling novel features hidden in superresolution microscopy data. Communicative and Integrative Biology, 2013, 6, e23893.	1.4	11
113	Heterogeneity of AMPA receptor trafficking and molecular interactions revealed by superresolution analysis of live cell imaging. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 17052-17057.	7.1	131
114	Synaptic transmission in neurological disorders dissected by a quantitative approach. Communicative and Integrative Biology, 2012, 5, 448-452.	1.4	10
115	Encounter dynamics of a small target by a polymer diffusing in a confined domain. Journal of Chemical Physics, 2012, 137, 244906.	3.0	15
116	Brownian needle in dire straits: Stochastic motion of a rod in very confined narrow domains. Physical Review E, 2012, 85, 010103.	2.1	11
117	Computation of the Mean First-Encounter Time Between the Ends of a Polymer Chain. Physical Review Letters, 2012, 109, 108302.	7.8	40
118	Engrailed homeoprotein recruits the adenosine A1 receptor to potentiate ephrin A5 function in retinal growth cones. Development (Cambridge), 2012, 139, 215-224.	2.5	67
119	Analysis of the Mean First Looping Time of a Rod-Polymer. Multiscale Modeling and Simulation, 2012, 10, 612-632.	1.6	3
120	Brownian Motion in Dire Straits. Multiscale Modeling and Simulation, 2012, 10, 1204-1231.	1.6	17
121	Using default constraints of the spindle assembly checkpoint to estimate the associated chemical rates. BMC Biophysics, 2012, 5, 1.	4.4	20
122	Modeling the Step of Endosomal Escape during Cell Infection byÂa Nonenveloped Virus. Biophysical Journal, 2012, 102, 980-989.	0.5	33
123	Coagulationâ€“fragmentation for a finite number of particles and application to telomere clustering in the yeast nucleus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 845-849.	2.1	12
124	Estimating the Synaptic Current in a Multiconductance AMPA Receptor Model. Biophysical Journal, 2011, 101, 781-792.	0.5	18
125	The Narrow Escape Problem in a Flat Cylindrical Microdomain with Application to Diffusion in the Synaptic Cleft. Multiscale Modeling and Simulation, 2011, 9, 793-816.	1.6	11
126	Modeling the Early Steps of Cytoplasmic Trafficking in Viral Infection and Gene Delivery. SIAM Journal on Applied Mathematics, 2011, 71, 2334-2358.	1.8	13

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127	The Mean First Rotation Time of a Planar Polymer. Journal of Statistical Physics, 2011, 143, 1074-1095.	1.2	13
128	Diffusion laws in dendritic spines. Journal of Mathematical Neuroscience, 2011, 1, 10.	2.4	44
129	Stochastic modeling of gene activation and applications to cell regulation. Journal of Theoretical Biology, 2011, 271, 51-63.	1.7	6
130	Narrow escape through a funnel and effective diffusion on a crowded membrane. Physical Review E, 2011, 84, 021906.	2.1	53
131	Transcription factor search for a DNA promoter in a three-state model. Physical Review E, 2011, 84, 020901.	2.1	28
132	Astroglial networks scale synaptic activity and plasticity. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8467-8472.	7.1	325
133	Syntaxin1A Lateral Diffusion Reveals Transient and Local SNARE Interactions. Journal of Neuroscience, 2011, 31, 17590-17602.	3.6	59
134	Semi-classical limits of the first eigenfunction and concentration on the recurrent sets of a dynamical system. Forum Mathematicum, 2011, 23, 1-74.	0.7	0
135	Barriers to Diffusion in Dendrites and Estimation of Calcium Spread Following Synaptic Inputs. PLoS Computational Biology, 2011, 7, e1002182.	3.2	54
136	Synapse Geometry and Receptor Dynamics Modulate Synaptic Strength. PLoS ONE, 2011, 6, e25122.	2.5	75
137	The search for a DNA target in the nucleus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 466-471.	2.1	13
138	Some questions related to modeling in cellular biology. Journal of Fixed Point Theory and Applications, 2010, 7, 67-83.	1.1	13
139	Astroglial networks: a step further in neuroglial and gliovascular interactions. Nature Reviews Neuroscience, 2010, 11, 87-99.	10.2	652
140	A Mechanism for the Polarity Formation of Chemoreceptors at the Growth Cone Membrane for Gradient Amplification during Directional Sensing. PLoS ONE, 2010, 5, e9243.	2.5	22
141	Threshold activation for stochastic chemical reactions in microdomains. Physical Review E, 2010, 81, 041107.	2.1	20
142	Narrow escape for a stochastically gated Brownian ligand. Journal of Physics Condensed Matter, 2010, 22, 065103.	1.8	26
143	Gated Narrow Escape Time for Molecular Signaling. Physical Review Letters, 2009, 103, 148102.	7.8	58
144	Diffusion in narrow domains and application to phototransduction. Physical Review E, 2009, 79, 030904.	2.1	12

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145	Quantitative analysis of virus and plasmid trafficking in cells. Physical Review E, 2009, 79, 011921.	2.1	36
146	The probability of an encounter of two Brownian particles before escape. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 315210.	2.1	10
147	Physical principles and models describing intracellular virus particle dynamics. Current Opinion in Microbiology, 2009, 12, 439-445.	5.1	32
148	Quantifying Neurite Growth Mediated by Interactions among Secretory Vesicles, Microtubules, and Actin Networks. Biophysical Journal, 2009, 96, 840-857.	0.5	55
149	Narrow escape time to a structured target located on the boundary of a microdomain. Journal of Chemical Physics, 2009, 130, 094909.	3.0	23
150	Morphogenetic Gradients and the Stability of Boundaries Between Neighboring Morphogenetic Regions. Bulletin of Mathematical Biology, 2008, 70, 156-178.	1.9	10
151	Diffusion through a cluster of small windows and flux regulation in microdomains. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 3768-3772.	2.1	27
152	The Dynamics of Phosphodiesterase Activation in Rods and Cones. Biophysical Journal, 2008, 94, 1954-1970.	0.5	14
153	Partially Reflected Diffusion. SIAM Journal on Applied Mathematics, 2008, 68, 844-868.	1.8	88
154	Effective Motion of a Virus Trafficking Inside a Biological Cell. SIAM Journal on Applied Mathematics, 2008, 68, 1146-1167.	1.8	31
155	Diffusion escape through a cluster of small absorbing windows. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 155001.	2.1	46
156	Estimating the rate constant of cyclic GMP hydrolysis by activated phosphodiesterase in photoreceptors. Journal of Chemical Physics, 2008, 129, 145102.	3.0	11
157	Quantifying intermittent transport in cell cytoplasm. Physical Review E, 2008, 77, 030901.	2.1	28
158	Narrow escape and leakage of Brownian particles. Physical Review E, 2008, 78, 051111.	2.1	48
159	The narrow escape problem for diffusion in cellular microdomains. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 16098-16103.	7.1	285
160	Dwell time of a Brownian molecule in a microdomain with traps and a small hole on the boundary. Journal of Chemical Physics, 2007, 126, 234107.	3.0	26
161	Diffusion in a dendritic spine: The role of geometry. Physical Review E, 2007, 76, 021922.	2.1	50
162	The boundary between compact and noncompact complete Riemann manifolds. Indiana University Mathematics Journal, 2007, 56, 437-458.	0.9	1

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163	Modeling homeoprotein intercellular transfer unveils a parsimonious mechanism for gradient and boundary formation in early brain development. Journal of Theoretical Biology, 2007, 249, 503-517.	1.7	17
164	Modeling DNA and Virus Trafficking in the Cell Cytoplasm. Journal of Statistical Physics, 2007, 127, 471-494.	1.2	32
165	Modeling Synaptic Dynamics Driven by Receptor Lateral Diffusion. Biophysical Journal, 2006, 91, 2405-2415.	0.5	103
166	Narrow Escape, Part I. Journal of Statistical Physics, 2006, 122, 437-463.	1.2	125
167	Narrow Escape, Part II: The Circular Disk. Journal of Statistical Physics, 2006, 122, 465-489.	1.2	124
168	Narrow Escape, Part III: Non-Smooth Domains and Riemann Surfaces. Journal of Statistical Physics, 2006, 122, 491-509.	1.2	105
169	The Emergence of Up and Down States in Cortical Networks. PLoS Computational Biology, 2006, 2, e23.	3.2	197
170	Singular perturbation for the first eigenfunction and blow-up analysis. Forum Mathematicum, 2006, 18, .	0.7	7
171	Concentration of the first eigenfunction for a second order elliptic operator. Comptes Rendus Mathematique, 2005, 341, 243-246.	0.3	2
172	Calcium dynamics in dendritic spines, modeling and experiments. Cell Calcium, 2005, 37, 467-475.	2.4	48
173	Modeling the Spontaneous Activity of the Auditory Cortex. Journal of Computational Neuroscience, 2005, 19, 357-378.	1.0	32
174	Perturbation methods and first-order partial differential equations on Riemannian manifolds. Quarterly Journal of Mathematics, 2005, 56, 65-93.	0.8	0
175	Stochastic chemical reactions in microdomains. Journal of Chemical Physics, 2005, 122, 114710.	3.0	47
176	Survival probability of diffusion with trapping in cellular neurobiology. Physical Review E, 2005, 72, 031910.	2.1	44
177	The Limit of Photoreceptor Sensitivity. Journal of General Physiology, 2005, 125, 641-660.	1.9	38
178	Modeling Calcium Dynamics in Dendritic Spines. SIAM Journal on Applied Mathematics, 2005, 65, 1006-1026.	1.8	25
179	Dynamic regulation of spine-dendrite coupling in cultured hippocampal neurons. European Journal of Neuroscience, 2004, 20, 2649-2663.	2.6	66
180	Escape Through a Small Opening: Receptor Trafficking in a Synaptic Membrane. Journal of Statistical Physics, 2004, 117, 975-1014.	1.2	132

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181	Calcium Dynamics in Dendritic Spines and Spine Motility. Biophysical Journal, 2004, 87, 81-91.	0.5	68
182	Longitudinal Diffusion in Retinal Rod and Cone Outer Segment Cytoplasm: The Consequence of Cell Structure. Biophysical Journal, 2004, 86, 2566-2582.	0.5	38
183	Wave kernels related to second-order operators. Duke Mathematical Journal, 2002, 114, 329.	1.5	19
184	Stability Analysis of Second-Order Switched Homogeneous Systems. SIAM Journal on Control and Optimization, 2002, 41, 1609-1625.	2.1	56
185	Singular perturbations and first order PDE on manifolds. Comptes Rendus Mathematique, 2001, 333, 465-470.	0.5	2
186	Prescribed scalar curvature problem on complete manifolds. Journal Des Mathematiques Pures Et Appliquees, 2001, 80, 223-244.	1.6	5
187	Influence de la masse sur les solutions nodales d'EDP non linÃ©aires. Bulletin Des Sciences Mathematiques, 2000, 124, 385-414.	1.0	0
188	Nonlinear PDE with vector fields. Journal D'Analyse Mathematique, 2000, 81, 111-137.	0.8	3
189	Statistical evaluation of clusters derived by nonlinear mapping of EEG spatial patterns. Journal of Neuroscience Methods, 1999, 90, 87-95.	2.5	10
190	EDP non linÃ©aires avec champ de vecteurs. Comptes Rendus Mathematique, 1999, 329, 871-876.	0.5	0
191	Solutions nodales sur les variÃ©tÃ©s Riemanniennes. Journal of Functional Analysis, 1999, 161, 219-245.	1.4	11
192	Deconvolution of Voltage Sensor Time Series and Electro-Diffusion Modeling of Synaptic Input in Dendritic Spines. SSRN Electronic Journal, 0, , .	0.4	2
193	Monitoring and Predicting SARS-CoV-2 Epidemic in France after Deconfinement Using a Multiscale and Age-Dependent Model. SSRN Electronic Journal, 0, , .	0.4	0
194	High-Throughput Super-Resolution Single Particle Trajectory Analysis Reconstructs Organelle Dynamics and Membrane Re-Organization. SSRN Electronic Journal, 0, , .	0.4	1