

Olivier BÃ©nichou

List of Publications by Year in descending order

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100
papers

6,218
citations

81900

39
h-index

69250

77
g-index

100
all docs

100
docs citations

100
times ranked

3101
citing authors

#	ARTICLE	IF	CITATIONS
1	Intermittent search strategies. <i>Reviews of Modern Physics</i> , 2011, 83, 81-129.	45.6	571
2	First-passage times in complex scale-invariant media. <i>Nature</i> , 2007, 450, 77-80.	27.8	520
3	Geometry-controlled kinetics. <i>Nature Chemistry</i> , 2010, 2, 472-477.	13.6	295
4	Single-molecule tracking in live cells reveals distinct target-search strategies of transcription factors in the nucleus. <i>ELife</i> , 2014, 3, .	6.0	273
5	Optimal Search Strategies for Hidden Targets. <i>Physical Review Letters</i> , 2005, 94, 198101.	7.8	270
6	Kinetics of Target Site Localization of a Protein on DNA: A Stochastic Approach. <i>Biophysical Journal</i> , 2004, 87, 1640-1649.	0.5	204
7	From first-passage times of random walks in confinement to geometry-controlled kinetics. <i>Physics Reports</i> , 2014, 539, 225-284.	25.6	197
8	Probing microscopic origins of confined subdiffusion by first-passage observables. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 5675-5680.	7.1	179
9	Probing the target search of DNA-binding proteins in mammalian cells using TetR as model searcher. <i>Nature Communications</i> , 2015, 6, 7357.	12.8	171
10	Enhanced reaction kinetics in biological cells. <i>Nature Physics</i> , 2008, 4, 134-137.	16.7	155
11	Global mean first-passage times of random walks on complex networks. <i>Physical Review E</i> , 2009, 80, 065104.	2.1	148
12	Narrow-Escape Time Problem: Time Needed for a Particle to Exit a Confining Domain through a Small Window. <i>Physical Review Letters</i> , 2008, 100, 168105.	7.8	147
13	First-Passage Times for Random Walks in Bounded Domains. <i>Physical Review Letters</i> , 2005, 95, 260601.	7.8	144
14	Cell migration and antigen capture are antagonistic processes coupled by myosin II in dendritic cells. <i>Nature Communications</i> , 2015, 6, 7526.	12.8	143
15	Two-dimensional intermittent search processes: An alternative to Lévy flight strategies. <i>Physical Review E</i> , 2006, 74, 020102.	2.1	138
16	Optimal Reaction Time for Surface-Mediated Diffusion. <i>Physical Review Letters</i> , 2010, 105, 150606.	7.8	112
17	Mean first-passage times of non-Markovian random walkers in confinement. <i>Nature</i> , 2016, 534, 356-359.	27.8	105
18	Classes of fast and specific search mechanisms for proteins on DNA. <i>Reports on Progress in Physics</i> , 2012, 75, 026601.	20.1	102

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19	Non-Markovian polymer reaction kinetics. <i>Nature Chemistry</i> , 2012, 4, 568-573.	13.6	97
20	Random walks and Brownian motion: A method of computation for first-passage times and related quantities in confined geometries. <i>Physical Review E</i> , 2007, 75, 021111.	2.1	95
21	Cover times of random searches. <i>Nature Physics</i> , 2015, 11, 844-847.	16.7	83
22	Optimizing Persistent Random Searches. <i>Physical Review Letters</i> , 2012, 108, 088103.	7.8	78
23	Searching Fast for a Target on DNA without Falling to Traps. <i>Physical Review Letters</i> , 2009, 103, 138102.	7.8	75
24	Exact calculations of first-passage quantities on recursive networks. <i>Physical Review E</i> , 2012, 85, 026113.	2.1	75
25	Geometry-Induced Superdiffusion in Driven Crowded Systems. <i>Physical Review Letters</i> , 2013, 111, 260601.	7.8	74
26	Kinetics of stochastically gated diffusion-limited reactions and geometry of random walk trajectories. <i>Physical Review E</i> , 2000, 61, 3388-3406.	2.1	66
27	Averaged residence times of stochastic motions in bounded domains. <i>Europhysics Letters</i> , 2005, 70, 42-48.	2.0	66
28	Mean First-Passage Time of Surface-Mediated Diffusion in Spherical Domains. <i>Journal of Statistical Physics</i> , 2011, 142, 657-685.	1.2	65
29	Active Transport in Dense Diffusive Single-File Systems. <i>Physical Review Letters</i> , 2013, 111, 038102.	7.8	63
30	Facilitated Diffusion of Proteins on Chromatin. <i>Physical Review Letters</i> , 2011, 106, 038102.	7.8	62
31	First-passage quantities of Brownian motion in a bounded domain with multiple targets: a unified approach. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011, 44, 025002.	2.1	61
32	First-Passage Time Distributions for Subdiffusion in Confined Geometry. <i>Physical Review Letters</i> , 2007, 98, 250602.	7.8	60
33	Intermittent search strategies: When losing time becomes efficient. <i>Europhysics Letters</i> , 2006, 75, 349-354.	2.0	56
34	Optimizing intermittent reaction paths. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 7059.	2.8	53
35	Ultraslow vacancy-mediated tracer diffusion in two dimensions: The Einstein relation verified. <i>Physical Review E</i> , 2002, 66, 031101.	2.1	49
36	Generalized Langevin equations for a driven tracer in dense soft colloids: construction and applications. <i>New Journal of Physics</i> , 2014, 16, 053032.	2.9	49

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37	Exit Time Distribution in Spherically Symmetric Two-Dimensional Domains. Journal of Statistical Physics, 2015, 158, 192-230.	1.2	43
38	A minimal model of intermittent search in dimension two. Journal of Physics Condensed Matter, 2007, 19, 065141.	1.8	41
39	Robustness of optimal intermittent search strategies in one, two, and three dimensions. Physical Review E, 2009, 80, 031146.	2.1	41
40	A stochastic model for intermittent search strategies. Journal of Physics Condensed Matter, 2005, 17, S4275-S4286.	1.8	40
41	Universality classes of first-passage-time distribution in confined media. Physical Review E, 2011, 83, 051116.	2.1	40
42	Zero Constant Formula for First-Passage Observables in Bounded Domains. Physical Review Letters, 2008, 101, 130601.	7.8	39
43	Mean first-passage times in confined media: from Markovian to non-Markovian processes. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 163001.	2.1	39
44	Kinetics of Active Surface-Mediated Diffusion in Spherically Symmetric Domains. Journal of Statistical Physics, 2012, 147, 891-918.	1.2	37
45	Nonlinear response and emerging nonequilibrium microstructures for biased diffusion in confined crowded environments. Physical Review E, 2016, 93, 032128.	2.1	37
46	Close or connected: Distance and connectivity effects on transport in networks. Physical Review E, 2011, 83, 066102.	2.1	36
47	Optimal search strategies of run-and-tumble walks. Physical Review E, 2016, 94, 012117.	2.1	34
48	Tracer diffusion in crowded narrow channels. Journal of Physics Condensed Matter, 2018, 30, 443001.	1.8	34
49	Stokes Formula and Density Perturbances for Driven Tracer Diffusion in an Adsorbed Monolayer. Physical Review Letters, 2000, 84, 511-514.	7.8	32
50	Cell migration guided by long-lived spatial memory. Nature Communications, 2021, 12, 4118.	12.8	32
51	Intermittent search process and teleportation. Journal of Chemical Physics, 2007, 126, 234109.	3.0	28
52	Geometry-Induced Bursting Dynamics in Gene Expression. Biophysical Journal, 2012, 102, 2186-2191.	0.5	28
53	A biased intruder in a dense quiescent medium: looking beyond the force-velocity relation. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P05008.	2.3	27
54	Force-velocity relation and density profiles for biased diffusion in an adsorbed monolayer. Physical Review B, 2001, 63, .	3.2	26

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55	Generalized model for dynamic percolation. <i>Physical Review E</i> , 2000, 62, 3327-3339.	2.1	24
56	Kinetics of diffusion-limited catalytically activated reactions: An extension of the Wilemski-Fixman approach. <i>Journal of Chemical Physics</i> , 2005, 123, 194506.	3.0	24
57	Spatial log-periodic oscillations of first-passage observables in fractals. <i>Physical Review E</i> , 2012, 86, 061125.	2.1	23
58	Universal first-passage statistics in aging media. <i>Physical Review E</i> , 2018, 98, 022125.	2.1	22
59	First-exit times and residence times for discrete random walks on finite lattices. <i>Physical Review E</i> , 2005, 72, 016127.	2.1	20
60	Encounter distribution of two random walkers on a finite one-dimensional interval. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011, 44, 395005.	2.1	19
61	Generalized Correlation Profiles in Single-File Systems. <i>Physical Review Letters</i> , 2021, 127, 220601.	7.8	18
62	Occupation times of random walks in confined geometries: From random trap model to diffusion-limited reactions. <i>Physical Review E</i> , 2007, 76, 050102.	2.1	17
63	Reactive conformations and non-Markovian reaction kinetics of a Rouse polymer searching for a target in confinement. <i>Physical Review E</i> , 2013, 87, .	2.1	17
64	Velocity Anomaly of a Driven Tracer in a Confined Crowded Environment. <i>Physical Review Letters</i> , 2014, 113, 030603.	7.8	17
65	Accelerating search kinetics by following boundaries. <i>Physical Review Letters</i> , 2014, 112, 230601.	7.8	17
66	Intermittent search processes in disordered medium. <i>Europhysics Letters</i> , 2007, 77, 20006.	2.0	15
67	Anomalous field-induced growth of fluctuations in dynamics of a biased intruder moving in a quiescent medium. <i>Physical Review E</i> , 2013, 87, 020103.	2.1	14
68	Fluctuations and correlations of a driven tracer in a hard-core lattice gas. <i>Physical Review E</i> , 2013, 87, .	2.1	14
69	Survival probability of a Brownian motion in a planar wedge of arbitrary angle. <i>Physical Review E</i> , 2015, 91, 032106.	2.1	14
70	Exact closure and solution for spatial correlations in single-file diffusion. <i>Science Advances</i> , 2022, 8, eabm5043.	10.3	14
71	Directed random walk in adsorbed monolayer. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 272, 56-86.	2.6	13
72	How gene colocalization can be optimized by tuning the diffusion constant of transcription factors. <i>Europhysics Letters</i> , 2008, 84, 38003.	2.0	13

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73	Residual mean first-passage time for jump processes: theory and applications to Lévy flights and fractional Brownian motion. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011, 44, 255003.	2.1	13
74	Interfacial territory covered by surface-mediated diffusion. <i>Physical Review E</i> , 2012, 85, 051111.	2.1	11
75	Distribution of the position of a driven tracer in a hardcore lattice gas. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P11016.	2.3	11
76	Microscopic Theory for the Diffusion of an Active Particle in a Crowded Environment. <i>Physical Review Letters</i> , 2022, 128, 038001.	7.8	11
77	Mean joint residence time of two Brownian particles in a sphere. <i>Journal of Physics A</i> , 2005, 38, 7205-7214.	1.6	10
78	Splitting probabilities and interfacial territory covered by two-dimensional and three-dimensional surface-mediated diffusion. <i>Physical Review E</i> , 2014, 89, 012149.	2.1	10
79	Universal kinetics of imperfect reactions in confinement. <i>Communications Chemistry</i> , 2021, 4, .	4.5	10
80	Superionic liquids in conducting nanoslits: A variety of phase transitions and ensuing charging behavior. <i>Journal of Chemical Physics</i> , 2019, 151, 184105.	3.0	9
81	Anomalous persistence exponents for normal yet aging diffusion. <i>Physical Review E</i> , 2020, 102, 062115.	2.1	8
82	Distribution of the span of one-dimensional confined random processes before hitting a target. <i>Physical Review E</i> , 2021, 103, 032107.	2.1	8
83	Optimization of the residence time of a Brownian particle in a spherical subdomain. <i>Journal of Chemical Physics</i> , 2009, 131, 181104.	3.0	7
84	Mean cover time of one-dimensional persistent random walks. <i>Physical Review E</i> , 2014, 89, 062129.	2.1	7
85	Reaction kinetics in active media. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P02045.	2.3	6
86	Joint statistics of space and time exploration of one-dimensional random walks. <i>Physical Review E</i> , 2022, 105, 034116.	2.1	6
87	Dynamical and spatial disorder in an intermittent search process. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 434007.	2.1	5
88	Order-disorder transitions in lattice gases with annealed reactive constraints. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2018, 2018, 043206.	2.3	5
89	$\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"> \langle mml:mi>N \langle /mml:mi> \langle /mml:math \rangle$ -tag probability law of the symmetric exclusion process. <i>Physical Review E</i> , 2018, 97, 062119.	2.1	5
90	Self-Interacting Random Walks: Aging, Exploration, and First-Passage Times. <i>Physical Review X</i> , 2022, 12, .	8.9	5

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91	First-passage time distribution for a random walker on a random forcing energy landscape. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P09005.	2.3	4
92	Response to targeted perturbations for random walks on networks. Physical Review E, 2010, 82, 056106.	2.1	4
93	Complete visitation statistics of one-dimensional random walks. Physical Review E, 2022, 105, .	2.1	4
94	On the invariance of spatially inhomogeneous relaxation processes. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 015003.	2.1	3
95	Mean first-passage time of an anisotropic diffusive searcher. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 024001.	2.1	2
96	Exact time dependence of the cumulants of a tracer position in a dense lattice gas. Physical Review E, 2022, 105, .	2.1	2
97	First-Passage Statistics for Random Walks in Bounded Domains. , 2014, , 145-174.		1
98	Statistics of the maximum and the convex hull of a Brownian motion in confined geometries. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 144002.	2.1	1
99	First-Passage Times of Intermittent Random Walks. , 2014, , 70-95.		0
100	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