

Joseph Klafter

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/11736016/publications.pdf>

Version: 2024-02-01

136
papers

20,696
citations

36203

51
h-index

15218

126
g-index

138
all docs

138
docs citations

138
times ranked

9681
citing authors

#	ARTICLE	IF	CITATIONS
1	Role of substrate unbinding in Michaelis-Menten enzymatic reactions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 4391-4396.	3.3	205
2	Test for Determining a Subdiffusive Model in Ergodic Systems from Single Trajectories. Physical Review Letters, 2013, 110, 090601.	2.9	61
3	Dynamic structure factor of vibrating fractals: Proteins as a case study. Physical Review E, 2012, 85, 011906.	0.8	15
4	Dynamic Structure Factor of Vibrating Fractals. Physical Review Letters, 2012, 108, 068101.	2.9	17
5	A probabilistic walk up power laws. Physics Reports, 2012, 511, 143-175.	10.3	35
6	Levy Statistics and Anomalous Transport: Levy Flights and Subdiffusion. , 2012, , 1724-1745.		7
7	Reconstruction of Energy Surfaces from Friction Force Microscopy Measurements with the Jarzynski Equality. Nanoscience and Technology, 2012, , 317-334.	1.5	0
8	On the generation of anomalous and ultraslow diffusion. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 405006.	0.7	10
9	Challenges in determining anomalous diffusion in crowded fluids. Journal of Physics Condensed Matter, 2011, 23, 234113.	0.7	25
10	Universal statistics and control of random transport processes. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 222001.	0.7	11
11	On the generation of log-Lévy distributions and extreme randomness. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 415003.	0.7	6
12	Accurate Quantification of Diffusion and Binding Kinetics of Non-Integral Membrane Proteins by FRAP. Traffic, 2011, 12, 1648-1657.	1.3	23
13	Anomalous is ubiquitous. Annals of Physics, 2011, 326, 2517-2531.	1.0	62
14	Unequal Twins: Probability Distributions Do Not Determine Everything. Physical Review Letters, 2011, 107, 260601.	2.9	25
15	Natural and Modified Forms of Distributed-Order Fractional Diffusion Equations. , 2011, , 107-127.		12
16	Ultra diffusions. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 132002.	0.7	9
17	Subdiffusion of mixed origins: When ergodicity and nonergodicity coexist. Physical Review E, 2010, 81, 010101.	0.8	96
18	Probing static disorder in Arrhenius kinetics by single-molecule force spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 11336-11340.	3.3	65

#	ARTICLE	IF	CITATIONS
19	Anomalies in the vibrational dynamics of proteins are a consequence of fractal-like structure. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 13696-13700.	3.3	57
20	Detecting origins of subdiffusion:P-variation test for confined systems. Physical Review E, 2010, 82, 011129.	0.8	45
21	Correlations in a generalized elastic model: Fractional Langevin equation approach. Physical Review E, 2010, 82, 061104.	0.8	21
22	Randomized central limit theorems: A unified theory. Physical Review E, 2010, 82, 021122.	0.8	21
23	Universal self-similarity of propagating populations. Physical Review E, 2010, 82, 011112.	0.8	9
24	Power-law distributions: Beyond Paretian fractality. Risk and Decision Analysis, 2009, 1, 155-170.	0.4	9
25	Universal Generation of Statistical Self-Similarity: A Randomized Central Limit Theorem. Physical Review Letters, 2009, 103, 040602.	2.9	30
26	On the generation of anomalous diffusion. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 472003.	0.7	11
27	A unified and universal explanation for Lévy laws and 1/f noises. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12251-12254.	3.3	54
28	Facilitated diffusion in a crowded environment: from kinetics to stochastics. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 434012.	0.7	24
29	Fractional Brownian Motion Versus the Continuous-Time Random Walk: A Simple Test for Subdiffusive Dynamics. Physical Review Letters, 2009, 103, 180602.	2.9	286
30	From Ornstein-Uhlenbeck dynamics to long-memory processes and fractional Brownian motion. Physical Review E, 2009, 79, 021115.	0.8	20
31	Fluorescence Correlation Spectroscopy: The Case of Subdiffusion. Biophysical Journal, 2009, 96, 2055-2063.	0.2	24
32	A Role for the Juxtamembrane Cytoplasm in the Molecular Dynamics of Focal Adhesions. PLoS ONE, 2009, 4, e4304.	1.1	69
33	Paretian Poisson Processes. Journal of Statistical Physics, 2008, 131, 487-504.	0.5	34
34	From solar flare time series to fractional dynamics. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 1077-1087.	1.2	19
35	Fluorescence Recovery after Photobleaching: The Case of Anomalous Diffusion. Biophysical Journal, 2008, 94, 4646-4653.	0.2	24
36	Nonergodicity Mimics Inhomogeneity in Single Particle Tracking. Physical Review Letters, 2008, 100, 250602.	2.9	281

#	ARTICLE	IF	CITATIONS
37	Torque and Twist against Superlubricity. <i>Physical Review Letters</i> , 2008, 100, 046102.	2.9	190
38	Equivalence of the Fractional Fokker-Planck and Subordinated Langevin Equations: The Case of a Time-Dependent Force. <i>Physical Review Letters</i> , 2008, 101, 210601.	2.9	107
39	Temporal Correlation Functions of Concentration Fluctuations: An Anomalous Case. <i>Journal of Physical Chemistry B</i> , 2008, 112, 12740-12747.	1.2	6
40	Analyzing friction forces with the Jarzynski equality. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 354008.	0.7	11
41	Proteins: Coexistence of Stability and Flexibility. <i>Physical Review Letters</i> , 2008, 100, 208101.	2.9	71
42	Fractal probability laws. <i>Physical Review E</i> , 2008, 77, 061125.	0.8	14
43	Markov-breaking and the emergence of long memory in Ornstein-Uhlenbeck systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008, 41, 122001.	0.7	3
44	Searching circular DNA strands. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 065140.	0.7	66
45	Leapover Lengths and First Passage Time Statistics for Lévy Flights. <i>Physical Review Letters</i> , 2007, 99, 160602.	2.9	113
46	Barrier crossing driven by Lévy noise: Universality and the role of noise intensity. <i>Physical Review E</i> , 2007, 75, 041101.	0.8	72
47	Manipulating Single Enzymes by an External Harmonic Force. <i>Physical Review Letters</i> , 2007, 98, 168302.	2.9	20
48	First passage times of Lévy flights coexisting with subdiffusion. <i>Physical Review E</i> , 2007, 76, 031129.	0.8	43
49	Anomalous Stochastic Processes in the Fractional Dynamics Framework: Fokker-Planck Equation, Dispersive Transport, and Non-Exponential Relaxation. <i>Advances in Chemical Physics</i> , 2007, , 223-264.	0.3	43
50	Fractal Lévy correlation cascades. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007, 40, F307-F314.	0.7	20
51	Some fundamental aspects of Lévy flights. <i>Chaos, Solitons and Fractals</i> , 2007, 34, 129-142.	2.5	53
52	Correlation cascades of Lévy-driven random processes. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 376, 1-26.	1.2	28
53	Temporal generation of power-law distributions: A universal "oligarchy mechanism". <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 377, 53-57.	1.2	8
54	The Basic of Nanoscale Friction and Ways to Control it. <i>Nanoscience and Technology</i> , 2007, , 143-158.	1.5	1

#	ARTICLE	IF	CITATIONS
55	Correctly validating results from single molecule data: The case of stretched exponential decay in the catalytic activity of single lipase B molecules. <i>Chemical Physics Letters</i> , 2006, 432, 371-374.	1.2	9
56	Nonlinear shot noise, memory systems, and all-time hit parades. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 366, 281-298.	1.2	6
57	Non-linear Shot Noise: L�vy, Noah, & Joseph. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 360, 227-260.	1.2	15
58	On the active periods of nonlinear Shot Noise. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 363, 237-259.	1.2	5
59	Fundamentals of L�vy Flight Processes. <i>Advances in Chemical Physics</i> , 2006, , 439-496.	0.3	40
60	Some new aspects of dendrimer applications. <i>Journal of Luminescence</i> , 2005, 111, 315-325.	1.5	24
61	Stochastic Ornstein-Uhlenbeck Capacitors. <i>Journal of Statistical Physics</i> , 2005, 118, 177-198.	0.5	12
62	Single-Enzyme Kinetics of CALB-Catalyzed Hydrolysis. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 560-564.	7.2	177
63	L�vy, Ornstein-Uhlenbeck, and Subordination: Spectral vs. Jump Description. <i>Journal of Statistical Physics</i> , 2005, 119, 165-196.	0.5	41
64	Anomalous Pulsation. <i>Journal of Statistical Physics</i> , 2005, 120, 587-626.	0.5	2
65	Stretched exponential decay and correlations in the catalytic activity of fluctuating single lipase molecules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 2368-2372.	3.3	273
66	On the nonlinear modeling of shot noise. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 13779-13782.	3.3	31
67	Natural cutoff in L�vy flights caused by dissipative nonlinearity. <i>Physical Review E</i> , 2005, 72, 010101.	0.8	45
68	Fractons in Proteins: Can They Lead to Anomally Decaying Time Autocorrelations?. <i>Physical Review Letters</i> , 2005, 95, 098106.	2.9	83
69	Anomalous diffusion spreads its wings. <i>Physics World</i> , 2005, 18, 29-32.	0.0	357
70	Closed-Form Solutions for Continuous Time Random Walks on Finite Chains. <i>Physical Review Letters</i> , 2005, 95, 098105.	2.9	26
71	What Can One Learn from Two-State Single-Molecule Trajectories?. <i>Biophysical Journal</i> , 2005, 88, 3780-3783.	0.2	78
72	On the relationships between kinetic schemes and two-state single molecule trajectories. <i>Journal of Chemical Physics</i> , 2005, 123, 064903.	1.2	16

#	ARTICLE	IF	CITATIONS
73	The nonlinear nature of friction. <i>Nature</i> , 2004, 430, 525-528.	13.7	610
74	L ^α vy Flights in a Steep Potential Well. <i>Journal of Statistical Physics</i> , 2004, 115, 1505-1535.	0.5	125
75	The restaurant at the end of the random walk: recent developments in the description of anomalous transport by fractional dynamics. <i>Journal of Physics A</i> , 2004, 37, R161-R208.	1.6	1,869
76	On the first passage of one-sided L ^α vy motions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 336, 219-244.	1.2	31
77	Spatial gliding, temporal trapping, and anomalous transport. <i>Physica D: Nonlinear Phenomena</i> , 2004, 187, 30-50.	1.3	21
78	A growth-collapse model: L ^α vy inflow, geometric crashes, and generalized Ornstein-Uhlenbeck dynamics. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 334, 1-21.	1.2	27
79	Following Single Molecules by Force Spectroscopy. <i>Israel Journal of Chemistry</i> , 2004, 44, 363-372.	1.0	2
80	Foreword by the Guest Editors: Perspectives in the Chemical Sciences (Honoring Prof. Joshua Jortner) PART B. <i>Israel Journal of Chemistry</i> , 2004, 44, NA-NA.	1.0	0
81	L ^α vy-Driven Langevin Systems: Targeted Stochasticity. <i>Journal of Statistical Physics</i> , 2003, 111, 739-768.	0.5	73
82	Foreword by the Guest Editors: Perspectives in the Chemical Sciences (Honoring Prof. Joshua Jortner) PART A. <i>Israel Journal of Chemistry</i> , 2003, 43, NA-NA.	1.0	0
83	On the extreme flights of one-sided L ^α vy processes. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 330, 8-17.	1.2	7
84	When Translocation Dynamics Becomes Anomalous. <i>Biophysical Journal</i> , 2003, 85, 2776-2779.	0.2	112
85	First passage and arrival time densities for L ^α vy flights and the failure of the method of images. <i>Journal of Physics A</i> , 2003, 36, L537-L544.	1.6	134
86	Bifurcation, bimodality, and finite variance in confined L ^α vy flights. <i>Physical Review E</i> , 2003, 67, 010102.	0.8	123
87	Fractional Kinetics. <i>Physics Today</i> , 2002, 55, 48-54.	0.3	574
88	From stretched exponential to inverse power-law: fractional dynamics, Cole-Cole relaxation processes, and beyond. <i>Journal of Non-Crystalline Solids</i> , 2002, 305, 81-87.	1.5	130
89	The dynamical foundation of fractal stream chemistry: The origin of extremely long retention times. <i>Geophysical Research Letters</i> , 2002, 29, 5-1-5-4.	1.5	170
90	Physical pictures of transport in heterogeneous media: Advection-dispersion, random-walk, and fractional derivative formulations. <i>Water Resources Research</i> , 2002, 38, 9-1-9-12.	1.7	264

#	ARTICLE	IF	CITATIONS
91	LÃ©vy meets Boltzmann: strange initial conditions for Brownian and fractional Fokker-Planck equations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 302, 290-296.	1.2	15
92	Motors on the molecular scale. <i>Journal of Luminescence</i> , 2001, 94-95, 137-142.	1.5	3
93	Hopping motion of interacting particles: From time-dependent interaction to directed transport. <i>Physical Review E</i> , 2001, 65, 011108.	0.8	14
94	From the Langevin equation to the fractional Fokker-Planck equation. <i>AIP Conference Proceedings</i> , 2000, , .	0.3	2
95	Towards a Microscopic Description of Friction. <i>Materials Research Society Symposia Proceedings</i> , 2000, 651, 1.	0.1	0
96	The fractional Fokker-Planck equation: dispersive transport in an external force field. <i>Journal of Molecular Liquids</i> , 2000, 86, 219-228.	2.3	29
97	The random walk's guide to anomalous diffusion: a fractional dynamics approach. <i>Physics Reports</i> , 2000, 339, 1-77.	10.3	7,039
98	Boundary value problems for fractional diffusion equations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 278, 107-125.	1.2	442
99	Kramers' escape problem with anomalous kinetics: non-exponential decay of the survival probability. <i>Chemical Physics Letters</i> , 2000, 321, 238-242.	1.2	38
100	Macroscopic versus microscopic description of friction: from Tomlinson model to shearons. <i>Tribology Letters</i> , 2000, 9, 45-54.	1.2	14
101	Atomic Scale Engines: Cars and Wheels. <i>Physical Review Letters</i> , 2000, 84, 6058-6061.	2.9	120
102	From a Generalized Chapman-Kolmogorov Equation to the Fractional Klein-Kramers Equation. <i>Journal of Physical Chemistry B</i> , 2000, 104, 3851-3857.	1.2	107
103	Subdiffusive transport close to thermal equilibrium: From the Langevin equation to fractional diffusion. <i>Physical Review E</i> , 2000, 61, 6308-6311.	0.8	156
104	Looking at Friction through Shearons. <i>Journal of Physical Chemistry B</i> , 2000, 104, 3791-3794.	1.2	5
105	Escape from a fluctuating system: A master equation and trapping approach. <i>Physical Review E</i> , 1999, 60, 2554-2558.	0.8	13
106	Anomalous transport in disordered systems under the influence of external fields. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 266, 343-350.	1.2	74
107	Anomalous Diffusion and Relaxation Close to Thermal Equilibrium: A Fractional Fokker-Planck Equation Approach. <i>Physical Review Letters</i> , 1999, 82, 3563-3567.	2.9	678
108	Dendrimers as light harvesting antennae. <i>Journal of Luminescence</i> , 1998, 76-77, 197-200.	1.5	65

#	ARTICLE	IF	CITATIONS
109	Geometric versus Energetic Competition in Light Harvesting by Dendrimers. Journal of Physical Chemistry B, 1998, 102, 1662-1664.	1.2	122
110	On mean residence and first passage times in finite one-dimensional systems. Journal of Chemical Physics, 1998, 109, 5187-5193.	1.2	111
111	Stretched-exponential relaxation: The role of system size. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1998, 77, 1323-1329.	0.6	9
112	Anomalous transport in external fields: Continuous time random walks and fractional diffusion equations extended. Physical Review E, 1998, 58, 1621-1633.	0.8	196
113	Spectral random walks and line broadening of impurity molecules in an Ising spin glass environment. Journal of Chemical Physics, 1998, 108, 1851-1858.	1.2	16
114	Bunde et al. Reply:. Physical Review Letters, 1998, 80, 5454-5454.	2.9	2
115	Thermodynamics and Kinetics in Model Light Harvesting Dendrimers. Materials Research Society Symposia Proceedings, 1998, 543, 195.	0.1	0
116	Confined Anomalous Dynamics: A Fractional Diffusion Approach. Materials Research Society Symposia Proceedings, 1998, 543, 281.	0.1	2
117	Spectroscopic Evidence for Excitonic Localization in Fractal Antenna Supermolecules. Physical Review Letters, 1997, 78, 1239-1242.	2.9	295
118	Dendrimers as Controlled Artificial Energy Antennae. Journal of the American Chemical Society, 1997, 119, 6197-6198.	6.6	260
119	Anomalous Size Dependence of Relaxational Processes. Physical Review Letters, 1997, 78, 3338-3341.	2.9	49
120	Beyond Brownian Motion. Physics Today, 1996, 49, 33-39.	0.3	643
121	Simulations of Chemical Reactions. , 1996, , 102-120.		2
122	Frictional Forces in Thin Liquid Films. Materials Research Society Symposia Proceedings, 1994, 366, 129.	0.1	1
123	Strange kinetics. Nature, 1993, 363, 31-37.	13.7	1,024
124	Interface Effect on Dipole-Dipole Interaction. Materials Research Society Symposia Proceedings, 1992, 290, 209.	0.1	0
125	Molecular Adsorption on Porous Silica Gels from Binary Solutions. Israel Journal of Chemistry, 1991, 31, 135-145.	1.0	15
126	Random walks in liquids. The Journal of Physical Chemistry, 1989, 93, 7023-7026.	2.9	37

#	ARTICLE	IF	CITATIONS
127	Dynamics of ionic solvation. Journal of Chemical Physics, 1988, 88, 3246-3252.	1.2	186
128	Solvation dynamics in polar liquids. Journal of Chemical Physics, 1988, 89, 4288-4299.	1.2	142
129	Łvy Walks Versus Łvy Flights. , 1986, , 279-283.		112
130	Effects of structural disorder on two-particle exciton-phonon excitations in organic materials. Journal of Chemical Physics, 1982, 77, 2812-2815.	1.2	3
131	Two-particle vibrational excitations in molecular crystals. Journal of Chemical Physics, 1982, 77, 2816-2824.	1.2	8
132	Random walks with infinite spatial and temporal moments. Journal of Statistical Physics, 1982, 27, 499-512.	0.5	308
133	Some features of two-particle exciton-phonon excitations in molecular crystals. Chemical Physics, 1980, 47, 25-48.	0.9	13
134	Energy trapping from localized states in mixed organic solids. Journal of Chemical Physics, 1980, 73, 1004-1004.	1.2	13
135	Electronic energy transfer in impurity bands of mixed organic solids. Journal of Chemical Physics, 1979, 71, 1961-1966.	1.2	31
136	Effects of structural disorder on the optical properties of molecular crystals. Journal of Chemical Physics, 1978, 68, 1513-1522.	1.2	97