

# Alexander L Burin

## List of Publications by Year in descending order

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108  
papers

3,175  
citations

172207

29  
h-index

161609

54  
g-index

111  
all docs

111  
docs citations

111  
times ranked

2501  
citing authors

#	ARTICLE	IF	CITATIONS
1	Charge Hopping in DNA. <i>Journal of the American Chemical Society</i> , 2001, 123, 260-268.	6.6	313
2	Elementary steps for charge transport in DNA: thermal activation vs. tunneling. <i>Chemical Physics</i> , 2002, 275, 61-74.	0.9	221
3	On the Long-Range Charge Transfer in DNA. <i>Journal of Physical Chemistry A</i> , 2000, 104, 443-445.	1.1	162
4	DNA as a molecular wire. <i>Superlattices and Microstructures</i> , 2000, 28, 241-252.	1.4	108
5	Random lasers with coherent feedback. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2003, 9, 111-119.	1.9	108
6	Exciton Migration and Cathode Quenching in Organic Light Emitting Diodes. <i>Journal of Physical Chemistry A</i> , 2000, 104, 4704-4710.	1.1	100
7	Model for a Random Laser. <i>Physical Review Letters</i> , 2001, 87, 215503.	2.9	98
8	DNA Electron Transfer Processes: Some Theoretical Notions. <i>Topics in Current Chemistry</i> , 2004, , 1-36.	4.0	93
9	Tunneling Time for Electron Transfer Reactions. <i>Journal of Physical Chemistry B</i> , 2000, 104, 5661-5665.	1.2	92
10	Many-body delocalization in a strongly disordered system with long-range interactions: Finite-size scaling. <i>Physical Review B</i> , 2015, 91, .	1.1	91
11	Dipole gap effects in low energy excitation spectrum of amorphous solids. Theory for dielectric relaxation. <i>Journal of Low Temperature Physics</i> , 1995, 100, 309-337.	0.6	83
12	Direct Measurement of the Dynamics of Hole Hopping in Extended DNA G-Tracts. An Unbiased Random Walk. <i>Journal of the American Chemical Society</i> , 2010, 132, 14388-14390.	6.6	83
13	Localization in a random XY model with long-range interactions: Intermediate case between single-particle and many-body problems. <i>Physical Review B</i> , 2015, 92, .	1.1	75
14	Conformationally Gated Rate Processes in Biological Macromolecules. <i>Journal of Physical Chemistry A</i> , 2001, 105, 5666-5678.	1.1	69
15	Stability of Bose-Einstein Condensates of Hot Magnons in Yttrium Iron Garnet Films. <i>Physical Review Letters</i> , 2008, 100, 257202.	2.9	66
16	Spin effects on the luminescence yield of organic light emitting diodes. <i>Journal of Chemical Physics</i> , 1998, 109, 6092-6102.	1.2	59
17	Guiding optical modes in chains of dielectric particles. <i>Optics Express</i> , 2007, 15, 17380.	1.7	57
18	Dephasing Rate in Dielectric Glasses at Ultralow Temperatures. <i>Physical Review Letters</i> , 1998, 80, 2945-2948.	2.9	45

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19	Ballistic Energy Transport in Oligomers. <i>Accounts of Chemical Research</i> , 2015, 48, 2547-2555.	7.6	45
20	Projected Dipole Moments of Individual Two-Level Defects Extracted Using Circuit Quantum Electrodynamics. <i>Physical Review Letters</i> , 2016, 116, 167002.	2.9	45
21	Ballistic and diffusive vibrational energy transport in molecules. <i>Journal of Chemical Physics</i> , 2019, 150, 020901.	1.2	42
22	Comment on "Tunneling in Mesoscopic Magnetic Molecules". <i>Physical Review Letters</i> , 1996, 76, 3040-3040.	2.9	41
23	Absorption-induced confinement of lasing modes in diffusive random media. <i>Optics Letters</i> , 2005, 30, 2430.	1.7	41
24	Nanometer-Scale Dielectric Self-assembly Process for Anode Modification in Organic Light-Emitting Diodes. Consequences for Charge Injection and Enhanced Luminous Efficiency. <i>Chemistry of Materials</i> , 2002, 14, 3054-3065.	3.2	40
25	Structure Dependent Energy Transport: Relaxation-Assisted 2DIR Measurements and Theoretical Studies. <i>Journal of Physical Chemistry B</i> , 2011, 115, 11063-11073.	1.2	40
26	Spectroscopy of proteins at low temperature. Part I: Experiments with molecular ensembles. <i>Physics of Life Reviews</i> , 2006, 3, 262-292.	1.5	35
27	Band-Selective Ballistic Energy Transport in Alkane Oligomers: Toward Controlling the Transport Speed. <i>Journal of Physical Chemistry B</i> , 2015, 119, 6448-6456.	1.2	34
28	Spectral diffusion and scaling of many-body delocalization transitions. <i>Annalen Der Physik</i> , 2017, 529, 1600360.	0.9	33
29	Temperature and field dependence of the charge injection from metal electrodes into random organic media. <i>Journal of Chemical Physics</i> , 2000, 113, 3941-3944.	1.2	29
30	Diffusion in one-dimensional disordered systems. <i>Chemical Physics Letters</i> , 1996, 257, 665-673.	1.2	28
31	Two-photon pumping of a random laser. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2003, 9, 124-127.	1.9	28
32	Theoretical Study of Internal Vibrational Relaxation and Energy Transport in Polyatomic Molecules. <i>Journal of Physical Chemistry A</i> , 2013, 117, 315-323.	1.1	28
33	Field and intensity correlations in amplifying random media. <i>Physical Review B</i> , 2005, 71, .	1.1	26
34	Semiclassical Model for Vibrational Dynamics in Polyatomic Molecules: Investigation of Internal Vibrational Relaxation. <i>Journal of Physical Chemistry C</i> , 2010, 114, 20510-20517.	1.5	26
35	Hierarchically constrained dynamics of the configurational coordinate for rate processes in complex systems. <i>Chemical Physics Letters</i> , 1997, 267, 234-243.	1.2	25
36	Room-temperature ballistic energy transport in molecules with repeating units. <i>Journal of Chemical Physics</i> , 2015, 142, 212412.	1.2	25

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37	Semiclassical Theory for Tunneling of Electrons Interacting with Media. Journal of Physical Chemistry A, 2001, 105, 2652-2659.	1.1	24
38	Sum rules and determination of exciton coupling using absorption and circular dichroism spectra of biological polymers. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 989-994.	3.3	24
39	The Hund paradox and stabilization of molecular chiral states. Zeitschrift für Physik D-Atoms Molecules and Clusters, 1996, 37, 333-339.	1.0	23
40	Low-temperature $\mu$ SR study of the temperature dependence of the microwave dielectric constant of amorphous dielectrics in Josephson qubits. Physical Review B, 2015, 92, .	1.1	23
41	On the nature of the universal properties of amorphous solids. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 215, 191-196.	0.9	22
42	Kinetics of Charge Separation in Poly(A)-Poly(T) DNA Hairpins. Journal of Physical Chemistry B, 2010, 114, 6732-6739.	1.2	22
43	Localization and chaos in a quantum spin glass model in random longitudinal fields: Mapping to the localization problem in a Bethe lattice with a correlated disorder. Annalen Der Physik, 2017, 529, 1600292.	0.9	22
44	Temperature Dependence of the Ballistic Energy Transport in Perfluoroalkanes. Journal of Physical Chemistry B, 2014, 118, 8381-8387.	1.2	21
45	Light propagation in a solid with resonant atoms at random positions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 184, 360-365.	0.9	20
46	Charge injection into disordered molecular films. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 2601-2621.	2.4	20
47	Physics of Proteins at Low Temperature. Journal of Low Temperature Physics, 2004, 137, 289-317.	0.6	20
48	Communication: Fast transport and relaxation of vibrational energy in polymer chains. Journal of Chemical Physics, 2015, 142, 011101.	1.2	20
49	Revealing the nonlinear response of a tunneling two-level system ensemble using coupled modes. Physical Review Materials, 2017, 1, .	0.9	20
50	Interactions Between Tunneling Defects in Amorphous Solids. , 1998, , 223-315.		19
51	Phenomenological model for reaction kinetics coupled to a relaxing environment. Chemical Physics, 1997, 220, 25-41.	0.9	18
52	Energy Transport in PEG Oligomers: Contributions of Different Optical Bands. Journal of Physical Chemistry C, 2016, 120, 26663-26677.	1.5	18
53	Understanding and control of random lasing. Physica B: Condensed Matter, 2003, 338, 212-214.	1.3	17
54	Many-body localization in spin chains with long-range transverse interactions: Scaling of critical disorder with system size. Physical Review B, 2020, 101, .	1.1	17

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55	Light propagation in linear arrays of spherical particles. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 5250-5253.	0.9	16
56	Universal Dielectric Loss in Glass from Simultaneous Bias and Microwave Fields. Physical Review Letters, 2013, 110, 157002.	2.9	13
57	Cavity quantum electrodynamics using a near-resonance two-level system: Emergence of the Glauber state. Applied Physics Letters, 2015, 106, .	1.5	13
58	Localization and propagation of phonons in crystals with heavy impurities. Physics Reports, 1997, 288, 205-222.	10.3	12
59	Energy Transport Induced by an External Alternating Field in Strongly Disordered Media. Physical Review Letters, 2001, 86, 5616-5619.	2.9	12
60	One-dimensional confinement of electric field and humidity dependent DNA conductivity. Journal of Chemical Physics, 2009, 131, 245102.	1.2	12
61	Nonadiabatic cooling and optimal control in off-resonance dipole optical potentials. Physical Review A, 1998, 58, 1346-1351.	1.0	11
62	Charge Recombination in DNA Hairpins Controlled by Counterions. Journal of the American Chemical Society, 2009, 131, 400-401.	6.6	11
63	Low-temperature dipolar echoes in amorphous dielectrics: Significance of relaxation and decoherence free two-level systems. Europhysics Letters, 2013, 104, 57006.	0.7	11
64	Ballistic Transport of Vibrational Energy through an Amide Group Bridging Alkyl Chains. Journal of Physical Chemistry C, 2019, 123, 3381-3392.	1.5	11
65	Temperature dependence for the rate of hole transfer in DNA: Nonadiabatic regime. Chemical Physics, 2012, 393, 13-18.	0.9	10
66	Random-Defect Laser: Manipulating Lossy Two-Level Systems to Produce a Circuit with Coherent Gain. Physical Review Letters, 2016, 116, 163601.	2.9	9
67	The phonon transport in crystals with heavy defects. Physica B: Condensed Matter, 1995, 210, 49-54.	1.3	8
68	Slow relaxation of conductance of amorphous hopping insulators. Journal of Physics Condensed Matter, 2008, 20, 244135.	0.7	8
69	Many electron theory of $1/f$ noise in hopping conductivity. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 800-808.	0.8	7
70	Interference of guiding modes in $\epsilon$ -traffica-circle waveguides composed of dielectric spherical particles. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 1396-1400.	0.9	7
71	Comment on "Many-body localization in Ising models with random long-range interactions". Physical Review A, 2017, 96, .	1.0	7
72	Effect of Nuclear Quadrupole Interaction on the Relaxation in Amorphous Solids. Journal of Low Temperature Physics, 2005, 140, 355-376.	0.6	6

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73	Molecular dynamics simulations of a single stranded (ss) DNA. <i>Molecular Simulation</i> , 2007, 33, 573-576.	0.9	6
74	Chaotic Dynamics in a Quantum Fermiâ€Pastaâ€Ulam Problem. <i>Entropy</i> , 2019, 21, 51.	1.1	6
75	Influence of radiative interatomic collisions on dark-state cooling. <i>Physical Review A</i> , 1996, 54, 4332-4338.	1.0	5
76	Low Temperature Sound Velocity of ThinSiO2Films. <i>Physical Review Letters</i> , 1997, 79, 5038-5041.	2.9	5
77	A first-order transition in the charge-induced conformational changes of polymers. <i>Journal of Chemical Physics</i> , 2002, 116, 9964-9974.	1.2	5
78	Lasing with resonant feedback in random media. <i>Physica B: Condensed Matter</i> , 2003, 338, 215-218.	1.3	5
79	The Long Range Interaction and the Relaxation in Glasses at Low Temperatures. <i>Journal of Low Temperature Physics</i> , 2004, 137, 189-215.	0.6	5
80	Quantum coherent manipulation of two-level systems in superconducting circuits. <i>Superconductor Science and Technology</i> , 2014, 27, 084001.	1.8	5
81	Theory of nonlinear microwave absorption by interacting two-level systems. <i>Physical Review B</i> , 2018, 97, .	1.1	5
82	Low-Temperature Vibrational Energy Transport via PEG Chains. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 4578-4583.	2.1	5
83	Circular Dichroism Spectra of DNA Hairpins Studied by the Green Function Method. <i>Journal of Physical Chemistry B</i> , 2007, 111, 3982-3989.	1.2	4
84	Anomalous low-energy properties in amorphous solids and the interplay of electric and elastic interactions of tunneling two-level systems. <i>Physical Review B</i> , 2021, 103, .	1.1	4
85	Bound whispering gallery modes in circular arrays of dielectric spherical particles. , 2007, , .		3
86	Fluctuator Model of Memory Dip in Hopping Insulators. <i>Journal of Low Temperature Physics</i> , 2012, 167, 318-328.	0.6	3
87	Electronic torsional sound in linear atomic chains: Chemical energy transport at 1000 km/s. <i>Journal of Chemical Physics</i> , 2016, 145, 034903.	1.2	3
88	On the localization theory in the three-dimensional case. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 184, 481-486.	0.9	2
89	On the theory of hopping between moving levels. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 204, 310-312.	0.9	2
90	Crucial effect of transverse vibrations on the transport through polymer chains. <i>Journal of Chemical Physics</i> , 2020, 153, 134102.	1.2	2

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91	Dipole gap effects in low energy excitation spectrum of amorphous solids. Theory for dielectric relaxation. European Physical Journal D, 1996, 46, 2269-2270.	0.4	1
92	The dephasing rate in glasses at ultra low temperatures. European Physical Journal D, 1996, 46, 2271-2272.	0.4	1
93	Novel mechanism of transverse relaxation in glasses at ultra low temperatures. Physica B: Condensed Matter, 1998, 244, 180-185.	1.3	1
94	Fluctuations in a near-critical steady state with temperature gradient. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 258, 413-417.	0.9	1
95	Semiclassical Theory for Dissipative Tunneling Through a Molecular Wire. Annals of the New York Academy of Sciences, 2006, 960, 240-247.	1.8	1
96	Bound Whispering Gallery Modes in Circular Arrays of Dielectric Spherical Particles. , 2007, , .		1
97	Competition of Several Energy-Transport Initiation Mechanisms Defines the Ballistic Transport Speed. Journal of Physical Chemistry B, 2021, 125, 7546-7555.	1.2	1
98	Exact solution of the minimalist Stark many-body localization problem in terms of spin-pair hopping. Physical Review B, 2022, 105, .	1.1	1
99	Nonadiabatic spin transitions in large magnetic fields. European Physical Journal D, 1996, 46, 1917-1918.	0.4	0
100	A soft configuration model for wearless sliding friction. Tribology Letters, 1999, 7, 109-111.	1.2	0
101	<title>Anomalous scaling properties of optical excitations in random media</title>. , 1999, 3749, 601.		0
102	Theory of relaxation phenomena in glasses and doped semiconductors at low temperatures. Physica B: Condensed Matter, 2000, 280, 253-257.	1.3	0
103	Effect of the Nuclear Quadrupole Interaction on the Susceptibility in Amorphous Solids at Very Low Temperatures. AIP Conference Proceedings, 2006, , .	0.3	0
104	Optical modes in linear arrays of dielectric spherical particles: a numerical investigation. , 2007, , .		0
105	Optical Modes in Linear Arrays of Dielectric Spherical Particles: A Numerical Investigation. , 2007, , .		0
106	Features of propagation of light in the linear array of dielectric spheres. , 2008, , .		0
107	Thermal Conductivity of Glasses Induced by Nuclear Quadrupole Interaction at Ultra Low Temperatures. Journal of Low Temperature Physics, 2011, 162, 509-515.	0.6	0
108	The Kinetics of Charge Recombination in DNA Hairpins Controlled by Counterions. Lecture Notes in Computer Science, 2009, , 189-196.	1.0	0