

Alexander L Burin

List of Publications by Year in descending order

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108
papers

3,175
citations

172457

29
h-index

161849

54
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111
all docs

111
docs citations

111
times ranked

2501
citing authors

#	ARTICLE	IF	CITATIONS
1	Exact solution of the minimalist Stark many-body localization problem in terms of spin-pair hopping. <i>Physical Review B</i> , 2022, 105, .	3.2	1
2	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, .	3.2	4
3	Competition of Several Energy-Transport Initiation Mechanisms Defines the Ballistic Transport Speed. <i>Journal of Physical Chemistry B</i> , 2021, 125, 7546-7555.	2.6	1
4	Crucial effect of transverse vibrations on the transport through polymer chains. <i>Journal of Chemical Physics</i> , 2020, 153, 134102.	3.0	2
5	Many-body localization in spin chains with long-range transverse interactions: Scaling of critical disorder with system size. <i>Physical Review B</i> , 2020, 101, .	3.2	17
6	Low-Temperature Vibrational Energy Transport via PEG Chains. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 4578-4583.	4.6	5
7	Ballistic and diffusive vibrational energy transport in molecules. <i>Journal of Chemical Physics</i> , 2019, 150, 020901.	3.0	42
8	Chaotic Dynamics in a Quantum Fermiâ€“Pastaâ€“Ulam Problem. <i>Entropy</i> , 2019, 21, 51.	2.2	6
9	Ballistic Transport of Vibrational Energy through an Amide Group Bridging Alkyl Chains. <i>Journal of Physical Chemistry C</i> , 2019, 123, 3381-3392.	3.1	11
10	Theory of nonlinear microwave absorption by interacting two-level systems. <i>Physical Review B</i> , 2018, 97, .	3.2	5
11	Spectral diffusion and scaling of manyâ€“body delocalization transitions. <i>Annalen Der Physik</i> , 2017, 529, 1600360.	2.4	33
12	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. <i>Annalen Der Physik</i> , 2017, 529, 1600292.	2.4	22
13	Comment on â€œMany-body localization in Ising models with random long-range interactionsâ€. <i>Physical Review A</i> , 2017, 96, .	2.5	7
14	Revealing the nonlinear response of a tunneling two-level system ensemble using coupled modes. <i>Physical Review Materials</i> , 2017, 1, .	2.4	20
15	Electronic torsional sound in linear atomic chains: Chemical energy transport at 1000 km/s. <i>Journal of Chemical Physics</i> , 2016, 145, 034903.	3.0	3
16	Projected Dipole Moments of Individual Two-Level Defects Extracted Using Circuit Quantum Electrodynamics. <i>Physical Review Letters</i> , 2016, 116, 167002.	7.8	45
17	Energy Transport in PEG Oligomers: Contributions of Different Optical Bands. <i>Journal of Physical Chemistry C</i> , 2016, 120, 26663-26677.	3.1	18
18	Random-Defect Laser: Manipulating Lossy Two-Level Systems to Produce a Circuit with Coherent Gain. <i>Physical Review Letters</i> , 2016, 116, 163601.	7.8	9

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19	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, .	3.2	75
20	Low-temperature χ'' in microwave dielectric constant of amorphous dielectrics in Josephson qubits. <i>Physical Review B</i> , 2015, 92, .	3.2	23
21	Cavity quantum electrodynamics using a near-resonance two-level system: Emergence of the Glauber state. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	13
22	Band-Selective Ballistic Energy Transport in Alkane Oligomers: Toward Controlling the Transport Speed. <i>Journal of Physical Chemistry B</i> , 2015, 119, 6448-6456.	2.6	34
23	Communication: Fast transport and relaxation of vibrational energy in polymer chains. <i>Journal of Chemical Physics</i> , 2015, 142, 011101.	3.0	20
24	Room-temperature ballistic energy transport in molecules with repeating units. <i>Journal of Chemical Physics</i> , 2015, 142, 212412.	3.0	25
25	Many-body delocalization in a strongly disordered system with long-range interactions: Finite-size scaling. <i>Physical Review B</i> , 2015, 91, .	3.2	91
26	Ballistic Energy Transport in Oligomers. <i>Accounts of Chemical Research</i> , 2015, 48, 2547-2555.	15.6	45
27	Temperature Dependence of the Ballistic Energy Transport in Perfluoroalkanes. <i>Journal of Physical Chemistry B</i> , 2014, 118, 8381-8387.	2.6	21
28	Quantum coherent manipulation of two-level systems in superconducting circuits. <i>Superconductor Science and Technology</i> , 2014, 27, 084001.	3.5	5
29	Universal Dielectric Loss in Glass from Simultaneous Bias and Microwave Fields. <i>Physical Review Letters</i> , 2013, 110, 157002.	7.8	13
30	Theoretical Study of Internal Vibrational Relaxation and Energy Transport in Polyatomic Molecules. <i>Journal of Physical Chemistry A</i> , 2013, 117, 315-323.	2.5	28
31	Low-temperature dipolar echoes in amorphous dielectrics: Significance of relaxation and decoherence free two-level systems. <i>Europhysics Letters</i> , 2013, 104, 57006.	2.0	11
32	Fluctuator Model of Memory Dip in Hopping Insulators. <i>Journal of Low Temperature Physics</i> , 2012, 167, 318-328.	1.4	3
33	Temperature dependence for the rate of hole transfer in DNA: Nonadiabatic regime. <i>Chemical Physics</i> , 2012, 393, 13-18.	1.9	10
34	Structure Dependent Energy Transport: Relaxation-Assisted 2DIR Measurements and Theoretical Studies. <i>Journal of Physical Chemistry B</i> , 2011, 115, 11063-11073.	2.6	40
35	Thermal Conductivity of Glasses Induced by Nuclear Quadrupole Interaction at Ultra Low Temperatures. <i>Journal of Low Temperature Physics</i> , 2011, 162, 509-515.	1.4	0
36	Semiclassical Model for Vibrational Dynamics in Polyatomic Molecules: Investigation of Internal Vibrational Relaxation. <i>Journal of Physical Chemistry C</i> , 2010, 114, 20510-20517.	3.1	26

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37	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.	13.7	83
38	Kinetics of Charge Separation in Poly(A) ⁿ Poly(T) DNA Hairpins. <i>Journal of Physical Chemistry B</i> , 2010, 114, 6732-6739.	2.6	22
39	One-dimensional confinement of electric field and humidity dependent DNA conductivity. <i>Journal of Chemical Physics</i> , 2009, 131, 245102.	3.0	12
40	Sum rules and determination of exciton coupling using absorption and circular dichroism spectra of biological polymers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 989-994.	7.1	24
41	Interference of guiding modes in ϵ -traffica-circle waveguides composed of dielectric spherical particles. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2009, 373, 1396-1400.	2.1	7
42	Charge Recombination in DNA Hairpins Controlled by Counterions. <i>Journal of the American Chemical Society</i> , 2009, 131, 400-401.	13.7	11
43	The Kinetics of Charge Recombination in DNA Hairpins Controlled by Counterions. <i>Lecture Notes in Computer Science</i> , 2009, , 189-196.	1.3	0
44	Many electron theory of $1/f$ noise in hopping conductivity. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008, 5, 800-808.	0.8	7
45	Light propagation in linear arrays of spherical particles. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008, 372, 5250-5253.	2.1	16
46	Stability of Bose-Einstein Condensates of Hot Magnons in Yttrium Iron Garnet Films. <i>Physical Review Letters</i> , 2008, 100, 257202.	7.8	66
47	Slow relaxation of conductance of amorphous hopping insulators. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 244135.	1.8	8
48	Features of propagation of light in the linear array of dielectric spheres. , 2008, , .		0
49	Bound Whispering Gallery Modes in Circular Arrays of Dielectric Spherical Particles. , 2007, , .		1
50	Molecular dynamics simulations of a single stranded (ss) DNA. <i>Molecular Simulation</i> , 2007, 33, 573-576.	2.0	6
51	Bound whispering gallery modes in circular arrays of dielectric spherical particles. , 2007, , .		3
52	Optical modes in linear arrays of dielectric spherical particles: a numerical investigation. , 2007, , .		0
53	Guiding optical modes in chains of dielectric particles. <i>Optics Express</i> , 2007, 15, 17380.	3.4	57
54	Optical Modes in Linear Arrays of Dielectric Spherical Particles: A Numerical Investigation. , 2007, , .		0

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55	Circular Dichroism Spectra of DNA Hairpins Studied by the Green Function Method. <i>Journal of Physical Chemistry B</i> , 2007, 111, 3982-3989.	2.6	4
56	Effect of the Nuclear Quadrupole Interaction on the Susceptibility in Amorphous Solids at Very Low Temperatures. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	0
57	Semiclassical Theory for Dissipative Tunneling Through a Molecular Wire. <i>Annals of the New York Academy of Sciences</i> , 2006, 960, 240-247.	3.8	1
58	Spectroscopy of proteins at low temperature. Part I: Experiments with molecular ensembles. <i>Physics of Life Reviews</i> , 2006, 3, 262-292.	2.8	35
59	Effect of Nuclear Quadrupole Interaction on the Relaxation in Amorphous Solids. <i>Journal of Low Temperature Physics</i> , 2005, 140, 355-376.	1.4	6
60	Field and intensity correlations in amplifying random media. <i>Physical Review B</i> , 2005, 71, .	3.2	26
61	Absorption-induced confinement of lasing modes in diffusive random media. <i>Optics Letters</i> , 2005, 30, 2430.	3.3	41
62	The Long Range Interaction and the Relaxation in Glasses at Low Temperatures. <i>Journal of Low Temperature Physics</i> , 2004, 137, 189-215.	1.4	5
63	Physics of Proteins at Low Temperature. <i>Journal of Low Temperature Physics</i> , 2004, 137, 289-317.	1.4	20
64	DNA Electron Transfer Processes: Some Theoretical Notions. <i>Topics in Current Chemistry</i> , 2004, , 1-36.	4.0	93
65	Two-photon pumping of a random laser. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2003, 9, 124-127.	2.9	28
66	Lasing with resonant feedback in random media. <i>Physica B: Condensed Matter</i> , 2003, 338, 215-218.	2.7	5
67	Random lasers with coherent feedback. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2003, 9, 111-119.	2.9	108
68	Understanding and control of random lasing. <i>Physica B: Condensed Matter</i> , 2003, 338, 212-214.	2.7	17
69	Charge injection into disordered molecular films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003, 41, 2601-2621.	2.1	20
70	A first-order transition in the charge-induced conformational changes of polymers. <i>Journal of Chemical Physics</i> , 2002, 116, 9964-9974.	3.0	5
71	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.	6.7	40
72	Elementary steps for charge transport in DNA: thermal activation vs. tunneling. <i>Chemical Physics</i> , 2002, 275, 61-74.	1.9	221

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73	Charge Hopping in DNA. Journal of the American Chemical Society, 2001, 123, 260-268.	13.7	313
74	Model for a Random Laser. Physical Review Letters, 2001, 87, 215503.	7.8	98
75	Semiclassical Theory for Tunneling of Electrons Interacting with Media. Journal of Physical Chemistry A, 2001, 105, 2652-2659.	2.5	24
76	Conformationally Gated Rate Processes in Biological Macromolecules. Journal of Physical Chemistry A, 2001, 105, 5666-5678.	2.5	69
77	Energy Transport Induced by an External Alternating Field in Strongly Disordered Media. Physical Review Letters, 2001, 86, 5616-5619.	7.8	12
78	DNA as a molecular wire. Superlattices and Microstructures, 2000, 28, 241-252.	3.1	108
79	Theory of relaxation phenomena in glasses and doped semiconductors at low temperatures. Physica B: Condensed Matter, 2000, 280, 253-257.	2.7	0
80	Exciton Migration and Cathode Quenching in Organic Light Emitting Diodes. Journal of Physical Chemistry A, 2000, 104, 4704-4710.	2.5	100
81	On the Long-Range Charge Transfer in DNA. Journal of Physical Chemistry A, 2000, 104, 443-445.	2.5	162
82	Tunneling Time for Electron Transfer Reactions. Journal of Physical Chemistry B, 2000, 104, 5661-5665.	2.6	92
83	Temperature and field dependence of the charge injection from metal electrodes into random organic media. Journal of Chemical Physics, 2000, 113, 3941-3944.	3.0	29
84	Fluctuations in a near-critical steady state with temperature gradient. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 258, 413-417.	2.1	1
85	A soft configuration model for wearless sliding friction. Tribology Letters, 1999, 7, 109-111.	2.6	0
86	<title>Anomalous scaling properties of optical excitations in random media</title>. , 1999, 3749, 601.		0
87	Novel mechanism of transverse relaxation in glasses at ultra low temperatures. Physica B: Condensed Matter, 1998, 244, 180-185.	2.7	1
88	Interactions Between Tunneling Defects in Amorphous Solids. , 1998, , 223-315.		19
89	Nonadiabatic cooling and optimal control in off-resonance dipole optical potentials. Physical Review A, 1998, 58, 1346-1351.	2.5	11
90	Spin effects on the luminescence yield of organic light emitting diodes. Journal of Chemical Physics, 1998, 109, 6092-6102.	3.0	59

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91	Dephasing Rate in Dielectric Glasses at Ultralow Temperatures. <i>Physical Review Letters</i> , 1998, 80, 2945-2948.	7.8	45
92	Low Temperature Sound Velocity of Thin SiO ₂ Films. <i>Physical Review Letters</i> , 1997, 79, 5038-5041.	7.8	5
93	Hierarchically constrained dynamics of the configurational coordinate for rate processes in complex systems. <i>Chemical Physics Letters</i> , 1997, 267, 234-243.	2.6	25
94	Localization and propagation of phonons in crystals with heavy impurities. <i>Physics Reports</i> , 1997, 288, 205-222.	25.6	12
95	Phenomenological model for reaction kinetics coupled to a relaxing environment. <i>Chemical Physics</i> , 1997, 220, 25-41.	1.9	18
96	Nonadiabatic spin transitions in large magnetic fields. <i>European Physical Journal D</i> , 1996, 46, 1917-1918.	0.4	0
97	Dipole gap effects in low energy excitation spectrum of amorphous solids. Theory for dielectric relaxation. <i>European Physical Journal D</i> , 1996, 46, 2269-2270.	0.4	1
98	The dephasing rate in glasses at ultra low temperatures. <i>European Physical Journal D</i> , 1996, 46, 2271-2272.	0.4	1
99	The Hund paradox and stabilization of molecular chiral states. <i>Zeitschrift für Physik D-Atoms Molecules and Clusters</i> , 1996, 37, 333-339.	1.0	23
100	Diffusion in one-dimensional disordered systems. <i>Chemical Physics Letters</i> , 1996, 257, 665-673.	2.6	28
101	On the nature of the universal properties of amorphous solids. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 215, 191-196.	2.1	22
102	Influence of radiative interatomic collisions on dark-state cooling. <i>Physical Review A</i> , 1996, 54, 4332-4338.	2.5	5
103	Comment on "Tunneling in Mesoscopic Magnetic Molecules". <i>Physical Review Letters</i> , 1996, 76, 3040-3040.	7.8	41
104	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.	1.4	83
105	On the theory of hopping between moving levels. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 204, 310-312.	2.1	2
106	The phonon transport in crystals with heavy defects. <i>Physica B: Condensed Matter</i> , 1995, 210, 49-54.	2.7	8
107	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.	2.1	2
108	Light propagation in a solid with resonant atoms at random positions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 184, 360-365.	2.1	20