

# Alexander L Burin

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

101  
papers

2,737  
citations

26  
h-index

49  
g-index

111  
ext. papers

2,946  
ext. citations

4.3  
avg, IF

5.27  
L-index

| #   | Paper   | IF  | Citations |
|-----|---|-----|-----------|
| 101 | Competition of Several Energy-Transport Initiation Mechanisms Defines the Ballistic Transport Speed. <i>Journal of Physical Chemistry B</i> , <b>2021</b> , 125, 7546-7555  | 3.4 |           |
| 100 | Polaronic effect of a metal layer on variable range hopping. <i>Physical Review B</i> , <b>2021</b> , 103,  | 3.3 | 1         |
| 99  | 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> , <b>2021</b> , 103,                                      | 3.3 | 1         |
| 98  | Many-body localization in spin chains with long-range transverse interactions: Scaling of critical disorder with system size. <i>Physical Review B</i> , <b>2020</b> , 101,   | 3.3 | 8         |
| 97  | Low-Temperature Vibrational Energy Transport via PEG Chains. <i>Journal of Physical Chemistry Letters</i> , <b>2020</b> , 11, 4578-4583   | 6.4 | 3         |
| 96  | Crucial effect of transverse vibrations on the transport through polymer chains. <i>Journal of Chemical Physics</i> , <b>2020</b> , 153, 134102   | 3.9 | 1         |
| 95  | Ballistic and diffusive vibrational energy transport in molecules. <i>Journal of Chemical Physics</i> , <b>2019</b> , 150, 020901   | 3.9 | 23        |
| 94  | Chaotic Dynamics in a Quantum Fermi-Pasta-Ulam Problem. <i>Entropy</i> , <b>2019</b> , 21,  | 2.8 | 4         |
| 93  | Ballistic Transport of Vibrational Energy through an Amide Group Bridging Alkyl Chains. <i>Journal of Physical Chemistry C</i> , <b>2019</b> , 123, 3381-3392   | 3.8 | 7         |
| 92  | Theory of nonlinear microwave absorption by interacting two-level systems. <i>Physical Review B</i> , <b>2018</b> , 97,   | 3.3 | 3         |
| 91  | Spectral diffusion and scaling of many-body delocalization transitions. <i>Annalen Der Physik</i> , <b>2017</b> , 529, 1600360  | 2.6 | 24        |
| 90  | 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> , <b>2017</b> , 529, 1600292 | 2.6 | 17        |
| 89  | Comment on Many-body localization in Ising models with random long-range interactions. <i>Physical Review A</i> , <b>2017</b> , 96,   | 2.6 | 5         |
| 88  | Revealing the nonlinear response of a tunneling two-level system ensemble using coupled modes. <i>Physical Review Materials</i> , <b>2017</b> , 1,  | 3.2 | 10        |
| 87  | Projected Dipole Moments of Individual Two-Level Defects Extracted Using Circuit Quantum Electrodynamics. <i>Physical Review Letters</i> , <b>2016</b> , 116, 167002  | 7.4 | 26        |
| 86  | Energy Transport in PEG Oligomers: Contributions of Different Optical Bands. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 26663-26677  | 3.8 | 15        |
| 85  | Random-Defect Laser: Manipulating Lossy Two-Level Systems to Produce a Circuit with Coherent Gain. <i>Physical Review Letters</i> , <b>2016</b> , 116, 163601   | 7.4 | 6         |

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| 84 | Electronic torsional sound in linear atomic chains: Chemical energy transport at 1000 km/s. <i>Journal of Chemical Physics</i> , <b>2016</b> , 145, 034903                        | 3.9  | 3  |
| 83 | Cavity quantum electrodynamics using a near-resonance two-level system: Emergence of the Glauber state. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 172601                | 3.4  | 9  |
| 82 | Band-selective ballistic energy transport in alkane oligomers: toward controlling the transport speed. <i>Journal of Physical Chemistry B</i> , <b>2015</b> , 119, 6448-56        | 3.4  | 28 |
| 81 | Communication: fast transport and relaxation of vibrational energy in polymer chains. <i>Journal of Chemical Physics</i> , <b>2015</b> , 142, 011101                              | 3.9  | 19 |
| 80 | Room-temperature ballistic energy transport in molecules with repeating units. <i>Journal of Chemical Physics</i> , <b>2015</b> , 142, 212412                                     | 3.9  | 23 |
| 79 | Many-body delocalization in a strongly disordered system with long-range interactions: Finite-size scaling. <i>Physical Review B</i> , <b>2015</b> , 91,                          | 3.3  | 64 |
| 78 | Ballistic Energy Transport in Oligomers. <i>Accounts of Chemical Research</i> , <b>2015</b> , 48, 2547-55   | 24.3 | 40 |
| 77 | Localization in a random XY model with long-range interactions: Intermediate case between single-particle and many-body problems. <i>Physical Review B</i> , <b>2015</b> , 92,    | 3.3  | 56 |
| 76 | Low-temperature 1/f noise in microwave dielectric constant of amorphous dielectrics in Josephson qubits. <i>Physical Review B</i> , <b>2015</b> , 92,                             | 3.3  | 18 |
| 75 | Temperature dependence of the ballistic energy transport in perfluoroalkanes. <i>Journal of Physical Chemistry B</i> , <b>2014</b> , 118, 8381-7                                  | 3.4  | 17 |
| 74 | Quantum coherent manipulation of two-level systems in superconducting circuits. <i>Superconductor Science and Technology</i> , <b>2014</b> , 27, 084001                           | 3.1  | 4  |
| 73 | Universal dielectric loss in glass from simultaneous bias and microwave fields. <i>Physical Review Letters</i> , <b>2013</b> , 110, 157002  | 7.4  | 10 |
| 72 | Theoretical study of internal vibrational relaxation and energy transport in polyatomic molecules. <i>Journal of Physical Chemistry A</i> , <b>2013</b> , 117, 315-23             | 2.8  | 26 |
| 71 | Low-temperature dipolar echoes in amorphous dielectrics: Significance of relaxation and decoherence free two-level systems. <i>Europhysics Letters</i> , <b>2013</b> , 104, 57006 | 1.6  | 10 |
| 70 | Fluctuator Model of Memory Dip in Hopping Insulators. <i>Journal of Low Temperature Physics</i> , <b>2012</b> , 167, 318-328  | 1.3  | 2  |
| 69 | Temperature dependence for the rate of hole transfer in DNA: Nonadiabatic regime. <i>Chemical Physics</i> , <b>2012</b> , 393, 13-18  | 2.3  | 10 |
| 68 | Thermal Conductivity of Glasses Induced by Nuclear Quadrupole Interaction at Ultra Low Temperatures. <i>Journal of Low Temperature Physics</i> , <b>2011</b> , 162, 509-515       | 1.3  |    |
| 67 | Structure dependent energy transport: relaxation-assisted 2DIR measurements and theoretical studies. <i>Journal of Physical Chemistry B</i> , <b>2011</b> , 115, 11063-73         | 3.4  | 37 |

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| 66 | Semiclassical Model for Vibrational Dynamics in Polyatomic Molecules: Investigation of Internal Vibrational Relaxation. <i>Journal of Physical Chemistry C</i> , <b>2010</b> , 114, 20510-20517  | 3.8  | 24 |
| 65 | 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> , <b>2010</b> , 132, 14388-90  | 16.4 | 77 |
| 64 | Kinetics of charge separation in poly(A)-poly(T) DNA hairpins. <i>Journal of Physical Chemistry B</i> , <b>2010</b> , 114, 6732-9  | 3.4  | 21 |
| 63 | One-dimensional confinement of electric field and humidity dependent DNA conductivity. <i>Journal of Chemical Physics</i> , <b>2009</b> , 131, 245102  | 3.9  | 12 |
| 62 | 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> , <b>2009</b> , 106, 989-94 | 11.5 | 22 |
| 61 | Interference of guiding modes in traffic-circle waveguides composed of dielectric spherical particles. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2009</b> , 373, 1396-1400                           | 2.3  | 6  |
| 60 | Charge recombination in DNA hairpins controlled by counterions. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 400-1   | 16.4 | 11 |
| 59 | The Kinetics of Charge Recombination in DNA Hairpins Controlled by Counterions. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 189-196   | 0.9  |    |
| 58 | Stability of Bose-Einstein condensates of hot magnons in yttrium iron garnet films. <i>Physical Review Letters</i> , <b>2008</b> , 100, 257202   | 7.4  | 57 |
| 57 | Slow relaxation of conductance of amorphous hopping insulators. <i>Journal of Physics Condensed Matter</i> , <b>2008</b> , 20, 244135  | 1.8  | 8  |
| 56 | Many electron theory of 1/f -noise in hopping conductivity. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , <b>2008</b> , 5, 800-808   |      | 6  |
| 55 | Light propagation in linear arrays of spherical particles. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2008</b> , 372, 5250-5253   | 2.3  | 14 |
| 54 | Circular dichroism spectra of DNA hairpins studied by the green function method. <i>Journal of Physical Chemistry B</i> , <b>2007</b> , 111, 3982-9  | 3.4  | 4  |
| 53 | Molecular dynamics simulations of a single stranded (ss) DNA. <i>Molecular Simulation</i> , <b>2007</b> , 33, 573-576  | 2    | 5  |
| 52 | Guiding optical modes in chains of dielectric particles. <i>Optics Express</i> , <b>2007</b> , 15, 17380-91  | 3.3  | 46 |
| 51 | Spectroscopy of proteins at low temperature. Part I: Experiments with molecular ensembles. <i>Physics of Life Reviews</i> , <b>2006</b> , 3, 262-292   | 2.1  | 34 |
| 50 | Semiclassical Theory for Dissipative Tunneling Through a Molecular Wire. <i>Annals of the New York Academy of Sciences</i> , <b>2006</b> , 960, 240-247  | 6.5  | 1  |
| 49 | Absorption-induced confinement of lasing modes in diffusive random media. <i>Optics Letters</i> , <b>2005</b> , 30, 2430-2   | 3    | 30 |

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|----|---|------|-----|
| 48 | Effect of Nuclear Quadrupole Interaction on the Relaxation in Amorphous Solids. <i>Journal of Low Temperature Physics</i> , <b>2005</b> , 140, 355-376  | 1.3  | 6   |
| 47 | Field and intensity correlations in amplifying random media. <i>Physical Review B</i> , <b>2005</b> , 71,   | 3.3  | 18  |
| 46 | The Long Range Interaction and the Relaxation in Glasses at Low Temperatures. <i>Journal of Low Temperature Physics</i> , <b>2004</b> , 137, 189-215  | 1.3  | 4   |
| 45 | Physics of Proteins at Low Temperature. <i>Journal of Low Temperature Physics</i> , <b>2004</b> , 137, 289-317  | 1.3  | 20  |
| 44 | Two-photon pumping of a random laser. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2003</b> , 9, 124-127  | 3.8  | 23  |
| 43 | Lasing with resonant feedback in random media. <i>Physica B: Condensed Matter</i> , <b>2003</b> , 338, 215-218  | 2.8  | 4   |
| 42 | Random lasers with coherent feedback. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2003</b> , 9, 111-119  | 3.8  | 80  |
| 41 | Understanding and control of random lasing. <i>Physica B: Condensed Matter</i> , <b>2003</b> , 338, 212-214   | 2.8  | 16  |
| 40 | Charge injection into disordered molecular films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , <b>2003</b> , 41, 2601-2621  | 2.6  | 19  |
| 39 | Elementary steps for charge transport in DNA: thermal activation vs. tunneling. <i>Chemical Physics</i> , <b>2002</b> , 275, 61-74  | 2.3  | 202 |
| 38 | A first-order transition in the charge-induced conformational changes of polymers. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 9964-9974  | 3.9  | 5   |
| 37 | 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> , <b>2002</b> , 14, 3054-3065 | 9.6  | 40  |
| 36 | Energy transport induced by an external alternating field in strongly disordered media. <i>Physical Review Letters</i> , <b>2001</b> , 86, 5616-9   | 7.4  | 8   |
| 35 | Charge hopping in DNA. <i>Journal of the American Chemical Society</i> , <b>2001</b> , 123, 260-8   | 16.4 | 295 |
| 34 | Model for a random laser. <i>Physical Review Letters</i> , <b>2001</b> , 87, 215503   | 7.4  | 79  |
| 33 | Semiclassical Theory for Tunneling of Electrons Interacting with Media. <i>Journal of Physical Chemistry A</i> , <b>2001</b> , 105, 2652-2659   | 2.8  | 21  |
| 32 | Conformationally Gated Rate Processes in Biological Macromolecules. <i>Journal of Physical Chemistry A</i> , <b>2001</b> , 105, 5666-5678   | 2.8  | 68  |
| 31 | DNA as a molecular wire. <i>Superlattices and Microstructures</i> , <b>2000</b> , 28, 241-252   | 2.8  | 92  |

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|----|---|------|-----|
| 30 | Theory of relaxation phenomena in glasses and doped semiconductors at low temperatures. <i>Physica B: Condensed Matter</i> , <b>2000</b> , 280, 253-257                         | 2.8  |     |
| 29 | Exciton Migration and Cathode Quenching in Organic Light Emitting Diodes. <i>Journal of Physical Chemistry A</i> , <b>2000</b> , 104, 4704-4710                                 | 2.8  | 92  |
| 28 | On the Long-Range Charge Transfer in DNA. <i>Journal of Physical Chemistry A</i> , <b>2000</b> , 104, 443-445   | 2.8  | 149 |
| 27 | Tunneling Time for Electron Transfer Reactions. <i>Journal of Physical Chemistry B</i> , <b>2000</b> , 104, 5661-5665   | 3.4  | 86  |
| 26 | Temperature and field dependence of the charge injection from metal electrodes into random organic media. <i>Journal of Chemical Physics</i> , <b>2000</b> , 113, 3941-3944     | 3.9  | 28  |
| 25 | Fluctuations in a near-critical steady state with temperature gradient. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1999</b> , 258, 413-417 | 2.3  | 1   |
| 24 | A soft configuration model for wearless sliding friction. <i>Tribology Letters</i> , <b>1999</b> , 7, 109-111   | 2.8  |     |
| 23 | Novel mechanism of transverse relaxation in glasses at ultra low temperatures. <i>Physica B: Condensed Matter</i> , <b>1998</b> , 244, 180-185                                  | 2.8  | 1   |
| 22 | Interactions Between Tunneling Defects in Amorphous Solids <b>1998</b> , 223-315  |      | 14  |
| 21 | Nonadiabatic cooling and optimal control in off-resonance dipole optical potentials. <i>Physical Review A</i> , <b>1998</b> , 58, 1346-1351                                     | 2.6  | 10  |
| 20 | Spin effects on the luminescence yield of organic light emitting diodes. <i>Journal of Chemical Physics</i> , <b>1998</b> , 109, 6092-6102                                      | 3.9  | 53  |
| 19 | Dephasing Rate in Dielectric Glasses at Ultralow Temperatures. <i>Physical Review Letters</i> , <b>1998</b> , 80, 2945-2948   | 2.4  | 41  |
| 18 | Low Temperature Sound Velocity of Thin SiO <sub>2</sub> Films. <i>Physical Review Letters</i> , <b>1997</b> , 79, 5038-5041   | 7.4  | 5   |
| 17 | Hierarchically constrained dynamics of the configurational coordinate for rate processes in complex systems. <i>Chemical Physics Letters</i> , <b>1997</b> , 267, 234-243       | 2.5  | 24  |
| 16 | Localization and propagation of phonons in crystals with heavy impurities. <i>Physics Reports</i> , <b>1997</b> , 288, 205-222  | 27.7 | 11  |
| 15 | Phenomenological model for reaction kinetics coupled to a relaxing environment. <i>Chemical Physics</i> , <b>1997</b> , 220, 25-41  | 2.3  | 16  |
| 14 | Nonadiabatic spin transitions in large magnetic fields. <i>European Physical Journal D</i> , <b>1996</b> , 46, 1917-1918  |      |     |
| 13 | Dipole gap effects in low energy excitation spectrum of amorphous solids. Theory for dielectric relaxation. <i>European Physical Journal D</i> , <b>1996</b> , 46, 2269-2270    |      | 1   |

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|----|--|-----|----|
| 12 | The dephasing rate in glasses at ultra low temperatures. <i>European Physical Journal D</i> , <b>1996</b> , 46, 2271-2272  |     | 1  |
| 11 | The Hund paradox and stabilization of molecular chiral states. <i>Zeitschrift für Physik D-Atoms Molecules and Clusters</i> , <b>1996</b> , 37, 333-339                            |     | 20 |
| 10 | Diffusion in one-dimensional disordered systems. <i>Chemical Physics Letters</i> , <b>1996</b> , 257, 665-673  | 2.5 | 26 |
| 9  | On the nature of the universal properties of amorphous solids. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1996</b> , 215, 191-196             | 2.3 | 20 |
| 8  | Influence of radiative interatomic collisions on dark-state cooling. <i>Physical Review A</i> , <b>1996</b> , 54, 4332-4338.6  |     | 5  |
| 7  | Comment on "Tunneling in mesoscopic magnetic molecules". <i>Physical Review Letters</i> , <b>1996</b> , 76, 3040   | 7.4 | 37 |
| 6  | Dipole gap effects in low energy excitation spectrum of amorphous solids. Theory for dielectric relaxation. <i>Journal of Low Temperature Physics</i> , <b>1995</b> , 100, 309-337 | 1.3 | 71 |
| 5  | On the theory of hopping between moving levels. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1995</b> , 204, 310-312                            | 2.3 | 2  |
| 4  | The phonon transport in crystals with heavy defects. <i>Physica B: Condensed Matter</i> , <b>1995</b> , 210, 49-54   | 2.8 | 8  |
| 3  | On the localization theory in the three-dimensional case. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1994</b> , 184, 481-486                  | 2.3 | 1  |
| 2  | Light propagation in a solid with resonant atoms at random positions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1994</b> , 184, 360-365      | 2.3 | 19 |
| 1  | DNA Electron Transfer Processes: Some Theoretical Notions. <i>Topics in Current Chemistry</i> , 1-36   |     | 85 |