

# Ladislaus Banyai

## List of Publications by Year in descending order

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64  
papers

2,169  
citations

304743

22  
h-index

223800

46  
g-index

68  
all docs

68  
docs citations

68  
times ranked

915  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Room-Temperature Optical Nonlinearities in GaAs. <i>Physical Review Letters</i> , 1986, 57, 2446-2449.   | 7.8 | 247       |
| 2  | Excitons and biexcitons in semiconductor quantum wires. <i>Physical Review B</i> , 1987, 36, 6099-6104.  | 3.2 | 234       |
| 3  | Exciton-LO-Phonon Quantum Kinetics: Evidence of Memory Effects in Bulk GaAs. <i>Physical Review Letters</i> , 1995, 75, 2188-2191.   | 7.8 | 208       |
| 4  | Third-order optical nonlinearities in semiconductor microstructures. <i>Physical Review B</i> , 1988, 38, 8142-8153.   | 3.2 | 193       |
| 5  | Ultrafast Quantum Kinetics of Time-Dependent RPA-Screened Coulomb Scattering. <i>Physical Review Letters</i> , 1998, 81, 882-885.  | 7.8 | 118       |
| 6  | Optical nonlinearities of glasses doped with semiconductor microcrystallites. <i>Optics Letters</i> , 1987, 12, 413.   | 3.3 | 116       |
| 7  | Absorption Blue Shift in Laser-Excited Semiconductor Microspheres. <i>Physical Review Letters</i> , 1986, 57, 2722-2724.   | 7.8 | 93        |
| 8  | Photon Echoes from Semiconductor Band-to-Band Continuum Transitions in the Regime of Coulomb Quantum Kinetics. <i>Physical Review Letters</i> , 1999, 83, 3313-3316.                             | 7.8 | 87        |
| 9  | Ultrafast Electron Redistribution through Coulomb Scattering in Undoped GaAs: Experiment and Theory. <i>Physical Review Letters</i> , 1996, 77, 5429-5432.                                       | 7.8 | 81        |
| 10 | Coulomb quantum kinetics and optical dephasing on the femtosecond time scale. <i>Physical Review B</i> , 1994, 50, 1541-1550.  | 3.2 | 67        |
| 11 | Asymptotic biexciton binding energy in quantum dots. <i>Physical Review B</i> , 1989, 39, 8022-8024.   | 3.2 | 62        |
| 12 | Three types of electronic optical bistabilities in CdS. <i>Semiconductor Science and Technology</i> , 1986, 1, 366-375.  | 2.0 | 53        |
| 13 | Two-time electron-LO-phonon quantum kinetics and the generalized Kadanoff-Baym approximation. <i>Physical Review B</i> , 1999, 60, 14234-14241.  | 3.2 | 44        |
| 14 | Subthreshold Carrier-LO Phonon Dynamics in Semiconductors with Intermediate Polaron Coupling: A Purely Quantum Kinetic Relaxation Channel. <i>Physical Review Letters</i> , 2001, 86, 4684-4687. | 7.8 | 42        |
| 15 | Two-photon absorption and third-order nonlinearities in GaAs quantum dots. <i>Optics Letters</i> , 1988, 13, 212.  | 3.3 | 37        |
| 16 | Condensation kinetics for bosonic excitons interacting with a thermal phonon bath. <i>Physical Review B</i> , 2000, 61, 8823-8834.   | 3.2 | 34        |
| 17 | Theory of THz emission from optically excited semiconductors in crossed electric and magnetic fields. <i>Physical Review B</i> , 2000, 62, 5003-5009.  | 3.2 | 34        |
| 18 | Evaluation of the Hartree-Fock Theory of the Excitonic Optical Stark Effect. <i>Physica Status Solidi (B): Basic Research</i> , 1988, 150, 393-399.  | 1.5 | 32        |

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|----|---|-----|-----------|
| 19 | Theory of the Hall Effect in Disordered Systems: Impurity-Band Conduction. <i>Physical Review</i> , 1966, 143, 652-656.                                   | 2.7 | 28        |
| 20 | Improved spectral functions for quantum kinetics. <i>Solid State Communications</i> , 1996, 100, 303-306.   | 1.9 | 27        |
| 21 | Screened Coulomb quantum kinetics for resonant femtosecond spectroscopy in semiconductors. <i>Physical Review B</i> , 1999, 59, 2760-2767.                | 3.2 | 27        |
| 22 | Bose-Einstein Condensation Quantum Kinetics for a Gas of Interacting Excitons. <i>Physical Review Letters</i> , 2001, 86, 3839-3842.                      | 7.8 | 23        |
| 23 | On the Kinetic Theory of Magneto-Optical Phenomena by Green Function Method. <i>Physica Status Solidi (B): Basic Research</i> , 1963, 3, 2299-2304.       | 1.5 | 21        |
| 24 | Measurements of Ultrafast Optical Nonlinearities in Semiconductors. <i>Physica Status Solidi (B): Basic Research</i> , 1988, 150, 357-363.                | 1.5 | 19        |
| 25 | Nonlinear optical properties of semiconductor quantum dots. <i>Journal of Crystal Growth</i> , 1992, 117, 598-602.  | 1.5 | 19        |
| 26 | Coulomb quantum kinetics of degenerate resonant femtosecond four-wave mixing. <i>Europhysics Letters</i> , 1997, 40, 323-328.                             | 2.0 | 19        |
| 27 | Coulomb screening in the two-time Keldysh-Green-function formalism. <i>Physical Review B</i> , 2000, 62, 7116-7120.                                       | 3.2 | 19        |
| 28 | Size dependence of exciton-exciton scattering in semiconductor quantum wires. <i>Physical Review B</i> , 1998, 57, 12364-12368.                           | 3.2 | 17        |
| 29 | Master Equation Approach to the Hopping Transport Theory. <i>Fortschritte Der Physik</i> , 1979, 27, 435-462.   | 4.4 | 16        |
| 30 | Third-order nonlinear susceptibility of large semiconductor microcrystallites. <i>Physical Review B</i> , 1993, 47, 4498-4507.                            | 3.2 | 16        |
| 31 | Coherent interband effects in quantum kinetics. <i>Physica Status Solidi (B): Basic Research</i> , 1995, 188, 387-394.                                    | 1.5 | 16        |
| 32 | Real-Time Bose-Einstein Condensation in a Finite Volume with a Discrete Spectrum. <i>Physical Review Letters</i> , 2002, 88, 210404.                      | 7.8 | 14        |
| 33 | Exciton-dephasing kinetics after coherent pulse excitation. <i>Physical Review B</i> , 1999, 60, 16506-16512.   | 3.2 | 10        |
| 34 | The Pulsed Nonresonant Optical Stark Effect and the Urbach Tail in Semiconductors. <i>Physica Status Solidi (B): Basic Research</i> , 1990, 159, 309-315. | 1.5 | 9         |
| 35 | The $\hat{t}^4$ Vertex in Chiral Dynamics. <i>Physical Review</i> , 1969, 184, 1903-1905.   | 2.7 | 7         |
| 36 | Semi-classical and quantum-mechanical theory of hopping conduction. <i>Physica Status Solidi (B): Basic Research</i> , 1977, 79, 365-377.                 | 1.5 | 7         |

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|----|---|-----|-----------|
| 37 | Excitation induced dephasing in four-wave mixing and Coulomb quantum kinetics. <i>Physical Review B</i> , 1998, 58, R13341-R13342.  | 3.2 | 7         |
| 38 | On the connection between the macroscopical and microscopical evolution in an exactly soluble hopping model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1980, 102, 357-369. | 2.6 | 6         |
| 39 | One-Particle-Exchange Model for Bootstrap. <i>Physical Review</i> , 1966, 146, 1035-1041.   | 2.7 | 5         |
| 40 | Time Reversal and Many-Body Non-equilibrium Green Functions. <i>Annals of Physics</i> , 1994, 233, 165-181.   | 2.8 | 5         |
| 41 | Exciton and biexciton correlations for weakly confined semiconductor quantum wires. <i>Solid State Communications</i> , 1999, 111, 741-745.   | 1.9 | 5         |
| 42 | Macroscopic behaviour of a charged Boltzmann gas. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1981, 107, 166-178.  | 2.6 | 4         |
| 43 | Irreducible tensors for the group $SU_3$ . <i>Communications in Mathematical Physics</i> , 1966, 2, 121-132.  | 2.2 | 3         |
| 44 | Null-Plane Field Algebra. <i>Physical Review D</i> , 1973, 8, 417-423.  | 4.7 | 3         |
| 45 | On the connection between the macroscopical and microscopical evolution in an exactly soluble hopping model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1980, 103, 119-139. | 2.6 | 3         |
| 46 | Kinetics of the Dephasing and the Condensation of Excitons. <i>Physica Status Solidi (B): Basic Research</i> , 2000, 221, 221-225.  | 1.5 | 3         |
| 47 | The macroscopic electrodynamic behaviour of a soluble hopping model. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1982, 115, 169-184.   | 2.6 | 2         |
| 48 | Virtual carrier-LO phonon interaction in the intermediate coupling region: the quantum dynamical formation of polarons. <i>Physica B: Condensed Matter</i> , 2002, 314, 76-80.                  | 2.7 | 2         |
| 49 | Dissipation and irreversibility in a solvable classical open system. <i>European Physical Journal B</i> , 2019, 92, 1.  | 1.5 | 2         |
| 50 | A Compendium of Solid State Theory. , 2020, , .   |     | 2         |
| 51 | Mean-field BCS theory of the Meissner effect in bulk revisited. <i>European Physical Journal B</i> , 2021, 94, 1.   | 1.5 | 2         |
| 52 | On the Change of Energy Gap by Phonon Interaction. <i>Physica Status Solidi (B): Basic Research</i> , 1965, 10, K15.  | 1.5 | 1         |
| 53 | One-particle-exchange model for low-energy scattering I. The one-channel problem. <i>Annals of Physics</i> , 1968, 46, 435-452.   | 2.8 | 1         |
| 54 | Effective Lagrangians, Field Algebra, and Vector-Meson Dominance with Unstable Particles. <i>Physical Review D</i> , 1971, 3, 571-576.  | 4.7 | 1         |

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|----|--|-----|-----------|
| 55 | Modified Maxwell-Bloch equations for systems under strong optical excitation. Journal of Luminescence, 1985, 34, 189-199.  | 3.1 | 1         |
| 56 | The Non-Relativistic Many-Body Quantum-Mechanical Hamiltonian with Diamagnetic Current-Current Interaction. International Journal of Theoretical Physics, 2021, 60, 2236-2243. | 1.2 | 1         |
| 57 | Thermal Fluctuations and Electromagnetic Noise Spectra in Quantum Statistical Mechanics. International Journal of Theoretical Physics, 2022, 61, .                             | 1.2 | 1         |
| 58 | Representation of Green's Functions by path Integrals. Physica Status Solidi (B): Basic Research, 1965, 10, K17.   | 1.5 | 0         |
| 59 | Random walk on a chain with dynamic disorder due to correlations. Physical Review B, 1987, 35, 5226-5234.  | 3.2 | 0         |
| 60 | Banyai and Koch reply. Physical Review Letters, 1988, 60, 1206-1206.   | 7.8 | 0         |
| 61 | Coherent spectroscopy of semiconductor quantum wires. , 1998, 3277, 119.   |     | 0         |
| 62 | Valence Band Structure of a GaAs Superlattice. Physica Status Solidi (B): Basic Research, 1999, 211, 651-659.  | 1.5 | 0         |
| 63 | Current Relaxation Kinetics in Crossed Magnetic and Electric Fields. Physica Status Solidi (B): Basic Research, 2000, 221, 481-484.  | 1.5 | 0         |
| 64 | About the c-Number Approximation of the Macroscopical Boson Degrees of Freedom within a Solvable Model. Physica Status Solidi (B): Basic Research, 2002, 234, 14-16.           | 1.5 | 0         |