

20th century

J. Berger and R.M. Hornreich, Temperature Dependence of the Field Induced Magnetization Reorientation in Dzialoshinsky-Moriya Type Weak Ferromagnets, *J. Phys. Chem. Solids* **34** (1973), pp. 2011-2020.

S.G. Eckstein and J. Berger, A Superfluid with Mixed Singlet and Triplet Pairs, in "Liquid and Solid Helium" (John Wiley, 1975, C. G. Kuper et al., editors), pp. 171-175.

J. Berger, Ordered Motion of a Plasma under Appropriate Geometry and External Magnetic Field, *Coll. Phen.* **2** (1977), pp. 171-174.

J. Berger and S.G. Eckstein, Criterion for Nonexponential Decay, *Phys. Rev. A* **26** (1982) pp. 1226-1227.

J. Berger and S.G. Eckstein, Quasiparticle Properties for a Dense Electron Gas within the Random-Phase Approximation, *Phys. Rev. B* **26** (1982) pp. 4305-4311.

M. Privman, J. Berger and D.S. Tannhauser, Structure of ITO Electrodes on Zirconia, *Thin Solid Films* **102** (1983) pp. 117-122.

J. Berger and D.S. Tannhauser, Personal Computer as an Inexpensive Lock-In Analyzer Operating at Very Low Frequencies, *Rev. Sci. Instrum.* **54** (1983) pp. 1781-1783.

J. Berger, Drift of Excitons Induced by Static Electromagnetic Field, *Solid State Commun.* **53** (1985), pp. 387-389.

J. Berger, Relationship between Angular Distribution of Reflected Particles and the Second Principle of Thermodynamics in the Presence of a Magnetic Field, *Am. J. Phys.* **53** (1985) pp. 899-902.

J. Berger, I. Riess and D.S. Tannhauser, Dynamic Measurement of Oxygen Diffusion in Indium-Tin Oxide, *Solid State Ionics* **15** (1985) pp. 225-231.

J. Berger, Comment on "Gas Concentration Nonuniformity and Kinetic Anisotropy in High Vacuum", *J. Vac. Sci. Technol. A* **5** (1987) p. 382.

J. Berger, Kinetic illustration for thermalization, [Am. J. Phys. 56 \(1988\) pp. 923-928](#).

J. Berger, On Potential Energy, its Force Field and their Measurement Along an Air Track, *Eur. J. Phys.* **9** (1988), pp. 47-50.

J. Adler, J. Berger, J.A.M.S. Duarte and Y. Meir, Directed Percolation in 3+1 Dimensions, *Phys. Rev. B* **37** (1988) pp. 7529-7533.

- J. Berger, Do Heavy Gases Fall? *Eur. J. Phys.* 9 (1988) p. 335
- J. Berger, An Almost Simple Counterexample to “Microscopic Inversibility”, *Eur. J. Phys.* 11 (1990) pp. 155-159.
- E. Berger and J. Berger, A Game with a Non-Obvious Symmetry, *Eur. J. Phys.* 11 (1990) pp. 245-247.
- T. Tlustý and J. Berger, A Simple Maximization Technique for Statistical Mechanics Expressions, *Am. J. Phys.* 60 (1992) pp. 379-380.
- J. Berger and A. Aharony, Field-Dependent Magnetic Phases in La_2CuO_4 at Zero Temperature, [Phys. Rev. B 46 \(1992\) pp. 6477-6487](#).
- J. Berger and A. Aharony, Temperature Dependence of the Field-Induced Magnetic Phases in La_2CuO_4 , [Phys. Rev. B 47 \(1993\) pp. 1016-1023](#).
- J. Berger, R.M. Hornreich and M. Warner, Instabilities and Melting in a Two-Dimensional Magnetic Dipolar System, *Physica A* 194 (1993) pp. 199-208.
- J. E. Avron and J. Berger, Tiling Rules for Toroidal Molecules, *Phys. Rev. A* 51 (1995) pp. 1146-1149.
- J. Berger and J. Rubinstein, Topology of the Order Parameter in the Little-Parks Experiment, [Phys. Rev. Lett. 75 \(1995\) pp. 320-322](#).
- J. Berger and J.E. Avron, [A Classification Scheme for Toroidal Molecules](#), *J. Chem. Soc. - Faraday Trans.*, 91 (1995) pp. 4037-4045.
- J. Berger, The Fight Against the Second Law of Thermodynamics, “Horizons of Physics”, Vol. II (New Age, 1996, A.W. Joshi, editor) pp. 62-89.
- J. Berger, Signatures for the second critical point in the phase diagram of a superconducting ring, [Phys. Rev. B 56 \(1997\) 5124-5127](#).
- J. E. Avron, J. Berger and Y. Last, Piezoelectricity: Quantized Charge Transport Driven by Adiabatic Deformations, *Phys. Rev. Lett.* 78 (1997) pp. 511-514.
- J. Berger and J. Rubinstein, Formation of Topological Defects in Thin Superconducting Rings, *Phil. Trans. R. Soc. Lond. A* 355 (1997) pp. 1969-1978.
- J. Berger and J. Rubinstein, Design for the Detection of the Singly-Connected Superconducting State, *Physica C* 288 (1997) pp. 105-114.
- J. Avron and J. Berger, Toroidal Graphitic Molecules, *Fullerene Science and Technology* 6 (1998) pp. 31-37.

J. Berger and J. Rubinstein, Bifurcation Analysis for Phase Transitions in Superconducting Rings with Nonuniform Thickness, [SIAM J. Appl. Math. 58 \(1998\) pp. 103-121](#).

J. Avron and J. Berger, [The Longuet-Higgins Phase and Charge Transport in Molecular Rings](#), Chem. Phys. Lett. 294 (1998) pp. 13-18.

J. Avron and J. Berger, Quantum Transport in Molecular Rings and Chains, Proc. R. Soc. Lond. A 455 (1999) pp. 2729-2750.

J. Berger and J. Rubinstein, On the Zero Set of the Wave Function in Superconductivity, [Commun. Math. Phys. 202 \(1999\) pp. 621-628](#).

21st century

J. Berger, Position of a Vortex in Mesoscopic Samples, Physica C 332 (2000) pp. 281-284.

J. Berger, Order of the Normal-Superconducting Transition in Mesoscopic Rings, Physica B 284-288 (2000) pp. 1886-1887.

J. Berger, J. Rubinstein and M. Schatzman, Multiply Connected Mesoscopic Superconducting Structures in "Calculus of Variations and Differential Equations" (A. Ioffe, S. Reich and I. Shafir, editors), Chapman & Hall/CRC Research Notes in Mathematics Series, Vol. 410, CRC Press, Boca Raton, FL, 2000, pp. 21-40.

Connectivity and Superconductivity, edited by J. Berger and J. Rubinstein, Springer Verlag, Lecture Notes in Physics, vol. m62 (2000) (256 pages).

J. Berger and J. Rubinstein, Continuous Phase Transitions in Mesoscopic Systems, Z. angew. Math. Phys. 52 (2001) pp. 347-355.

J. Berger, Spontaneous breaking of axial symmetry for the Schrödinger equation in the presence of a magnetic field, [Phys. Rev. B 63 \(2001\) pp. 172507\(1-3\)](#).

J. Berger, Objectivity of Thermodynamic Quantities, in "Quantum Limits to the Second Law" (AIP, 2002, D. P. Sheehan, editor), pp. 456-459.

[Letter to Jean Bricmont](#) (this is not a scientific paper; it was an attempt of ideologic dialog).

J. Berger, Flux Transitions in a Superconducting Ring, [Phys. Rev. B 67, 014531 \(2003\)](#).

J. Berger, From randomness to order, [Entropy 6 \(2004\) pp. 68-75](#).

J. Berger, Extension of the de Broglie-Bohm theory to the Ginzburg-Landau equation, *Found. Phys. Lett.* **17** (2004) pp. 287-294.

J. Berger, Nonlinearity of the field induced by a rotating superconducting shell, [Phys. Rev. B **70** \(2004\) pp. 212502\(1-3\)](#).

J. Berger, The Chernogolovka Experiment, *Physica E* **29** (2005) pp. 100-103.

J. Berger, Time-dependent Ginzburg-Landau equations with charged boundaries, *J. Math. Phys.* **46** (2005) pp. 095106(1-14). J. Berger, Spontaneous superconducting islands and Hall voltage in superconductors with large electric penetration depth, [Phys. Rev. B **71** \(2005\) pp. 174504 \(1-11\)](#).

J. Berger, A nonconventional scenario for thermal equilibrium, *Found. Phys.* **37** (2007) pp. 1738-1743.

A. Kanda, B. J. Baelus, D. Y. Vodolazov, J. Berger, R. Furugen, Y. Ootuka, and F. M. Peeters, Evidence for a different type of vortex that mediates a continuous fluxoid-state transition in a mesoscopic superconducting ring, *Phys. Rev. B* **76** (2007) pp. 094519 (1-8).

J. Berger, Consistent Langevin terms in the numeric treatment of superconducting wires, [Physica C **468** \(2008\) pp 268-271](#).

J. Berger, Confinement into a metastable state with persistent current by thermal quenching of loop of Josephson junctions, [Physica C **468** \(2008\) pp 294-298](#). (PDF available from the author)

J. Berger, Derivation of the Langevin equation from the principle of detailed balance, [J. Stat. Mech. \(2010\) P07022](#).

J. Berger, The influence of thermal fluctuations on uniform and nonuniform superconducting rings according to the Ginzburg-Landau and the Kramer-Watts-Tobin models, [J. Phys.: Condens. Matter **23** \(2011\) pp 225701\(1-13\)](#).

J. Berger, Thermal fluctuations in superconducting rings with general shape, [Phys. Rev. B **83** \(2011\) pp 172504\(1-3\)](#).

J. Berger and M.V. Milosevic, Fluctuations in superconducting rings with two order parameters [Phys. Rev. B **84** \(2011\) pp 214515](#).

J. Berger, Supercurrent fluctuations in filaments [Phys. Rev. B **85** \(2012\) pp 144507](#).

G. Drachuck, M. Shay, G. Bazalitsky, J. Berger, and A. Keren, Parallel and perpendicular susceptibility above T_c in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ single crystals [Phys. Rev. B **85** \(2012\) pp 184518](#).

- J. Berger, Fluctuation current in superconducting loops, [J. Phys.: Conf. Ser. 400 \(2012\) pp 022008](#).
- J. Berger, Characterization of the spontaneous symmetry breaking due to quenching of a one-dimensional superconducting loop, [J. Phys.: Condens. Matter 25 \(2013\) pp 465702\(1-10\)](#).
- S. Kallush and J. Berger, Qualitative modifications and new dynamic phases in the phase diagram of one-dimensional superconducting wires driven with electric currents, [Phys. Rev. B 89 \(2014\) pp 214509](#).
- J. Berger, Influence of the boundary conditions on the current flow pattern along a superconducting wire, [Phys. Rev. B 92 \(2015\) pp 064513](#).
- D. S. Ellis, Y.-B. Huang, P. Olalde-Velasco, M. Dantz, J. Pelliciari, G. Drachuck, R. Ofer, G. Bazalitsky, J. Berger, T. Schmitt, and A. Keren, Correlation of the superconducting critical temperature with spin and orbital excitations in $(\text{Ca}_x\text{La}_{1-x})(\text{Ba}_{1.75-x}\text{La}_{0.25+x})\text{Cu}_3\text{O}_y$ as measured by resonant inelastic x-ray scattering, [Phys. Rev. B 92 \(2015\) pp 104507](#).
- J. Berger, Thermal fluctuations in 1D superconducting samples, [Phys. Scr. T 165 \(2015\) pp 014022](#).
- O. J. Sharon, A. Sharoni, J. Berger, A. Shaulov, and Y. Yeshurun, Current-induced SQUID behavior of superconducting Nb nano-rings, [Sci. Rep. 6 \(2016\) pp 28320](#).
- J. Berger, Flux-induced Nernst effect in low-dimensional superconductors, [Physica C 533 \(2017\) pp 105-108](#).
- J. Berger, Stationary nano-SQUID: theoretical investigation and feasibility analysis, [J. Phys.: Condensed Matter, 29 \(2017\) 29LT01](#) (6pp + supplementary material).
- J. Berger, The Stationary SQUID, [J. Low Temp. Phys. \(2018\)](#).
<https://doi.org/10.1007/s10909-018-1851-1>. (SharedIt)
- O. Sharon, A. Shaulov, J. Berger, A. Sharoni, R. Berkovits, and Y. Yeshurun, Current-Induced Crossover of Flux Periodicity from $h/2e$ to h/e in Superconducting Nb Nano-Ring, [Nano Letters 18 \(2018\) pp. 7851-7855](#).
- J. Berger and J. Rubinstein, A flexible anatomical set of mechanical models for the organ of Corti, [Royal Society Open Science 8 \(2021\) 210016](#) (24 pp + open code).
- J. Berger and E. Sardella, Attempt to describe phase slips by means of an adiabatic approximation, [Physica C 603 \(2022\) 1354156](#) (6 pp.)
<https://doi.org/10.1016/j.physc.2022.1354156>

L. Rodrigues Cadorim, L. Veneziani de Toledo, W. Aires Ortiz, J. Berger, and E. Sardella, Closed vortex state in 3D mesoscopic superconducting films under an applied transport current, [Phys. Rev. B, **107** \(2023\) 094515](#).