

Jeffrey B Sokoloff

List of Publications by Year in descending order

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times ranked

876
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Theory of energy dissipation in sliding crystal surfaces. <i>Physical Review B</i> , 1990, 42, 760-765. | 1.1 | 186 |
| 2 | Dominance of Phonon Friction for a Xenon Film on a Silver (111) Surface. <i>Physical Review Letters</i> , 1997, 79, 4798-4801. | 2.9 | 112 |
| 3 | Electron localization in crystals with quasiperiodic lattice potentials. <i>Physical Review B</i> , 1980, 22, 5823-5828. | 1.1 | 70 |
| 4 | Molecular-dynamical studies of the depinning of charge-density waves. <i>Physical Review B</i> , 1981, 23, 1992-1998. | 1.1 | 64 |
| 5 | Theory of the contribution to sliding friction from electronic excitations in the microbalance experiment. <i>Physical Review B</i> , 1995, 52, 5318-5322. | 1.1 | 57 |
| 6 | Band structure and localization in incommensurate lattice potentials. <i>Physical Review B</i> , 1981, 23, 6422-6429. | 1.1 | 55 |
| 7 | Possible nearly frictionless sliding for mesoscopic solids. <i>Physical Review Letters</i> , 1993, 71, 3450-3453. | 2.9 | 55 |
| 8 | Chiral Anomaly and the Rational Quantization of the Hall Conductance. <i>Physical Review Letters</i> , 1984, 52, 1587-1589. | 2.9 | 53 |
| 9 | Free sliding in lattices with two incommensurate periodicities. <i>Physical Review B</i> , 1978, 18, 6549-6559. | 1.1 | 52 |
| 10 | Theory of Inelastic Neutron Scattering in the Itinerant Model Antiferromagnetic Metals. I. <i>Physical Review</i> , 1969, 185, 770-782. | 2.7 | 51 |
| 11 | Free-Spin Magnetic Behavior of the One-Dimensional Near-Neighbor Hubbard-Model Electron System. <i>Physical Review B</i> , 1970, 2, 779-781. | 1.1 | 49 |
| 12 | Localization in an Almost Periodically Modulated Array of Potential Barriers. <i>Physical Review Letters</i> , 1982, 49, 334-337. | 2.9 | 47 |
| 13 | Electron Localization in Quasicrystals. <i>Physical Review Letters</i> , 1986, 57, 2223-2226. | 2.9 | 47 |
| 14 | Theory of atomic level sliding friction between ideal crystal interfaces. <i>Journal of Applied Physics</i> , 1992, 72, 1262-1270. | 1.1 | 47 |
| 15 | Determination of an atomic-scale frictional force law through quartz-crystal microbalance measurements. <i>Physical Review B</i> , 1993, 48, 9134-9137. | 1.1 | 46 |
| 16 | Consequences of the persistence of Stoner splitting up to and above T_c for the phase transition and the elementary excitations of ferromagnetic metals. <i>Journal of Physics F: Metal Physics</i> , 1975, 5, 1946-1956. | 1.6 | 40 |
| 17 | Sliding charge-density waves in periodic and disordered lattices. <i>Physical Review B</i> , 1977, 16, 3367-3372. | 1.1 | 38 |
| 18 | Microscopic mechanisms for kinetic friction: Nearly frictionless sliding for small solids. <i>Physical Review B</i> , 1995, 52, 7205-7214. | 1.1 | 35 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Static Friction between Elastic Solids due to Random Asperities. <i>Physical Review Letters</i> , 2001, 86, 3312-3315. | 2.9 | 33 |
| 20 | Domain motion and threshold behavior of charge-density waves. <i>Physical Review B</i> , 1985, 31, 2270-2276. | 1.1 | 31 |
| 21 | Theory of the observed ultralow friction between sliding polyelectrolyte brushes. <i>Journal of Chemical Physics</i> , 2008, 129, 014901. | 1.2 | 31 |
| 22 | Possible microscopic explanation of the virtually universal occurrence of static friction. <i>Physical Review B</i> , 2002, 65, . | 1.1 | 30 |
| 23 | Persistence of the Stoner Splitting in Metallic Ferromagnets above T_c . <i>Physical Review Letters</i> , 1973, 31, 1417-1421. | 2.9 | 29 |
| 24 | Quasiclassical theory of quantum particles in two incommensurate periodic potentials. <i>Physical Review B</i> , 1981, 23, 2039-2041. | 1.1 | 29 |
| 25 | A polarised-neutron scattering demonstration of deviations from Stoner-theory behaviour in nickel. <i>Journal of Physics F: Metal Physics</i> , 1983, 13, 249-279. | 1.6 | 27 |
| 26 | Effects of defects on the friction between film and substrate in a microbalance experiment. <i>Physical Review B</i> , 1995, 51, 15573-15574. | 1.1 | 27 |
| 27 | Theory of Neutron Scattering in the Itinerant Model of Antiferromagnetic Metals. II. <i>Physical Review</i> , 1969, 185, 783-791. | 2.7 | 26 |
| 28 | Undamped Lattice Vibrations in Systems with Two Incommensurate Periodicities. <i>Physical Review Letters</i> , 1978, 41, 1561-1564. | 2.9 | 26 |
| 29 | Dynamical friction in sliding condensed-matter systems. <i>Physical Review B</i> , 1979, 20, 5071-5083. | 1.1 | 25 |
| 30 | Charged vortex excitations in quantum Hall systems. <i>Physical Review B</i> , 1985, 31, 1924-1928. | 1.1 | 25 |
| 31 | Comparison of the kinetic friction of planar neutral and polyelectrolyte polymer brushes using molecular dynamics simulations. <i>Physical Review E</i> , 2012, 85, 011801. | 0.8 | 25 |
| 32 | Droplet evaporation residue indicating SARS-COV-2 survivability on surfaces. <i>Physics of Fluids</i> , 2021, 33, 013309. | 1.6 | 23 |
| 33 | Anomalous Electrical Conduction in Quasicrystals and Fibonacci Lattices. <i>Physical Review Letters</i> , 1987, 58, 2267-2270. | 2.9 | 22 |
| 34 | Antiferromagnetism in Narrow-Band Solids. <i>Physical Review B</i> , 1970, 1, 1144-1150. | 1.1 | 21 |
| 35 | Theory of Verwey and Charge-Density-Wave-State Ordering in Magnetite. <i>Physical Review B</i> , 1972, 5, 4496-4505. | 1.1 | 21 |
| 36 | Spin-wave spectrum for barium ferrite. <i>Journal of Applied Physics</i> , 1990, 67, 2017-2023. | 1.1 | 21 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 37 | Theory of Magnetic Properties of Narrow-Band Solids. <i>Physical Review B</i> , 1970, 2, 3707-3713. | 1.1 | 20 |
| 38 | Magnetic Ordering in Solid Helium-3. <i>Physical Review Letters</i> , 1975, 35, 673-676. | 2.9 | 20 |
| 39 | Electronic Structure of Magnetic Impurities in Copper. <i>Physical Review</i> , 1967, 161, 540-556. | 2.7 | 19 |
| 40 | Phonon spectrum for barium ferrite. <i>Physical Review B</i> , 1991, 44, 619-627. | 1.1 | 19 |
| 41 | Theory of Ferromagnetism in Narrow-Band Solids, with Application to Experiments on $\text{Co}_x\text{Fe}_{1-x}\text{S}_2$. <i>Physical Review B</i> , 1971, 3, 3826-3834. | 1.1 | 18 |
| 42 | Phenomenological Molecular-Field Theory of the Mott-Wigner Transition in Magnetite. <i>Physical Review B</i> , 1971, 3, 3162-3170. | 1.1 | 18 |
| 43 | Perturbation-theoretic studies of the anomalous electronic structure and transport properties of quasicrystals. <i>Physical Review B</i> , 1987, 36, 6361-6371. | 1.1 | 18 |
| 44 | Effects of surface defects on friction for a thin solid film sliding over a solid surface. <i>Physical Review B</i> , 1998, 57, 4888-4894. | 1.1 | 18 |
| 45 | Fluctuation induced band splitting in ferromagnetic and nearly ferromagnetic metals. <i>Journal of Physics F: Metal Physics</i> , 1975, 5, 528-542. | 1.6 | 17 |
| 46 | Excitations of modulated crystals near the commensurate-incommensurate transition. <i>Physical Review B</i> , 1982, 25, 5901-5906. | 1.1 | 17 |
| 47 | Oscillatory length-dependent conductivity in periodic and almost periodic crystals. <i>Journal of Physics C: Solid State Physics</i> , 1984, 17, 1703-1708. | 1.5 | 16 |
| 48 | Strongly Temperature Dependent Sliding Friction for a Superconducting Interface. <i>Physical Review Letters</i> , 2000, 84, 515-517. | 2.9 | 16 |
| 49 | Commensurability in one-dimensional lattices at finite temperature. <i>Journal of Statistical Physics</i> , 1979, 21, 497-516. | 0.5 | 15 |
| 50 | Dry Friction due to Adsorbed Molecules. <i>Physical Review Letters</i> , 2003, 90, 246101. | 2.9 | 15 |
| 51 | Multiband Theory of Inelastic Neutron Scattering by Ferromagnetic Metals at Low Temperatures. <i>Physical Review</i> , 1969, 180, 613-621. | 2.7 | 14 |
| 52 | Charge ordering and lattice distortion in Fe_3O_4 . <i>Physical Review B</i> , 1976, 13, 2003-2006. | 1.1 | 14 |
| 53 | Comment on "First principles theory of atomic-scale friction". <i>Physical Review Letters</i> , 1991, 66, 965-965. | 2.9 | 14 |
| 54 | Theory of the effects of surface roughness on fluid lubrication of hydrogels. <i>Soft Matter</i> , 2012, 8, 8164. | 1.2 | 14 |

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|----|--|-----|-----------|
| 55 | Polar Spin Waves in Ferromagnetic Metals. <i>Physical Review</i> , 1968, 173, 617-630. | 2.7 | 13 |
| 56 | Theory of the effects of multiscale surface roughness and stiffness on static friction. <i>Physical Review E</i> , 2006, 73, 016104. | 0.8 | 13 |
| 57 | Theory of Friction between Neutral Polymer Brushes. <i>Macromolecules</i> , 2007, 40, 4053-4058. | 2.2 | 13 |
| 58 | Enhancement of the water flow velocity through carbon nanotubes resulting from the radius dependence of the friction due to electron excitations. <i>Physical Review E</i> , 2018, 97, 033107. | 0.8 | 13 |
| 59 | Theory of Critical-Fluctuation-Enhanced Raman Scattering by Phonons in NH ₄ Br. <i>Physical Review B</i> , 1972, 5, 4962-4966. | 1.1 | 12 |
| 60 | Polarized neutron measurement of π -forbidden magnon scattering in nickel. <i>Journal of Applied Physics</i> , 1979, 50, 1961-1962. | 1.1 | 12 |
| 61 | Friedman et al. Respond. <i>Physical Review Letters</i> , 1984, 53, 2592-2592. | 2.9 | 12 |
| 62 | Ground state vacancies and magnetic ordering in solid ³ He. <i>Journal of Low Temperature Physics</i> , 1975, 21, 463-471. | 0.6 | 11 |
| 63 | Ionic order and defect conductivity in the one-dimensional superionic conductor hollandite. <i>Physical Review B</i> , 1978, 17, 4843-4849. | 1.1 | 11 |
| 64 | Optical properties of titanium dioxide nanotube arrays. <i>Journal of Applied Physics</i> , 2014, 115, . | 1.1 | 11 |
| 65 | Remnant Bose Condensation in He ₄ Submonolayer Films. <i>Physical Review A</i> , 1972, 5, 475-476. | 1.0 | 10 |
| 66 | Intrinsic ferrimagnetic resonance linewidth of barium ferrite due to spin wave scattering by trigonal site single-particle excitations. <i>Journal of Applied Physics</i> , 1992, 72, 612-614. | 1.1 | 10 |
| 67 | Theory of energy dissipation in sliding crystal surfaces at nonzero temperature. <i>Physical Review B</i> , 1993, 47, 6106-6109. | 1.1 | 10 |
| 68 | Ferrimagnetic resonance lineshape asymmetry due to Suhl instabilities. <i>Journal of Applied Physics</i> , 1993, 74, 1938-1943. | 1.1 | 10 |
| 69 | Effects of defects on friction for a Xe film sliding on Ag(111). <i>Physical Review B</i> , 1999, 60, 4005-4017. | 1.1 | 10 |
| 70 | Theory of Hydrostatic Lubrication for Polymer Hydrogel-Coated Surfaces with Excess Salt. <i>Journal of Physical Chemistry B</i> , 2011, 115, 2709-2716. | 1.2 | 10 |
| 71 | Theory of Electron and Phonon Contributions to Sliding Friction. , 1996, , 217-229. | | 10 |
| 72 | Impurity pinning in one, two, and three dimensions in incommensurate modulated lattices. <i>Physical Review B</i> , 1979, 20, 4713-4720. | 1.1 | 9 |

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|----|---|-----|-----------|
| 73 | Friction in the zero sliding velocity limit. Physical Review E, 2003, 68, 066118. | 0.8 | 9 |
| 74 | Theory of Inelastic Neutron Scattering from Orientationally Disordered Molecular Crystals, with Particular Application to ND ₄ Br and ND ₄ Cl. Physical Review B, 1973, 7, 1644-1650. | 1.1 | 8 |
| 75 | A droplet model for ferromagnetic spin waves above T _C . Physical Review B, 1978, 17, 2380-2383. | 1.1 | 8 |
| 76 | Effects of Capillary Forces on a Hydrogel Sphere Pressed against a Surface. Langmuir, 2016, 32, 135-139. | 1.6 | 8 |
| 77 | Theory of Longitudinal Spin Fluctuations and the Antiferromagnetic Phase Transition in Chromium Metal. Physical Review, 1969, 187, 584-586. | 2.7 | 7 |
| 78 | Ferromagnetism on the solid He ³ melting curve. Physical Review B, 1976, 14, 1146-1150. | 1.1 | 7 |
| 79 | Optical absorption and neutron scattering by lattice vibrations of incommensurate lattices. Physical Review B, 1978, 18, 3275-3281. | 1.1 | 7 |
| 80 | Effects of electronic friction from the walls on water flow in carbon nanotubes and on water desalination. Physical Review E, 2019, 100, 023112. | 0.8 | 7 |
| 81 | Static and dynamic properties of one-dimensional disordered magnetic Ising Systems. Physical Review B, 1983, 27, 334-345. | 1.1 | 6 |
| 82 | Comment on "DNA plasmon". Physical Review Letters, 1989, 63, 2316-2316. | 2.9 | 6 |
| 83 | Spin-wave-Stoner-mode interaction in ferromagnetic metals above T _c . Physical Review B, 1976, 13, 4172-4173. | 1.1 | 5 |
| 84 | Entropy of vacancy formation in solid He ³ . Physical Review B, 1978, 18, 3293-3297. | 1.1 | 5 |
| 85 | Damping and softening of low frequency vibrational modes of long molecules when placed in a viscous solvent. Journal of Chemical Physics, 1988, 89, 2330-2335. | 1.2 | 5 |
| 86 | Kinetic friction due to Ohm's law heating. Journal of Physics Condensed Matter, 2002, 14, 5277-5287. | 0.7 | 5 |
| 87 | Static and dry friction due to multiscale surface roughness. Physical Review E, 2008, 78, 036111. | 0.8 | 5 |
| 88 | Theory of lubrication due to polyelectrolyte hydrogels with arbitrary salt concentration and degree of compression. Journal of Chemical Physics, 2013, 139, 084902. | 1.2 | 5 |
| 89 | Absence of a Hall Effect in Ice Crystals. Physical Review Letters, 1973, 31, 90-92. | 2.9 | 4 |
| 90 | Remanent magnetization in a random antiferromagnetic Ising chain. Physical Review B, 1982, 25, 2026-2029. | 1.1 | 4 |

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|-----|--|-----|-----------|
| 91 | Calculation of the ferromagnetic resonance linewidth of barium ferrite. Journal of Applied Physics, 1991, 69, 6183-6185. | 1.1 | 4 |
| 92 | Theory of lubrication due to collective pinning. Physical Review E, 2005, 71, 056107. | 0.8 | 4 |
| 93 | Theory of the Short Time Mechanical Relaxation in Articular Cartilage. Journal of Biomechanical Engineering, 2011, 133, 104504. | 0.6 | 4 |
| 94 | Surface roughness and dry friction. Physical Review E, 2012, 85, 027102. | 0.8 | 4 |
| 95 | Multiscale treatment of theoretical mechanisms for the protection of hydrogel surfaces from adhesive forces. Physical Review E, 2014, 90, 032408. | 0.8 | 4 |
| 96 | Ferromagnetism in the Nearly-Half-Filled-Band Hubbard Model at Nonzero Temperatures. Physical Review B, 1971, 4, 232-235. | 1.1 | 3 |
| 97 | Localization in an Almost Periodically Modulated Array of Potential Barriers.. Physical Review Letters, 1982, 49, 700-700. | 2.9 | 3 |
| 98 | Theory of the microwave-frequency magnetic susceptibility of insulating ferri- and ferromagnets. Journal of Applied Physics, 1989, 66, 3187-3191. | 1.1 | 3 |
| 99 | Uncoiling transition for DNA in solution. Physical Review E, 1996, 54, 691-705. | 0.8 | 3 |
| 100 | Effects of stick-slip motion on energy dissipation in small sliding solids. Journal of Physics Condensed Matter, 1998, 10, 9991-9998. | 0.7 | 3 |
| 101 | Reduction of energy absorption by phonons and spin waves in a disordered solid due to localization. Physical Review B, 2000, 61, 9380-9386. | 1.1 | 3 |
| 102 | Discrete model studies of two grafted polyelectrolyte polymer hydrogels pressed in contact. Journal of Chemical Physics, 2013, 139, 144902. | 1.2 | 3 |
| 103 | Enhancement of the ion concentration in a salt solution near a wall due to electrical image potentials and enhancement of surface tension due to the presence of salt. Physical Review E, 2020, 102, 052606. | 0.8 | 3 |
| 104 | Monte Carlo studies of the two-dimensional registry transition. Physical Review B, 1980, 22, 2506-2513. | 1.1 | 2 |
| 105 | Perturbation theory for the electrical conductivity of quasiperiodic lattices. Physical Review B, 1988, 37, 7091-7093. | 1.1 | 2 |
| 106 | Adiabatic molecular-dynamics-simulation-method studies of kinetic friction. Physical Review E, 2005, 71, 066125. | 0.8 | 2 |
| 107 | Effects of electrical image forces on salt dissolved in water. Physical Review E, 2020, 101, 013110. | 0.8 | 2 |
| 108 | Antiferromagnetism in Narrow Band Solids. Journal of Applied Physics, 1970, 41, 873-874. | 1.1 | 1 |

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|-----|---|-----|-----------|
| 109 | Lack of superconducting behavior of sliding frohlich waves. <i>Ferroelectrics</i> , 1977, 16, 79-81. | 0.3 | 1 |
| 110 | Theory of depinning of monolayer films adsorbed on a quartz crystal microbalance. <i>Physical Review E</i> , 2008, 77, 042601. | 0.8 | 1 |
| 111 | Compression and lubrication of salt free polyelectrolyte microgel particles in highly compressed suspensions by counterion osmotic pressure. <i>Journal of Chemical Physics</i> , 2015, 142, 234903. | 1.2 | 1 |
| 112 | Effects of electrical image potentials and solvation energy on salt ions near a metallic or dielectric wall. <i>European Physical Journal E</i> , 2021, 44, 122. | 0.7 | 1 |
| 113 | Lorentz Transformation in the Undergraduate Curriculum. <i>American Journal of Physics</i> , 1963, 31, 444-446. | 0.3 | 0 |
| 114 | Effects of Phonons and Impurities on Single-Particle-Mode Neutron Scattering in Chromium. <i>Physical Review B</i> , 1971, 3, 2367-2369. | 1.1 | 0 |
| 115 | The Role of Harmonics in the First Order Antiferromagnetic to Paramagnetic Transition in Chromium. , 1974, , . | | 0 |
| 116 | Ferromagnetic ordering in solid He3 due to ground state vacancies. <i>AIP Conference Proceedings</i> , 1976, , . | 0.3 | 0 |
| 117 | Metastable states in the random antiferromagnetic ising chain. <i>Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics</i> , 1981, 108, 1325-1326. | 0.9 | 0 |
| 118 | Screening of charges in quantum Hall systems. <i>Journal of Physics C: Solid State Physics</i> , 1985, 18, L997-L1002. | 1.5 | 0 |
| 119 | Dynamical threshold behaviour of a sliding charge density wave. <i>Journal of Physics C: Solid State Physics</i> , 1985, 18, 1641-1646. | 1.5 | 0 |
| 120 | Dynamical Threshold Behavior of A Sliding Charge Density Wave. <i>Molecular Crystals and Liquid Crystals</i> , 1985, 121, 91-94. | 0.9 | 0 |
| 121 | Anomalous Rigid-Layer Modes in Layered Compounds. <i>Molecular Crystals and Liquid Crystals</i> , 1985, 121, 161-164. | 0.9 | 0 |
| 122 | Single-impurity model for charge-density-wave dynamics. <i>Physical Review B</i> , 1988, 38, 3841-3845. | 1.1 | 0 |
| 123 | Comment on "Microwave absorption by dissolved DNA". <i>Physical Review A</i> , 1989, 39, 2745-2746. | 1.0 | 0 |
| 124 | Theory of acoustic mode vibrations of DNA fibers. <i>Biopolymers</i> , 1990, 30, 555-562. | 1.2 | 0 |
| 125 | Spin-wave spectrum for barium ferrite (abstract). <i>Journal of Applied Physics</i> , 1990, 67, 5534-5534. | 1.1 | 0 |
| 126 | Applicability of the ratchet model to the polarization of charge density waves below the threshold field. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , 1991, 63, 551-555. | 0.6 | 0 |

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|-----|---|-----|-----------|
| 127 | Possible low-loss Faraday rotation and phase shifts using multilayer ferrite structures. Journal of Applied Physics, 1992, 71, 1494-1498. | 1.1 | 0 |
| 128 | Static Friction between Elastic Solids due to Random Asperities. Materials Research Society Symposia Proceedings, 2000, 651, 1. | 0.1 | 0 |
| 129 | Effects on Friction of Adsorbed Molecules: How They Modify Dry Friction. ACS Symposium Series, 2004, , 69-84. | 0.5 | 0 |
| 130 | Superlubricity for Incommensurate Crystalline and Disordered Interfaces. , 2007, , 1-15. | | 0 |
| 131 | Theory of Lubrication due to Poly-Electrolyte Polymer Brushes. Materials Research Society Symposia Proceedings, 2007, 1049, 1. | 0.1 | 0 |
| 132 | Theory of Fluid Lubrication of Hydrogels and Articular Cartilage during Compression Under an Applied Load. Materials Research Society Symposia Proceedings, 2012, 1418, 39. | 0.1 | 0 |
| 133 | Diffusion mechanism for highly compressed microgel particles. Journal of Chemical Physics, 2018, 149, 064901. | 1.2 | 0 |
| 134 | Electrical image potential and solvation energies for an ion in a pore in a metallic electrode or in a nanotube. Physical Review E, 2022, 105, 044606. | 0.8 | 0 |