

# Alexander Shnirman

## List of Publications by Year in descending order

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104  
papers

6,481  
citations

136950

32  
h-index

62596

80  
g-index

104  
all docs

104  
docs citations

104  
times ranked

3506  
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum-state engineering with Josephson-junction devices. <i>Reviews of Modern Physics</i> , 2001, 73, 357-400.	45.6	2,201
2	Josephson-junction qubits with controlled couplings. <i>Nature</i> , 1999, 398, 305-307.	27.8	614
3	Quantum Manipulations of Small Josephson Junctions. <i>Physical Review Letters</i> , 1997, 79, 2371-2374.	7.8	444
4	Decoherence from ensembles of two-level fluctuators. <i>New Journal of Physics</i> , 2006, 8, 1-1.	2.9	305
5	Ground-state cooling of mechanical resonators. <i>Physical Review B</i> , 2004, 69, .	3.2	157
6	Low- and High-Frequency Noise from Coherent Two-Level Systems. <i>Physical Review Letters</i> , 2005, 94, 127002.	7.8	146
7	Quantum measurements performed with a single-electron transistor. <i>Physical Review B</i> , 1998, 57, 15400-15407.	3.2	141
8	Dephasing of Solid-State Qubits at Optimal Points. <i>Physical Review Letters</i> , 2004, 92, 178301.	7.8	133
9	Noise and Decoherence in Quantum Two-Level Systems. <i>Physica Scripta</i> , 2002, T102, 147.	2.5	131
10	Geometric Nature of the Environment-Induced Berry Phase and Geometric Dephasing. <i>Physical Review Letters</i> , 2005, 94, 070407.	7.8	105
11	Sisyphus cooling and amplification by a superconducting qubit. <i>Nature Physics</i> , 2008, 4, 612-616.	16.7	105
12	Single-Qubit Lasing and Cooling at the Rabi Frequency. <i>Physical Review Letters</i> , 2008, 100, 037003.	7.8	100
13	Interacting two-level defects as sources of fluctuating high-frequency noise in superconducting circuits. <i>Physical Review B</i> , 2015, 92, .	3.2	90
14	Calorimetric measurement of work in a quantum system. <i>New Journal of Physics</i> , 2013, 15, 115006.	2.9	88
15	Statistics and Noise in a Quantum Measurement Process. <i>Physical Review Letters</i> , 2000, 85, 4578-4581.	7.8	79
16	Magnetic Flux Noise in dc SQUIDS: Temperature and Geometry Dependence. <i>Physical Review Letters</i> , 2013, 110, 147002.	7.8	79
17	Novel Spin Dynamics in a Josephson Junction. <i>Physical Review Letters</i> , 2004, 92, 107001.	7.8	78
18	Strong Coupling of Spin Qubits to a Transmission Line Resonator. <i>Physical Review Letters</i> , 2012, 108, 190506.	7.8	65

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19	Measuring the Temperature Dependence of Individual Two-Level Systems by Direct Coherent Control. Physical Review Letters, 2010, 105, 230504.	7.8	64
20	Lasing and transport in a quantum-dot resonator circuit. Physical Review B, 2011, 84, .	3.2	60
21	Decoherence spectroscopy with individual two-level tunneling defects. Scientific Reports, 2016, 6, 23786.	3.3	57
22	Geometrical Spin Dephasing in Quantum Dots. Physical Review Letters, 2006, 97, 076803.	7.8	54
23	Spin and spin-wave dynamics in Josephson junctions. Physical Review B, 2005, 71, .	3.2	48
24	Spin-Spin Correlators in the Majorana Representation. Physical Review Letters, 2003, 91, 207204.	7.8	47
25	Reading out the state of a flux qubit by Josephson transmission line solitons. Physical Review B, 2007, 75, .	3.2	44
26	Insulating Josephson Junction Chains as Pinned Luttinger Liquids. Physical Review Letters, 2017, 119, 167701.	7.8	44
27	Dissipation in circuit quantum electrodynamics: lasing and cooling of a low-frequency oscillator. New Journal of Physics, 2008, 10, 095018.	2.9	43
28	Tunneling Spectroscopy of Two-Level Systems Inside a Josephson Junction. Physical Review Letters, 2005, 95, 127002.	7.8	40
29	Low-Energy Quasiparticle States near Extended Scatterers in d-Wave Superconductors and Their Connection with SUSY Quantum Mechanics. Physical Review Letters, 1999, 83, 5571-5574.	7.8	37
30	Dissipative effects in Josephson qubits. Chemical Physics, 2004, 296, 315-324.	1.9	37
31	Geometric phases in semiconductor spin qubits: Manipulations and decoherence. Physical Review B, 2008, 77, .	3.2	36
32	Tunneling and resonant tunneling of fluxons in a long Josephson junction. Physical Review B, 1997, 56, 14677-14685.	3.2	35
33	Design of a ballistic fluxon qubit readout. Superconductor Science and Technology, 2007, 20, S450-S454.	3.5	32
34	Rabi spectroscopy of a qubit-fluctuator system. Physical Review B, 2010, 81, .	3.2	32
35	Cavity quantum electrodynamics in superconducting circuits: $\chi$ Susceptibility at elevated temperatures. Physical Review B, 2004, 70, .	3.2	30
36	Nonperturbative studies of a quantum higher-order nonlinear Schrödinger model using the Bethe ansatz. Physical Review A, 1994, 50, 3453-3463.	2.5	29

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37	Quantitative evaluation of defect-models in superconducting phase qubits. Applied Physics Letters, 2010, 97, .	3.3	29
38	Photon-Number Squeezing in Circuit Quantum Electrodynamics. Physical Review Letters, 2008, 101, 147001.	7.8	28
39	Single-qubit lasing in the strong-coupling regime. Physical Review A, 2010, 82, .	2.5	27
40	One-dimensional Josephson junction arrays: Lifting the Coulomb blockade by depinning. Physical Review B, 2015, 92, .	3.2	25
41	Output spectrum of a measuring device at arbitrary voltage and temperature. Europhysics Letters, 2004, 67, 840-846.	2.0	24
42	Resonant states and order-parameter suppression near pointlike impurities in d-wave superconductors. Physical Review B, 1999, 60, 7517-7522.	3.2	23
43	Majorana representation for dissipative spin systems. Annals of Physics, 2015, 361, 401-422.	2.8	23
44	Few-qubit lasing in circuit QED. Physica Scripta, 2009, T137, 014016.	2.5	22
45	Engineering and manipulating topological qubits in 1D quantum wires. Journal of the Korean Physical Society, 2013, 62, 1558-1563.	0.7	22
46	Thermoelectric transport in junctions of Majorana and Dirac channels. Physical Review B, 2017, 95, .	3.2	22
47	Relaxation of Josephson qubits due to strong coupling to two-level systems. Physical Review B, 2009, 80, .	3.2	21
48	Tunable coupling of qubits: Nonadiabatic corrections. Europhysics Letters, 2006, 74, 1088-1094.	2.0	20
49	Nondemolition Measurements of a Single Quantum Spin using Josephson Oscillations. Physical Review Letters, 2004, 92, 177001.	7.8	19
50	Geometric Quantum Noise of Spin. Physical Review Letters, 2015, 114, 176806.	7.8	18
51	Phase diffusion and locking in single-qubit lasers. Physical Review A, 2009, 79, .	2.5	16
52	Flux1/f $\pm$ noise in two-dimensional Heisenberg spin glasses: Effects of weak anisotropic interactions. Physical Review B, 2014, 90, .	3.2	16
53	Dephasing Length and Coherence of a Quantum Soliton in an Ideal Long Josephson Junction. Physical Review Letters, 1995, 74, 4915-4918.	7.8	15
54	Dynamical decoupling of quantum two-level systems by coherent multiple Landau-Zener transitions. Npj Quantum Information, 2019, 5, .	6.7	15

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55	Nano-Electronic Realizations of Quantum Bits. Journal of Low Temperature Physics, 2000, 118, 751-763.	1.4	14
56	Dynamics of a Magnetic Needle Magnetometer: Sensitivity to Landau-Lifshitz-Gilbert Damping. Physical Review Letters, 2018, 121, 160801.	7.8	13
57	Adiabatic pumping through an interacting quantum dot with spin-orbit coupling. Physical Review B, 2013, 87, .	3.2	12
58	Measuring fermion parity correlations and relaxation rates in one-dimensional topological superconducting wires. Physical Review B, 2013, 88, .	3.2	12
59	Decoherence of a quantum two-level system by spectral diffusion. Physical Review B, 2016, 93, .	3.2	12
60	Strong nonequilibrium effects in spin-torque systems. Physical Review B, 2017, 95, .	3.2	12
61	Josephson quantum bits in the flux regime. Physica C: Superconductivity and Its Applications, 2002, 368, 276-283.	1.2	11
62	Transport signatures of a Majorana qubit and read-out-induced dephasing. New Journal of Physics, 2019, 21, 043027.	2.9	11
63	Spin-density induced by electromagnetic wave in two-dimensional electron gas. Europhysics Letters, 2007, 78, 27001.	2.0	10
64	Prediction of resonant all-electric spin pumping with spin-orbit coupling. Physical Review B, 2010, 82, .	3.2	10
65	Charge solitons and their dynamical mass in one-dimensional arrays of Josephson junctions. Physical Review B, 2011, 83, .	3.2	10
66	Josephson-Junction Qubits. Fortschritte Der Physik, 2000, 48, 1043-1054.	4.4	9
67	A quantum dot close to Stoner instability: The role of the Berry phase. Annals of Physics, 2012, 327, 2543-2559.	2.8	9
68	Distribution of energy dissipated by a driven two-level system. Physical Review B, 2014, 90, .	3.2	9
69	Using Majorana spin- $\frac{1}{2}$ for the spin-boson model. Physical Review B, 2016, 93, .	3.2	9
70	Current-phase relation and $h/e$ -periodic critical current of a chiral Josephson contact between one-dimensional Majorana modes. Physical Review B, 2016, 93, .	3.2	8
71	The qubit and the cavity. Nature, 2004, 431, 138-139.	27.8	7
72	Excess equilibrium noise in a topological SNS junction between chiral Majorana liquids. Physical Review B, 2018, 98, .	3.2	7

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73	Interference and transmission of quantum fluxons through a Josephson ring. <i>Physical Review A</i> , 1995, 52, 3541-3545.	2.5	6
74	Towards a Dephasing Diode: Asymmetric and Geometric Dephasing. <i>Physical Review Letters</i> , 2008, 100, 126806.	7.8	6
75	Current noise geometrically generated by a driven magnet. <i>Physical Review Research</i> , 2020, 2, .	3.6	6
76	Fluxon-density waves in a modulated Josephson ring. <i>Physical Review B</i> , 1994, 50, 12793-12801.	3.2	5
77	Josephson junction quantum logic gates. <i>Computer Physics Communications</i> , 2000, 127, 156-164.	7.5	5
78	Spin dephasing due to a random Berry phase. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2007, 40, 76-83.	2.7	5
79	Spin density induced by electromagnetic waves in a two-dimensional electron gas with both Rashba and Dresselhaus spin-orbit coupling. <i>Physical Review B</i> , 2009, 79, .	3.2	5
80	Lasing and transport in a coupled quantum dot-resonator system. <i>Physica Scripta</i> , 2012, T151, 014032.	2.5	5
81	1/f NOISE AND TWO-LEVEL SYSTEMS IN JOSEPHSON QUBITS. , 2007, , 343-356.		5
82	Thermally driven spin transfer torque system far from equilibrium: Enhancement of thermoelectric current via pumping current. <i>Physical Review B</i> , 2019, 99, .	3.2	4
83	Theory of small charge solitons in one-dimensional arrays of Josephson junctions. <i>Physical Review B</i> , 2009, 80, .	3.2	3
84	Rabi noise spectroscopy of individual two-level tunneling defects. <i>Physical Review B</i> , 2017, 95, .	3.2	3
85	Entropy revisited: the plausible role of gravitation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1999, 256, 369-374.	2.1	2
86	Josephson junction quantum bits and logic gates. <i>Physica B: Condensed Matter</i> , 2000, 280, 410-411.	2.7	2
87	Reading-out the state of a qubit: an analysis of the quantum measurement process. <i>Physica C: Superconductivity and Its Applications</i> , 2001, 352, 113-119.	1.2	2
88	Stability of longitudinal coupling for Josephson charge qubits. <i>Physical Review B</i> , 2007, 76, .	3.2	2
89	Statistics of energy dissipation in a quantum dot operating in the cotunneling regime. <i>Physical Review B</i> , 2014, 90, .	3.2	2
90	Current-phase relation in a topological Josephson junction: Andreev bands versus scattering states. <i>Physical Review B</i> , 2021, 103, .	3.2	2

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91	Acoustic properties of metallic glasses at low temperatures: Tunneling systems and their dephasing. Physical Review B, 2021, 103, .	3.2	2
92	Stabilization of Qubit Relaxation Rates by Frequency Modulation. Physical Review Applied, 2021, 16, .	3.8	2
93	Josephson Junction based Quantum Computing. Applicable Algebra in Engineering, Communications and Computing, 2000, 10, 375-382.	0.5	1
94	Decoherence and Relaxation in Driven Circuit QED Systems. , 2008, , .		1
95	Superconducting micromasers. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 444-448.	2.7	1
96	T1-echo sequence: Protecting the state of a qubit in the presence of coherent interaction. Physical Review A, 2012, 86, .	2.5	1
97	Analysis of the conditional average and conditional variance of dissipated energy in the driven spin-boson model. Physical Review B, 2017, 96, .	3.2	1
98	Microwave response of a chiral Majorana interferometer. Physical Review B, 2021, 104, .	3.2	1
99	Quantum Measurements of Charge and Flux Qubits. , 2002, , 353-363.		1
100	Nanoscale superconducting quantum bits. Physica C: Superconductivity and Its Applications, 2001, 350, 161-165.	1.2	0
101	Berry phase in the presence of external noise. AIP Conference Proceedings, 2005, , .	0.4	0
102	EFFECTS OF A SINGLE QUANTUM SPIN ON JOSEPHSON OSCILLATIONS. International Journal of Modern Physics B, 2006, 20, 2779-2784.	2.0	0
103	Correlation between lasing and transport properties in a quantum dot-resonator system. Journal of Physics: Conference Series, 2012, 400, 042025.	0.4	0
104	Josephson Qubits as Probes of $1/f$ Noise. Lecture Notes in Physics, 2010, , 75-85.	0.7	0