

Shiro Kawabata

List of Publications by Year in descending order

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94
papers

1,120
citations

516215

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95
docs citations

95
times ranked

695
citing authors

#	ARTICLE	IF	CITATIONS
1	Macroscopic Quantum Tunneling in ad-Wave High-TCBi2Sr2CaCu2O8+Î Superconductor. Physical Review Letters, 2005, 95, 107005.	2.9	172
2	Test of Bell's Inequality using the Spin Filter Effect in Ferromagnetic Semiconductor Microstructures. Journal of the Physical Society of Japan, 2001, 70, 1210-1213.	0.7	87
3	Macroscopic quantum tunneling and quasiparticle dissipation ind-wave superconductor Josephson junctions. Physical Review B, 2004, 70, .	1.1	69
4	Effect of zero-energy bound states on macroscopic quantum tunneling in high-Tc superconductor junctions. Physical Review B, 2005, 72, .	1.1	47
5	Switching Dynamics of Bi2Sr2CaCu2O8+Î Intrinsic Josephson Junctions: Macroscopic Quantum Tunneling and Self-Heating Effect. Journal of the Physical Society of Japan, 2008, 77, 104708.	0.7	45
6	Josephson $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle \tilde{\epsilon} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ State in a Ferromagnetic Insulator. Physical Review Letters, 2010, 104, 117002.	2.9	45
7	Macroscopic quantum dynamics of $\tilde{\epsilon}$ junctions with ferromagnetic insulators. Physical Review B, 2006, 74, .	1.1	44
8	Toward Practical-Scale Quantum Annealing Machine for Prime Factoring. Journal of the Physical Society of Japan, 2019, 88, 061012.	0.7	41
9	Efficient electron refrigeration using superconductor/spin-filter devices. Applied Physics Letters, 2013, 103, .	1.5	36
10	Intense terahertz emission from intrinsic Josephson junctions by external heat control. Applied Physics Letters, 2014, 104, .	1.5	35
11	Theory of macroscopic quantum tunnelling in high- $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle T \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle c \langle \text{mml:mi} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:math} \rangle \langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle c \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -axis Josephson junctions. Physical Review B, 2007, 76, .	1.1	31
12	Robustness of Spin-Triplet Pairing and Singlet- $\tilde{\epsilon}$ Triplet Pairing Crossover in Superconductor/Ferromagnet Hybrids. Journal of the Physical Society of Japan, 2013, 82, 124702.	0.7	28
13	Surface plasmon polaritons in thin-film Weyl semimetals. Journal of Physics Condensed Matter, 2019, 31, 305001.	0.7	27
14	Current-voltage characteristics of tunnel Josephson junctions with a ferromagnetic interlayer. Physical Review B, 2011, 84, .	1.1	22
15	Al'tshuler-Aronov-Spivak Effect in Ballistic Chaotic Aharonov-Bohm Billiards. Journal of the Physical Society of Japan, 1996, 65, 3708-3711.	0.7	19
16	Macroscopic quantum tunneling and quasiparticle-tunneling blockade effect in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle s \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -wave/ $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle d \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -wave hybrid junctions. Physical Review B, 2007, 76, .	1.1	16
17	Theory of superconducting $\tilde{\epsilon}$ -qubit with a ferromagnetic insulator. Physica C: Superconductivity and Its Applications, 2006, 437-438, 136-139.	0.6	15
18	Experimental study of macroscopic quantum tunnelling in Bi2212 intrinsic Josephson junctions. Superconductor Science and Technology, 2007, 20, S10-S13.	1.8	15

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19	Effects of lasing in a one-dimensional quantum metamaterial. <i>Physical Review B</i> , 2015, 91, .	1.1	15
20	Quantum Interleaver: Quantum Error Correction for Burst Error. <i>Journal of the Physical Society of Japan</i> , 2000, 69, 3540-3543.	0.7	14
21	Characterization of a Weyl semimetal using a unique feature of surface plasmon polaritons. <i>Physical Review B</i> , 2020, 102, .	1.1	14
22	Theory of macroscopic quantum tunnelling and dissipation in high-T _c Josephson junctions. <i>Superconductor Science and Technology</i> , 2007, 20, S6-S9.	1.8	13
23	Control of circularly polarized THz wave from intrinsic Josephson junctions by local heating. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	12
24	Macroscopic quantum tunneling in Josephson junctions with insulating ferromagnets and its application to phase qubits. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2007, 40, 386-389.	1.3	11
25	Quasiparticle dissipation in the measurement process of phase qubit using high- superconductors. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2005, 29, 669-673.	1.3	10
26	Theory of two-dimensional macroscopic quantum tunneling in $YBa_2Cu_3O_{7-x}$ junctions coupled to an LC circuit. <i>Physical Review B</i> , 2009, 80, .	1.1	10
27	Theory of macroscopic quantum tunneling with Josephson-Leggett collective excitations in multiband superconducting Josephson junctions. <i>Physical Review B</i> , 2014, 89, .	1.1	10
28	Detection of small exchange fields in S/F structures. <i>Journal of Magnetism and Magnetic Materials</i> , 2015, 383, 175-179.	1.0	10
29	Boltzmann machine learning with a variational quantum algorithm. <i>Physical Review A</i> , 2021, 104, .	1.0	10
30	$\hbar/2e$ oscillations and quantum chaos in ballistic Aharonov-Bohm billiards. <i>Physical Review B</i> , 1998, 57, 6282-6285.	1.1	9
31	Cooper pair transport and macroscopic quantum dynamics in Josephson junctions through ferromagnetic insulators. <i>Physica C: Superconductivity and Its Applications</i> , 2008, 468, 701-704.	0.6	9
32	Theory of Josephson transport through spintronics nano-structures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 1010-1013.	1.3	9
33	Josephson effect through an anisotropic magnetic molecule. <i>Physical Review B</i> , 2011, 84, .	1.1	9
34	Spectrum of Andreev bound states in Josephson junctions with a ferromagnetic insulator. <i>Journal of Magnetism and Magnetic Materials</i> , 2012, 324, 3467-3470.	1.0	8
35	Persistent currents in quantum chaotic systems. <i>Physical Review B</i> , 1999, 59, 12256-12259.	1.1	7
36	Theory of quantum transport in Josephson junctions with a ferromagnetic insulator. <i>Low Temperature Physics</i> , 2010, 36, 915-919.	0.2	7

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37	Heat transport and electron cooling in ballistic normal-metal/spin-filter/superconductor junctions. Journal of Magnetism and Magnetic Materials, 2015, 383, 157-161.	1.0	7
38	Quantum chaotic transport in ballistic Aharonov-Bohm billiards. Chaos, Solitons and Fractals, 1997, 8, 1085-1098.	2.5	6
39	Quantum information processing and entanglement in solid state devices. Science and Technology of Advanced Materials, 2004, 5, 295-299.	2.8	6
40	Theory of macroscopic quantum coherence in d-wave superconductor junctions. Physica C: Superconductivity and Its Applications, 2007, 463-465, 157-160.	0.6	6
41	TWO-DIMENSIONAL MACROSCOPIC QUANTUM DYNAMICS IN YBCO JOSEPHSON JUNCTIONS. International Journal of Modern Physics B, 2009, 23, 4329-4337.	1.0	6
42	Multi-Junction Switching in $\text{Bi}_{2-x}\text{Sr}_{1.6-x}\text{La}_{0.4}\text{CuO}_{6+\delta}$ Intrinsic Josephson Junctions. Applied Physics Express, 2010, 3, 043101.	1.1	6
43	Emission of Circularly Polarized Terahertz Wave From Inhomogeneous Intrinsic Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-4.	1.1	6
44	Interplay of the Inverse Proximity Effect and Magnetic Field in Out-of-Equilibrium Single-Electron Devices. Physical Review Applied, 2017, 7, .	1.5	6
45	Anomalous current-voltage characteristics of SFIS Josephson junctions with weak ferromagnetic interlayers. Beilstein Journal of Nanotechnology, 2020, 11, 252-262.	1.5	6
46	Possible observation of energy level quantization in an intrinsic Josephson junction. Physica C: Superconductivity and Its Applications, 2008, 468, 1919-1921.	0.6	5
47	Thermoelectric properties of bilayer phosphorene under tensile strain. Surface and Interface Analysis, 2016, 48, 1231-1234.	0.8	5
48	Quasi-superradiant soliton state of matter in quantum metamaterials. European Physical Journal B, 2018, 91, 1.	0.6	5
49	Enhancing quantum annealing performance by a degenerate two-level system. Scientific Reports, 2020, 10, 146.	1.6	5
50	Pulsed Quantum Annealing. Journal of the Physical Society of Japan, 2020, 89, 094003.	0.7	5
51	Ballistic Conductance Fluctuation and Quantum Chaos in Sinai Billiard. Journal of the Physical Society of Japan, 1997, 66, 712-716.	0.7	4
52	Semiclassical theory of π -Aharonov-Bohm oscillation for doubly connected ballistic cavities. Physical Review B, 1998, 58, 6704-6707.	1.1	4
53	Effect of hybridization on the Josephson current through Eu-chalcogenides. Physica C: Superconductivity and Its Applications, 2009, 469, 1621-1623.	0.6	4
54	Effect of strong coupling on collective macroscopic quantum tunneling in intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2010, 470, S848-S850.	0.6	4

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55	Information-theoretical approach to control of quantum-mechanical systems. Physical Review A, 2003, 68, .	1.0	3
56	Macroscopic quantum tunneling and dissipation in c-axis twist Josephson junctions. Journal of Physics and Chemistry of Solids, 2006, 67, 120-122.	1.9	3
57	NUMERICAL STUDY OF $\tilde{\Gamma}$ -JUNCTION USING SPIN FILTERING BARRIERS. International Journal of Modern Physics B, 2009, 23, 4320-4328.	1.0	3
58	Thermally induced $\tilde{\Gamma}$ phase transition in Josephson junctions through a ferromagnetic oxide film. Physica C: Superconductivity and Its Applications, 2010, 470, 1496-1498.	0.6	3
59	Atomic scale $\tilde{\Gamma}$ transition in a high-T superconductor/ferromagnetic-insulator/high-T superconductor Josephson junction. Physica E: Low-Dimensional Systems and Nanostructures, 2011, 43, 722-725.	1.3	3
60	An effect of temperature distribution on terahertz phase dynamics in intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2013, 494, 121-123.	0.6	3
61	Thermal management of a 3D packaging structure for superconducting quantum annealing machines. Applied Physics Letters, 2021, 118, 174004.	1.5	3
62	Calculation of Gibbs partition function with imaginary time evolution on near-term quantum computers. Japanese Journal of Applied Physics, 0, , .	0.8	3
63	Berry phase and persistent current in disordered mesoscopic rings. Physical Review B, 1999, 60, R8457-R8460.	1.1	2
64	Theory of macroscopic quantum tunneling in high-Tc cuprate. Physica C: Superconductivity and Its Applications, 2006, 437-438, 140-144.	0.6	2
65	Spin-massless interpretation of the spin interference effect observed in square loop arrays of $\text{Ga}_{0.53}\text{In}_{0.47}\text{As}$.	1.1	2
66	Quantum Phase Transition in Fully Connected Quantum Wajnflasz-Pick Model. Journal of the Physical Society of Japan, 2019, 88, 054006.	0.7	2
67	Experimental Demonstrations of Native Implementation of Boolean Logic Hamiltonian in a Superconducting Quantum Annealer. IEEE Transactions on Quantum Engineering, 2021, 2, 1-8.	2.9	2
68	$h/2e$ Oscillations and negative magneto-resistance in ballistic chaotic Aharonov-Bohm billiards. Solid-State Electronics, 1998, 42, 1131-1134.	0.8	1
69	Theory of macroscopic quantum tunneling in Nb/Au/YBCO Josephson junctions. Physica C: Superconductivity and Its Applications, 2007, 463-465, 80-83.	0.6	1
70	Switching dynamics and MQT in Bi2201 intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2009, 469, 1593-1595.	0.6	1
71	Theory of two-dimensional macroscopic quantum tunneling in a Josephson junction coupled with an LC circuit. Journal of Physics: Conference Series, 2009, 150, 052105.	0.3	1
72	Dissipative current in SIFS Josephson junctions. Physica C: Superconductivity and Its Applications, 2010, 470, 863-866.	0.6	1

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73	Macroscopic quantum tunneling induced by a spontaneous field in intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2011, 471, 758-759.	0.6	1
74	Two-dimensional macroscopic quantum tunneling in multi-gap superconductor Josephson junctions. Journal of Physics: Conference Series, 2014, 568, 022006.	0.3	1
75	Inter-band phase fluctuations in macroscopic quantum tunneling of multi-gap superconducting Josephson junctions. Physica C: Superconductivity and Its Applications, 2014, 504, 81-83.	0.6	1
76	Berry phase induced persistent current in mesoscopic systems. AIP Conference Proceedings, 2000, , .	0.3	0
77	Quantum Error-Correcting Code for Burst Error. , 2002, , 231-234.		0
78	Information Theoretical Limits on Quantum Control. Journal of the Physical Society of Japan, 2003, 72, 189-192.	0.7	0
79	Quasi-particle Dissipation in d-wave Superconductor Phase Qubit. AIP Conference Proceedings, 2004, , .	0.3	0
80	Quantum dissipative dynamics in nanostructure d-wave Josephson junctions. Physica C: Superconductivity and Its Applications, 2007, 460-462, 1479-1480.	0.6	0
81	MQT observation in Bi2212 intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2007, 460-462, 1432-1433.	0.6	0
82	A tunneling Hamiltonian theory of 0- π transition ind-wave superconductor/ferromagnetic-insulator heterostructures. Journal of Physics: Conference Series, 2010, 248, 012039.	0.3	0
83	Tunneling Hamiltonian description of the atomic-scale 0 $\hat{\pi}$ transition in superconductor/ferromagnetic-insulator junctions. Physica C: Superconductivity and Its Applications, 2011, 471, 1199-1201.	0.6	0
84	Theory of finite temperature Josephson transport through a ferromagnetic insulator. Physics Procedia, 2012, 27, 308-311.	1.2	0
85	Possibility to enhance terahertz emission from intrinsic Josephson junction by external local heating. Journal of Physics: Conference Series, 2014, 507, 042002.	0.3	0
86	Detuning dependence of high-order harmonic generation in monolayer transition metal dichalcogenides. Japanese Journal of Applied Physics, 2018, 57, 04FP11.	0.8	0
87	Investigation of Heat Transfer in 3D Packaging for Practical-Scale Quantum Annealing Machines. , 2021, , .		0
88	MACROSCOPIC QUANTUM TUNNELING IN D-WAVE SUPERCONDUCTOR JOSEPHSON. , 2005, , .		0
89	TWO-DIMENSIONAL MACROSCOPIC QUANTUM DYNAMICS IN YBCO JOSEPHSON JUNCTIONS. , 2009, , .		0
90	NUMERICAL STUDY OF $\hat{\pi}$ -JUNCTION USING SPIN FILTERING BARRIERS. , 2009, , .		0

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91	Chaos and quantum interference effect in semiconductor ballistic micro-structures. , 1999, , 265-268.		0
92	Design, Manufacturing, and Packaging Technology for Superconducting Quantum Annealing Machines. Journal of Japan Institute of Electronics Packaging, 2019, 22, 535-541.	0.0	0
93	Universal Quantum Computer and Ising Machine : Recent Developments. Journal of the Japan Society for Precision Engineering, 2019, 85, 1040-1043.	0.0	0
94	Variational secure cloud quantum computing. Physical Review A, 2022, 105, .	1.0	0