Nikolay Klenov

List of Publications by Year
in descending order

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117	1,475	304743	395702
papers	citations	22 h-index	33 g-index

124	124	124	545
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	State control in superconducting quantum processors. Physics-Uspekhi, 2022, 65, 421-439.	2.2	18
2	Issues with Modeling a Tunnel Communication Channel through a Plasma Sheath. Sensors, 2022, 22, 398.	3.8	8
3	The Modulation and Coding Scheme for the Command and Telemetry Radio Line of Communications with Re-Entry Spacecraft. Journal of Communications Technology and Electronics, 2022, 67, 281-286.	0.5	3
4	Sub-nanosecond operations on superconducting quantum register based on Ramsey patterns. Superconductor Science and Technology, 2022, 35, 055003.	3.5	13
5	Experimental study of radio frequency waves resonant transmission through a semiconductor plasma sheet with supercritical electron density. Journal Physics D: Applied Physics, 2022, 55, 305102.	2.8	3
6	Superconducting Bio-Inspired Au-Nanowire-Based Neurons. Nanomaterials, 2022, 12, 1671.	4.1	6
7	Revealing Josephson Vortex Dynamics in Proximity Junctions below Critical Current. Nano Letters, 2022, 22, 5715-5722.	9.1	3
8	Effective Exchange Energy in a Thin, Spatially Inhomogeneous CuNi Layer Proximized by Nb. Journal of Physical Chemistry Letters, 2022, 13, 6400-6406.	4.6	2
9	A Survey on Symmetrical Neural Network Architectures and Applications. Symmetry, 2022, 14, 1391.	2.2	11
10	Monte Carlo simulations of the switching processes in the superconducting quantron-based neuron. Journal of Physics: Conference Series, 2021, 1740, 012063.	0.4	2
11	Extraction of Inductances and Spatial Distributions of Currents in a Model of Superconducting Neuron. Computational Mathematics and Mathematical Physics, 2021, 61, 854-863.	0.8	3
12	Theoretical Basis of Quantum-Mechanical Modeling of Functional Nanostructures. Symmetry, 2021, 13, 883.	2.2	2
13	Generation and Propagation of Fractional Fluxons in Josephson Media. Journal of Experimental and Theoretical Physics, 2021, 132, 800-809.	0.9	1
14	Density of states and currentâ€“voltage characteristics in SIsFS junctions. Superconductor Science and Technology, 2021, 34, 085007.	3.5	2
15	Environment-induced overheating phenomena in Au-nanowire based Josephson junctions. Scientific Reports, 2021, 11, 15274.	3.3	5
16	Superconducting Circuits without Inductors Based on Bistable Josephson Junctions. Physical Review Applied, 2021, 16, .	3.8	14
17	In situ transport characterization of magnetic states in Nb/Co superconductor/ferromagnet heterostructures. Beilstein Journal of Nanotechnology, 2021, 12, 913-923.	2.8	3
18	Dynamic Processes in a Superconducting Adiabatic Neuron with Non-Shunted Josephson Contacts. Symmetry, 2021, 13, 1735.	2.2	5

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19	Selective pumping of a nonlinear quantum oscillator. Journal of Physics: Conference Series, 2021, 1740, 012061.	0.4	0
20	Learning cell for superconducting neural networks. Superconductor Science and Technology, 2021, 34, 015006.	3.5	15
21	Miniaturization of Josephson Junctions for Digital Superconducting Circuits. Physical Review Applied, 2021, 16, .	3.8	17
22	Superconducting Neural Networks: from an Idea to Fundamentals and, Further, to Application. Nanobiotechnology Reports, 2021, 16, 811-820.	0.6	3
23	Resonant Bolometric Detection of Broadband Terahertz Signals. Technical Physics Letters, 2021, 47, 838-842.	0.7	1
24	Controlling the proximity effect in a Co/Nb multilayer: the properties of electronic transport. Beilstein Journal of Nanotechnology, 2020, 11, 1336-1345.	2.8	13
25	Modeling Superconductor SFN-Structures Using the Finite Element Method. Differential Equations, 2020, 56, 959-967.	0.7	2
26	Toward the Nonstationary Theory of a Telecommunication Channel Through a Plasma Sheath. IEEE Transactions on Antennas and Propagation, 2020, 68, 4831-4838.	5.1	20
27	Detection of Terahertz, Mid- and Near Infrared Radiation by a Multilayer Metalâ€”Insulator Heterostructure. JETP Letters, 2020, 111, 371-375.	1.4	10
28	Tomography of Qubit States and Implementation of Quantum Algorithms by Unipolar Pulses. Journal of Experimental and Theoretical Physics, 2020, 131, 507-519.	0.9	10
29	Quasi-energies of coupled qubits: Magnus-Floquet states and their probing by weak signal. Journal of Physics: Conference Series, 2019, 1163, 012075.	0.4	0
30	A new method of simulations for the propagators of multi-qubit registers. Journal of Physics: Conference Series, 2019, 1163, 012076.	0.4	0
31	A neuron based on a single flux qubit. Low Temperature Physics, 2019, 45, 769-775.	0.6	5
32	Anomalous magneto-resistance of Ni-nanowire/Nb hybrid system. Scientific Reports, 2019, 9, 14470.	3.3	9
33	Unipolar magnetic field pulses as an advantageous tool for ultrafast operations in superconducting Josephson â€œatomsâ€• Beilstein Journal of Nanotechnology, 2019, 10, 1548-1558.	2.8	6
34	One- and Two-Qubit Gates: Rabi Technique and Single Unipolar Pulses. Physics of the Solid State, 2019, 61, 1515-1522.	0.6	5
35	Generation of Coherent and Spatially Squeezed States of an Electromagnetic Beam in a Planar Inhomogeneous Dielectric Waveguide. Photonics, 2019, 6, 84.	2.0	3
36	Dynamic properties of asymmetric double Josephson junction stack with quasiparticle imbalance. Nanotechnology, 2019, 30, 324004.	2.6	4

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37	Dynamics of Qubits in the Field of Unipolar Pulses: Magnus Propagator, Generalized Area Theorem, and Motion on Groups. Journal of Experimental and Theoretical Physics, 2019, 128, 227-242.	0.9	4
38	Periodic Co/Nb pseudo spin valve for cryogenic memory. Beilstein Journal of Nanotechnology, 2019, 10, 833-839.	2.8	30
39	A linear magnetic flux-to-voltage transfer function of a differential DC SQUID. Superconductor Science and Technology, 2019, 32, 074005.	3.5	7
40	â€˜Quantum effectsâ€™ for classical light in modern waveguide circuits. Laser Physics Letters, 2019, 16, 056006.	1.4	2
41	Propagation of short current pulses in Josephson transition line and ultrafast qubit control. Journal of Physics: Conference Series, 2019, 1410, 012142.	0.4	1
42	â€œCoherent Transitionsâ€•and Rabi-type Oscillations between Spatial Modes of Classical Light. , 2019, , .		1
43	Determination of the Currentâ€“Phase Relation in Josephson Junctions by Means of an Asymmetric Two-Junction SQUID. JETP Letters, 2018, 107, 48-54.	1.4	7
44	Resonant interaction of electromagnetic wave with plasma layer and overcoming the radiocommunication blackout problem. Journal Physics D: Applied Physics, 2018, 51, 185602.	2.8	24
45	Application of Telegraph Equations for Modeling of Plasma Antenna Characteristics. Plasma Physics Reports, 2018, 44, 253-258.	0.9	2
46	Optical-Mechanical Analogy Approach for the Purposes of Detection of IR-MW Radiation. EPJ Web of Conferences, 2018, 195, 05002.	0.3	0
47	Initialization of the Bell states of two qubits by unipolar pulses. Journal of Physics: Conference Series, 2018, 1124, 051027.	0.4	0
48	Manipulations with qubit states by short control pulses: the interpolation method for evolution operator and fidelity. Journal of Physics: Conference Series, 2018, 955, 012004.	0.4	2
49	Adiabatic superconducting artificial neural network: Basic cells. Journal of Applied Physics, 2018, 124, .	2.5	47
50	Resonance Tunneling of Electromagnetic Waves for Enhancing the Efficiency of Bolometric Photodetectors. Technical Physics Letters, 2018, 44, 667-670.	0.7	7
51	Single flux pulses affecting the ensemble of superconducting qubits. AIP Conference Proceedings, 2018, , .	0.4	3
52	Energy Efficient Superconducting Neural Networks for High-Speed Intellectual Data Processing Systems. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-6.	1.7	17
53	Compact Josephson Ït-Junctions. Nanoscience and Technology, 2018, , 49-71.	1.5	1
54	Protected 0-Ï€states in SIsFS junctions for Josephson memory and logic. Applied Physics Letters, 2018, 113, .	3.3	23

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55	Resonant Tunnelling and Optical-mechanical Analogy - Overcoming of Blackout Problem. , 2018, , .		0
56	Current-phase relations in SIsFS junctions in the vicinity of 0-Ï€ transition. Physical Review B, 2017, 95, .	3.2	33
57	Observability of surface currents in p-wave superconductors. Superconductor Science and Technology, 2017, 30, 044005.	3.5	13
58	Flux qubit interaction with rapid single-flux quantum logic circuits: Control and readout. Low Temperature Physics, 2017, 43, 789-798.	0.6	15
59	An optimization method for the calculation of Hamiltonian matrix elements for Josephson flux qubits. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50	0.4	1
60	Analytical Description of Low-Tc DC SQUID Response and Methods for Its Linearization. , 2017, , .		0
61	Beyond Mooreâ€™s technologies: operation principles of a superconductor alternative. Beilstein Journal of Nanotechnology, 2017, 8, 2689-2710.	2.8	129
62	Adiabatic superconducting cells for ultra-low-power artificial neural networks. Beilstein Journal of Nanotechnology, 2016, 7, 1397-1403.	2.8	37
63	A neural-network method for the synthesis of informative features for the classification of signal sources in cognitive radio systems. Moscow University Physics Bulletin (English Translation of) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.4	0
64	Superconducting phase domains for memory applications. Applied Physics Letters, 2016, 108, .	3.3	28
65	The use of artificial neural networks for classification of signal sources in cognitive radio systems. Programming and Computer Software, 2016, 42, 121-128.	0.9	12
66	Design Issues of HTS Bi-SQUID. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.7	4
67	Analytical derivation of DC SQUID response. Superconductor Science and Technology, 2016, 29, 094005.	3.5	16
68	Soliton scattering as a measurement tool for weak signals. Physical Review B, 2015, 92, .	3.2	35
69	Switching between the stable states of a long Josephson Ïƒ junction. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2015, 70, 404-410.	0.4	1
70	Magnetic reversal dynamics of a quantum system on a picosecond timescale. Beilstein Journal of Nanotechnology, 2015, 6, 1946-1956.	2.8	18
71	Methods for the automatic recognition of digital modulation of signals in cognitive radio systems. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta,) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.4	14
72	Proximity effect in multilayer structures with alternating ferromagnetic and normal layers. JETP Letters, 2015, 102, 586-593.	1.4	16

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73	Design Issues of High Temperature Superconducting Bi-SQUID. , 2015, , .		1
74	The physical basis of the fabrication of the third generation of high-temperature superconducting wires on quartz substrates. Moscow University Physics Bulletin (English Translation of Vestnik) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 69		
75	Ballistic detection of weak signals in active Josephson media. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2015, 70, 35-41.	0.4	0
76	Critical current of SF-NFS Josephson junctions. JETP Letters, 2015, 101, 240-246.	1.4	10
77	Josephson effect in SIFS tunnel junctions with domain walls in the weak link region. JETP Letters, 2015, 101, 765-771.	1.4	6
78	Symmetrical Josephson vortex interferometer as an advanced ballistic single-shot detector. Applied Physics Letters, 2014, 105, .	3.3	28
79	Progress in the area of new energy-efficient basic elements for superconducting electronics. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2014, 69, 275-286.	0.4	4
80	Josephson magnetic rotary valve. Applied Physics Letters, 2014, 105, .	3.3	27
81	Critical current in planar SNS Josephson junctions. JETP Letters, 2013, 96, 668-673.	1.4	6
82	Effect of Cherenkov radiation on the jitter of solitons in the driven underdamped Frenkel-Kontorova model. Physical Review E, 2013, 87, 060901.	2.1	30
83	Approaches to the creation of an active electrically small superconductive antenna. Journal of Surface Investigation, 2013, 7, 667-670.	0.5	2
84	Theoretical model of superconducting spintronic SIsFS devices. Applied Physics Letters, 2013, 102, .	3.3	61
85	Active Electrically Small Antenna Based on Superconducting Quantum Array. IEEE Transactions on Applied Superconductivity, 2013, 23, 1800405-1800405.	1.7	44
86	Josephson Ï†-junctions based on structures with complex normal/ferromagnet bilayer. Superconductor Science and Technology, 2013, 26, 015005.	3.5	31
87	Theory of supercurrent transport in SIsFS Josephson junctions. Physical Review B, 2013, 88, .	3.2	35
88	Bi-SQUID arrays and parallel SQIF structures for active electrically small antennas. Journal of Surface Investigation, 2012, 6, 591-597.	0.5	4
89	Array designs for active electrically small superconductive antennas. Physica C: Superconductivity and Its Applications, 2012, 479, 119-122.	1.2	31
90	Description of the evolution of the state of â€œjosephson atomsâ€•in the context of the informational interpretation of quantum mechanics. Journal of Surface Investigation, 2012, 6, 524-529.	0.5	0

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91	Design and Experimental Evaluation of SQIF Arrays With Linear Voltage Response. IEEE Transactions on Applied Superconductivity, 2011, 21, 394-398.	1.7	29
92	Linear Bi-SQUID Arrays for Electrically Small Antennas. IEEE Transactions on Applied Superconductivity, 2011, 21, 713-716.	1.7	34
93	Informational Description of the Flux Qubit Evolution. IEEE Transactions on Applied Superconductivity, 2011, 21, 864-866.	1.7	3
94	Current-phase relation in SFS Josephson junctions in the presence of s-d scattering. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2011, 66, 28-32.	0.4	1
95	Dc SQUID array with nonlinear inductance. Journal of Physics: Conference Series, 2010, 234, 042034.	0.4	1
96	Josephson junctions with nonsinusoidal current-phase relations based on heterostructures with a ferromagnetic spacer and their applications. Physics of the Solid State, 2010, 52, 2246-2251.	0.6	23
97	Superconducting Josephson structures with high linearity of transformation of magnetic signal into voltage. Physics of the Solid State, 2010, 52, 2252-2258.	0.6	12
98	Progress in high-linearity multi-element Josephson structures. Physica C: Superconductivity and Its Applications, 2010, 470, 886-889.	1.2	25
99	Superconductor-ferromagnet-superconductor junctions in flux and phase qubits. Journal of Physics: Conference Series, 2010, 234, 042017.	0.4	0
100	Performance Advantages and Design Issues of SQIFs for Microwave Applications. IEEE Transactions on Applied Superconductivity, 2009, 19, 916-919.	1.7	32
101	Bi-SQUID: a novel linearization method for dc SQUID voltage response. Superconductor Science and Technology, 2009, 22, 114011.	3.5	69
102	High Linearity SQIF-Like Josephson-Junction Structures. IEEE Transactions on Applied Superconductivity, 2009, 19, 741-744.	1.7	27
103	High linearity Josephson-junction array structures. Physica C: Superconductivity and Its Applications, 2008, 468, 813-816.	1.2	7
104	Differential parallel-serial SQIF structures providing high linearity response. Journal of Physics: Conference Series, 2008, 97, 012011.	0.4	2
105	How to build up the high linearity SQIF structure. Journal of Physics: Conference Series, 2008, 97, 012010.	0.4	1
106	Examination of logic operations with silent phase qubit. Journal of Physics: Conference Series, 2008, 97, 012037.	0.4	15
107	Synthesis of high-linearity array structures. Superconductor Science and Technology, 2007, 20, S362-S366.	3.5	9
108	Development of SQIF-Based Output Broad Band Amplifier. IEEE Transactions on Applied Superconductivity, 2007, 17, 569-572.	1.7	22

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109	Splitting and broadening techniques for SFQ-pulse driver based on SQIF. Journal of Physics: Conference Series, 2006, 43, 1191-1194.	0.4	3
110	The Unharmonic dc SQUID Energy Level Splitting. Journal of Physics: Conference Series, 2006, 43, 1409-1412.	0.4	0
111	The energy level splitting for unharmonic dc-SQUID to be used as phase Q-bit. Physica C: Superconductivity and Its Applications, 2006, 435, 114-117.	1.2	17
112	Splitting circuits for a single-flux-quantum-pulse driver based on a superconducting quantum interference filter. Superconductor Science and Technology, 2006, 19, S390-S393.	3.5	4
113	Vortex dynamics in Josephson ladders with Â-junctions. Superconductor Science and Technology, 2004, 17, S355-S358.	3.5	1
114	The 0 and pi contact array model of bicrystal junctions and interferometers. IEEE Transactions on Applied Superconductivity, 2003, 13, 825-828.	1.7	8
115	Current-Phase Relation in Josephson Junctions with Complex Ferromagnetic/Normal Metal Interlayers. Solid State Phenomena, 0, 190, 401-404.	0.3	3
116	Tunable superconducting neurons for networks based on radial basis functions. Beilstein Journal of Nanotechnology, 0, 13, 444-454.	2.8	9
117	A superconducting adiabatic neuron in a quantum regime. Beilstein Journal of Nanotechnology, 0, 13, 653-665.	2.8	7