Nikolay Klenov

List of Publications by Year
in descending order

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	Beyond Mooreâ€™s technologies: operation principles of a superconductor alternative. Beilstein Journal of Nanotechnology, 2017, 8, 2689-2710.	2.8	129
2	Bi-SQUID: a novel linearization method for dc SQUID voltage response. Superconductor Science and Technology, 2009, 22, 114011.	3.5	69
3	Theoretical model of superconducting spintronic SIsFS devices. Applied Physics Letters, 2013, 102, .	3.3	61
4	Adiabatic superconducting artificial neural network: Basic cells. Journal of Applied Physics, 2018, 124, .	2.5	47
5	Active Electrically Small Antenna Based on Superconducting Quantum Array. IEEE Transactions on Applied Superconductivity, 2013, 23, 1800405-1800405.	1.7	44
6	Adiabatic superconducting cells for ultra-low-power artificial neural networks. Beilstein Journal of Nanotechnology, 2016, 7, 1397-1403.	2.8	37
7	Theory of supercurrent transport in SIsFS Josephson junctions. Physical Review B, 2013, 88, .	3.2	35
8	Soliton scattering as a measurement tool for weak signals. Physical Review B, 2015, 92, .	3.2	35
9	Linear Bi-SQUID Arrays for Electrically Small Antennas. IEEE Transactions on Applied Superconductivity, 2011, 21, 713-716.	1.7	34
10	Current-phase relations in SIsFS junctions in the vicinity of 0-Ï€ transition. Physical Review B, 2017, 95, .	3.2	33
11	Performance Advantages and Design Issues of SQIFs for Microwave Applications. IEEE Transactions on Applied Superconductivity, 2009, 19, 916-919.	1.7	32
12	Array designs for active electrically small superconductive antennas. Physica C: Superconductivity and its Applications, 2012, 479, 119-122.	1.2	31
13	Josephson Ït-junctions based on structures with complex normal/ferromagnet bilayer. Superconductor Science and Technology, 2013, 26, 015005.	3.5	31
14	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
15	Periodic Co/Nb pseudo spin valve for cryogenic memory. Beilstein Journal of Nanotechnology, 2019, 10, 833-839.	2.8	30
16	Design and Experimental Evaluation of SQIF Arrays With Linear Voltage Response. IEEE Transactions on Applied Superconductivity, 2011, 21, 394-398.	1.7	29
17	Symmetrical Josephson vortex interferometer as an advanced ballistic single-shot detector. Applied Physics Letters, 2014, 105, .	3.3	28
18	Superconducting phase domains for memory applications. Applied Physics Letters, 2016, 108, .	3.3	28

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19	High Linearity SQIF-Like Josephson-Junction Structures. IEEE Transactions on Applied Superconductivity, 2009, 19, 741-744.	1.7	27
20	Josephson magnetic rotary valve. Applied Physics Letters, 2014, 105, .	3.3	27
21	Progress in high-linearity multi-element Josephson structures. Physica C: Superconductivity and Its Applications, 2010, 470, 886-889.	1.2	25
22	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
23	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
24	Protected 0-Ï€states in SIsFS junctions for Josephson memory and logic. Applied Physics Letters, 2018, 113, .	3.3	23
25	Development of SQIF-Based Output Broad Band Amplifier. IEEE Transactions on Applied Superconductivity, 2007, 17, 569-572.	1.7	22
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	Magnetic reversal dynamics of a quantum system on a picosecond timescale. Beilstein Journal of Nanotechnology, 2015, 6, 1946-1956.	2.8	18
28	State control in superconducting quantum processors. Physics-Uspekhi, 2022, 65, 421-439.	2.2	18
29	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
30	Energy Efficient Superconducting Neural Networks for High-Speed Intellectual Data Processing Systems. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-6.	1.7	17
31	Miniaturization of Josephson Junctions for Digital Superconducting Circuits. Physical Review Applied, 2021, 16, .	3.8	17
32	Proximity effect in multilayer structures with alternating ferromagnetic and normal layers. JETP Letters, 2015, 102, 586-593.	1.4	16
33	Analytical derivation of DC SQUID response. Superconductor Science and Technology, 2016, 29, 094005.	3.5	16
34	Examination of logic operations with silent phase qubit. Journal of Physics: Conference Series, 2008, 97, 012037.	0.4	15
35	Flux qubit interaction with rapid single-flux quantum logic circuits: Control and readout. Low Temperature Physics, 2017, 43, 789-798.	0.6	15
36	Learning cell for superconducting neural networks. Superconductor Science and Technology, 2021, 34, 015006.	3.5	15

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37	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
38	Superconducting Circuits without Inductors Based on Bistable Josephson Junctions. Physical Review Applied, 2021, 16, .	3.8	14
39	Observability of surface currents in p-wave superconductors. Superconductor Science and Technology, 2017, 30, 044005.	3.5	13
40	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
41	Sub-nanosecond operations on superconducting quantum register based on Ramsey patterns. Superconductor Science and Technology, 2022, 35, 055003.	3.5	13
42	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
43	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
44	A Survey on Symmetrical Neural Network Architectures and Applications. Symmetry, 2022, 14, 1391.	2.2	11
45	Critical current of SF-NFS Josephson junctions. JETP Letters, 2015, 101, 240-246.	1.4	10
46	Detection of Terahertz, Mid- and Near Infrared Radiation by a Multilayer Metalâ€”Insulator Heterostructure. JETP Letters, 2020, 111, 371-375.	1.4	10
47	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
48	Synthesis of high-linearity array structures. Superconductor Science and Technology, 2007, 20, S362-S366.	3.5	9
49	Anomalous magneto-resistance of Ni-nanowire/Nb hybrid system. Scientific Reports, 2019, 9, 14470.	3.3	9
50	Tunable superconducting neurons for networks based on radial basis functions. Beilstein Journal of Nanotechnology, 0, 13, 444-454.	2.8	9
51	The 0 and pi contact array model of bicrystal junctions and interferometers. IEEE Transactions on Applied Superconductivity, 2003, 13, 825-828.	1.7	8
52	Issues with Modeling a Tunnel Communication Channel through a Plasma Sheath. Sensors, 2022, 22, 398.	3.8	8
53	High linearity Josephson-junction array structures. Physica C: Superconductivity and Its Applications, 2008, 468, 813-816.	1.2	7
54	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

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55	Resonance Tunneling of Electromagnetic Waves for Enhancing the Efficiency of Bolometric Photodetectors. Technical Physics Letters, 2018, 44, 667-670.	0.7	7
56	A linear magnetic flux-to-voltage transfer function of a differential DC SQUID. Superconductor Science and Technology, 2019, 32, 074005.	3.5	7
57	A superconducting adiabatic neuron in a quantum regime. Beilstein Journal of Nanotechnology, 0, 13, 653-665.	2.8	7
58	Critical current in planar SNS Josephson junctions. JETP Letters, 2013, 96, 668-673.	1.4	6
59	Josephson effect in SIFS tunnel junctions with domain walls in the weak link region. JETP Letters, 2015, 101, 765-771.	1.4	6
60	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 ETQq0 0 0 rgBT /Overlock 10 Tf 50 537	0.4	6
61	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
62	Superconducting Bio-Inspired Au-Nanowire-Based Neurons. Nanomaterials, 2022, 12, 1671.	4.1	6
63	A neuron based on a single flux qubit. Low Temperature Physics, 2019, 45, 769-775.	0.6	5
64	One- and Two-Qubit Gates: Rabi Technique and Single Unipolar Pulses. Physics of the Solid State, 2019, 61, 1515-1522.	0.6	5
65	Environment-induced overheating phenomena in Au-nanowire based Josephson junctions. Scientific Reports, 2021, 11, 15274.	3.3	5
66	Dynamic Processes in a Superconducting Adiabatic Neuron with Non-Shunted Josephson Contacts. Symmetry, 2021, 13, 1735.	2.2	5
67	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
68	Bi-SQUID arrays and parallel SQIF structures for active electrically small antennas. Journal of Surface Investigation, 2012, 6, 591-597.	0.5	4
69	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
70	Design Issues of HTS Bi-SQUID. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.7	4
71	Dynamic properties of asymmetric double Josephson junction stack with quasiparticle imbalance. Nanotechnology, 2019, 30, 324004.	2.6	4
72	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

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73	Splitting and broadening techniques for SFQ-pulse driver based on SQIF. Journal of Physics: Conference Series, 2006, 43, 1191-1194.	0.4	3
74	Informational Description of the Flux Qubit Evolution. IEEE Transactions on Applied Superconductivity, 2011, 21, 864-866.	1.7	3
75	Current-Phase Relation in Josephson Junctions with Complex Ferromagnetic/Normal Metal Interlayers. Solid State Phenomena, 0, 190, 401-404.	0.3	3
76	Single flux pulses affecting the ensemble of superconducting qubits. AIP Conference Proceedings, 2018, , .	0.4	3
77	Generation of Coherent and Spatially Squeezed States of an Electromagnetic Beam in a Planar Inhomogeneous Dielectric Waveguide. Photonics, 2019, 6, 84.	2.0	3
78	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
79	In situ transport characterization of magnetic states in Nb/Co superconductor/ferromagnet heterostructures. Beilstein Journal of Nanotechnology, 2021, 12, 913-923.	2.8	3
80	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
81	Superconducting Neural Networks: from an Idea to Fundamentals and, Further, to Application. Nanobiotechnology Reports, 2021, 16, 811-820.	0.6	3
82	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
83	Revealing Josephson Vortex Dynamics in Proximity Junctions below Critical Current. Nano Letters, 2022, 22, 5715-5722.	9.1	3
84	Differential parallel-serial SQIF structures providing high linearity response. Journal of Physics: Conference Series, 2008, 97, 012011.	0.4	2
85	Approaches to the creation of an active electrically small superconductive antenna. Journal of Surface Investigation, 2013, 7, 667-670.	0.5	2
86	Application of Telegraph Equations for Modeling of Plasma Antenna Characteristics. Plasma Physics Reports, 2018, 44, 253-258.	0.9	2
87	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
88	â€˜Quantum effectsâ€™ for classical light in modern waveguide circuits. Laser Physics Letters, 2019, 16, 056006.	1.4	2
89	Modeling Superconductor SFN-Structures Using the Finite Element Method. Differential Equations, 2020, 56, 959-967.	0.7	2
90	Monte Carlo simulations of the switching processes in the superconducting quantron-based neuron. Journal of Physics: Conference Series, 2021, 1740, 012063.	0.4	2

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91	Theoretical Basis of Quantum-Mechanical Modeling of Functional Nanostructures. Symmetry, 2021, 13, 883.	2.2	2
92	Density of states and currentâ€“voltage characteristics in SIsFS junctions. Superconductor Science and Technology, 2021, 34, 085007.	3.5	2
93	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
94	Vortex dynamics in Josephson ladders with Â-junctions. Superconductor Science and Technology, 2004, 17, S355-S358.	3.5	1
95	How to build up the high linearity SQIF structure. Journal of Physics: Conference Series, 2008, 97, 012010.	0.4	1
96	Dc SQUID array with nonlinear inductance. Journal of Physics: Conference Series, 2010, 234, 042034.	0.4	1
97	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
98	Switching between the stable states of a long Josephson Ïƚ junction. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2015, 70, 404-410.	0.4	1
99	Design Issues of High Temperature Superconducting Bi-SQUID. , 2015, , .		1
100	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 37		1
101	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 5	0.4	1
102	Compact Josephson Ïƚ-Junctions. Nanoscience and Technology, 2018, , 49-71.	1.5	1
103	Propagation of short current pulses in Josephson transition line and ultrafast qubit control. Journal of Physics: Conference Series, 2019, 1410, 012142.	0.4	1
104	Generation and Propagation of Fractional Fluxons in Josephson Media. Journal of Experimental and Theoretical Physics, 2021, 132, 800-809.	0.9	1
105	â€œCoherent Transitionsâ€•and Rabi-type Oscillations between Spatial Modes of Classical Light. , 2019, , .		1
106	Resonant Bolometric Detection of Broadband Terahertz Signals. Technical Physics Letters, 2021, 47, 838-842.	0.7	1
107	The Unharmonic dc SQUID Energy Level Splitting. Journal of Physics: Conference Series, 2006, 43, 1409-1412.	0.4	0
108	Superconductor-ferromagnet-superconductor junctions in flux and phase qubits. Journal of Physics: Conference Series, 2010, 234, 042017.	0.4	0

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109	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
110	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
111	Analytical Description of Low-Tc DC SQUID Response and Methods for Its Linearization. , 2017, , .		0
112	Optical-Mechanical Analogy Approach for the Purposes of Detection of IR-MW Radiation. EPJ Web of Conferences, 2018, 195, 05002.	0.3	0
113	Initialization of the Bell states of two qubits by unipolar pulses. Journal of Physics: Conference Series, 2018, 1124, 051027.	0.4	0
114	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
115	A new method of simulations for the propagators of multi-qubit registers. Journal of Physics: Conference Series, 2019, 1163, 012076.	0.4	0
116	Selective pumping of a nonlinear quantum oscillator. Journal of Physics: Conference Series, 2021, 1740, 012061.	0.4	0
117	Resonant Tunnelling and Optical-mechanical Analogy - Overcoming of Blackout Problem. , 2018, , .		0