Valerii Vinokour

List of Publications by Year
in descending order

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116	9,113	196777	43601
papers	citations	29 h-index	95 g-index

118	118	118	5414
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Converting of Boolean Expression to Linear Equations, Inequalities and QUBO Penalties for Cryptanalysis. Algorithms, 2022, 15, 33.	1.2	5
2	Topological Model of the Pseudogap State: Experimental Signatures. Frontiers in Physics, 2022, 9, .	1.0	2
3	The ferroelectric field-effect transistor with negative capacitance. Npj Computational Materials, 2022, 8, .	3.5	18
4	Phase Diagram of a Strained Ferroelectric Nanowire. Crystals, 2022, 12, 453.	1.0	5
5	Universal Upper Bound for the Entropy of Superconducting Vortices and the Quantum Nernst Effect. Quantum Reports, 2022, 4, 16-21.	0.6	1
6	Temperature Dependence of Dielectric Properties of Ferroelectric Heterostructures with Domain-Provided Negative Capacitance. Nanomaterials, 2022, 12, 75.	1.9	8
7	Solving Largeâ€Scale Linear Systems of EquationsÂby a Quantum Hybrid Algorithm. Annalen Der Physik, 2022, 534, .	0.9	8
8	Terra quantum at MIPT-QUANT 2020. AIP Conference Proceedings, 2021, , .	0.3	0
9	Thermoelectric current in a graphene Cooper pair splitter. Nature Communications, 2021, 12, 138.	5.8	33
10	Quantum magnetic monopole condensate. Communications Physics, 2021, 4, .	2.0	14
11	Topological Nature of High Temperature Superconductivity. Advanced Quantum Technologies, 2021, 4, 2000135.	1.8	12
12	Linear Ascending Metrological Algorithm. Physical Review Research, 2021, 3, .	1.3	5
13	Superconductor-insulator transition in the absence of disorder. Physical Review B, 2021, 103, .	1.1	9
14	Specific Features of the Destruction of a Superinsulating State by Voltage Pulses in NbTiN Films. JETP Letters, 2021, 114, 76-80.	0.4	0
15	Supercapacitance and superinductance of TiN and NbTiN films in the vicinity of superconductor-to-insulator transition. Scientific Reports, 2021, 11, 16181.	1.6	1
16	Time-reversal of an unknown quantum state. Communications Physics, 2020, 3, .	2.0	1
17	$${mathcal{P}}{mathcal{T}}$$-Symmetric Effective Model for Nonequilibrium Phase Transitions in a Dissipative Fermionic Mott Insulator Chain. Scientific Reports, 2020, 10, 7304.	1.6	2
18	Magnetic Monopoles and Superinsulation in Josephson Junction Arrays. Quantum Reports, 2020, 2, 388-399.	0.6	11

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19	Direct probe of the interior of an electric pion in a Cooper pair superinsulator. Communications Physics, 2020, 3, .	2.0	9
20	Heat generation due to the Anderson catastrophe in mesoscopic devices. Physical Review B, 2020, 102, .	1.1	3
21	Hopfions emerge in ferroelectrics. Nature Communications, 2020, 11, 2433.	5.8	47
22	Controllable skyrmion chirality in ferroelectrics. Scientific Reports, 2020, 10, 8657.	1.6	26
23	Phase estimation algorithm for the multibeam optical metrology. Scientific Reports, 2020, 10, 8715.	1.6	5
24	Bosonic topological insulator intermediate state in the superconductor-insulator transition. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126570.	0.9	23
25	Zhao etÂal. Reply:. Physical Review Letters, 2020, 124, 249702.	2.9	4
26	Observation of Unconventional Dynamics of Domain Walls in Uniaxial Ferroelectric Lead Germanate. Advanced Functional Materials, 2020, 30, 2000284.	7.8	14
27	Superconducting phase transitions in disordered NbTiN films. Scientific Reports, 2020, 10, 1471.	1.6	14
28	Realization of the Wernerâ€“Holevo and Landauâ€“Streater Quantum Channels for Qutrits on Quantum Computers. Journal of Russian Laser Research, 2020, 41, 40-53.	0.3	2
29	Broadband Nonreciprocity Enabled by Strong Coupling of Magnons and Microwave Photons. Physical Review Applied, 2020, 13, .	1.5	56
30	Spatially correlated incommensurate lattice modulations in an atomically thin high-temperature <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Bi</mml:mi><mml:mrow><mml:mn>2.1</mml:mn> mathvariant="normal"><mml:mi>O</mml:mi><mml:mrow><mml:mn>8</mml:mn><mml:mo>+<. Physical Review Materials, 2020, 4, .	0.9	11
31	Superconductivity in a disordered metal with Coulomb interactions. Physical Review Research, 2020, 2, .	1.3	5
32	Dimension Effects in Insulating NbTiN Disordered Films and the Asymptotic Freedom of Cooper Pairs. JETP Letters, 2019, 109, 795-798.	0.4	2
33	Edge effect pinning in mesoscopic superconducting strips with non-uniform distribution of defects. Scientific Reports, 2019, 9, 211.	1.6	12
34	Sign-Reversing Hall Effect in Atomically Thin High-Temperature <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>Bi</mml:mi></mml:mrow><mml:mrow><mml:mn>2.1</ Physical Review Letters, 2019, 122, 247001.	2.9	57
35	The Superconductor-Superinsulator Transition: S-duality and the QCD on the Desktop. Journal of Superconductivity and Novel Magnetism, 2019, 32, 47-51.	0.8	4
36	Arrow of time and its reversal on the IBM quantum computer. Scientific Reports, 2019, 9, 4396.	1.6	32

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37	Harnessing ferroelectric domains for negative capacitance. Communications Physics, 2019, 2, .	2.0	36
38	Exceptional points in classical spin dynamics. Scientific Reports, 2019, 9, 17484.	1.6	15
39	H-theorem and Maxwell demon in quantum physics. AIP Conference Proceedings, 2018, , .	0.3	4
40	Scaling universality at the dynamic vortex Mott transition. Physical Review B, 2018, 97, .	1.1	11
41	Disordered Berezinskii-Kosterlitz-Thouless transition and superinsulation. Physical Review B, 2018, 97, .	1.1	7
42	Charge Berezinskii-Kosterlitz-Thouless transition in superconducting NbTiN films. Scientific Reports, 2018, 8, 4082.	1.6	27
43	Confinement and asymptotic freedom with Cooper pairs. Communications Physics, 2018, 1, .	2.0	27
44	Vogel-Fulcher-Tamman criticality of 3D superinsulators. Scientific Reports, 2018, 8, 15718.	1.6	9
45	Extended quantum Maxwell demon acting over macroscopic distances. Physical Review B, 2018, 98, .	1.1	8
46	Dynamical instability of the electric transport in superconductors. Scientific Reports, 2018, 8, 14104.	1.6	9
47	Current-driven production of vortex-antivortex pairs in planar Josephson junction arrays and phase cracks in long-range order. Scientific Reports, 2018, 8, 15460.	1.6	4
48	Parity-time symmetry breaking in spin chains. Physical Review B, 2018, 97, .	1.1	20
49	Electrodynamics of ferroelectric films with negative capacitance. Physical Review B, 2018, 98, .	1.1	40
50	Entropy Dynamics in the System of Interacting Qubits. Journal of Russian Laser Research, 2018, 39, 120-127.	0.3	8
51	Topological gauge theory of the superconductor-insulator transition. , 2018, , 197-221.		4
52	Gate-tunable electron interaction in high-Î° dielectric films. Scientific Reports, 2017, 7, 42770.	1.6	2
53	Ferroelectric symmetry-protected multibit memory cell. Scientific Reports, 2017, 7, 42196.	1.6	45
54	Laser-induced micropore formation and modification of cartilage structure in osteoarthritis healing. Journal of Biomedical Optics, 2017, 22, 091515.	1.4	17

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55	Reentrant Resistive Behavior and Dimensional Crossover in Disordered Superconducting TiN Films. Scientific Reports, 2017, 7, 1718.	1.6	15
56	Universality and critical behavior of the dynamical Mott transition in a system with long-range interactions. Scientific Reports, 2017, 7, 44044.	1.6	2
57	Linear dynamics of classical spin as MÃ¶bius transformation. Scientific Reports, 2017, 7, 1168.	1.6	11
58	Superconductorâ€“Insulator Transition in NbTiN Films. JETP Letters, 2017, 106, 749-753.	0.4	9
59	Geometrical vortex lattice pinning and melting in YBaCuO submicron bridges. Scientific Reports, 2016, 6, 38677.	1.6	14
60	Superconductivity between standard types: Multiband versus single-band materials. Physical Review B, 2016, 93, .	1.1	41
61	Parity-time symmetry breaking in magnetic systems. Physical Review B, 2016, 94, .	1.1	46
62	Parity-time symmetry-breaking mechanism of dynamic Mott transitions in dissipative systems. Physical Review B, 2016, 94, .	1.1	24
63	H-theorem in quantum physics. Scientific Reports, 2016, 6, 32815.	1.6	25
64	Quantum-to-classical crossover near quantum critical point. Scientific Reports, 2016, 5, 18600.	1.6	7
65	Density of states of two-dimensional systems with long-range logarithmic interactions. Physical Review B, 2015, 92, .	1.1	4
66	Resonant tunneling of fluctuation Cooper pairs. Scientific Reports, 2015, 5, 8315.	1.6	1
67	Depinning Transition of a Domain Wall in Ferromagnetic Films. Scientific Reports, 2015, 5, 14062.	1.6	9
68	Rayleigh approximation to ground state of the Bose and Coulomb glasses. Scientific Reports, 2015, 5, 7821.	1.6	13
69	Electronic transport in two-dimensional high dielectric constant nanosystems. Scientific Reports, 2015, 5, 9667.	1.6	9
70	Critical behavior at a dynamic vortex insulator-to-metal transition. Science, 2015, 349, 1202-1205.	6.0	40
71	Rayleigh instability of confined vortex droplets in critical superconductors. Nature Physics, 2015, 11, 21-25.	6.5	22
72	Weak links in proximity-superconducting two-dimensional electron systems. Physical Review B, 2014, 89, .	1.1	5

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73	Dual threshold diode based on the superconductor-to-insulator transition in ultrathin TiN films. Applied Physics Letters, 2013, 102, .	1.5	7
74	Magnetic field-induced dissipation-free state in superconducting nanostructures. Nature Communications, 2013, 4, 1437.	5.8	90
75	Superinsulatorâ€“superconductor duality in two dimensions. Annals of Physics, 2013, 331, 236-257.	1.0	45
76	Superinsulatorâ€“Superconductor Duality in Two Dimensions and Berezinskiiâ€“Kosterlitzâ€“Thouless Transition. , 2013, , 255-295.		0
77	Vortex phase separation in mesoscopic superconductors. Scientific Reports, 2013, 3, .	1.6	10
78	Superconducting phase transitions in ultrathin TiN films. Europhysics Letters, 2012, 97, 17012.	0.7	56
79	Comment on â€œVortex-assisted photon counts and their magnetic field dependence in single-photon superconducting detectorsâ€• Physical Review B, 2012, 86, .	1.1	13
80	Self-organized superconducting textures in thin films. Physical Review B, 2011, 84, .	1.1	5
81	Fluctuation spectroscopy of disordered two-dimensional superconductors. Physical Review B, 2011, 84, .	1.1	43
82	Nanopattern-stimulated superconductor-insulator transition in thin TiN films. Europhysics Letters, 2011, 93, 47002.	0.7	28
83	Far-from-equilibrium superconductor in fluctuational regime. Physical Review B, 2011, 84, .	1.1	3
84	Heating effects in a chain of quantum dots. Physical Review B, 2010, 82, .	1.1	6
85	Pseudogap in a thin film of a conventional superconductor. Nature Communications, 2010, 1, 140.	5.8	149
86	Synchronized Andreev transmission in SNS junction arrays. Physical Review B, 2010, 82, .	1.1	6
87	Transport properties of clean and disordered Josephson-junction arrays. Physical Review B, 2009, 80, .	1.1	5
88	Optical properties of TiN thin films close to the superconductorâ€“insulator transition. New Journal of Physics, 2009, 11, 113017.	1.2	16
89	Quantum-critical region of the disorder-driven superconductorâ€“insulator transition. Physica C: Superconductivity and Its Applications, 2008, 468, 316-321.	0.6	27
90	Superinsulator and quantum synchronization. Nature, 2008, 452, 613-615.	13.7	193

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91	Hyperactivated resistance in TiN films on the insulating side of the disorder-driven superconductor-insulator transition. JETP Letters, 2008, 88, 752-757.	0.4	23
92	Disorder-Induced Inhomogeneities of the Superconducting State Close to the Superconductor-Insulator Transition. Physical Review Letters, 2008, 101, 157006.	2.9	274
93	Collective Cooper-Pair Transport in the Insulating State of Josephson-Junction Arrays. Physical Review Letters, 2008, 100, 086805.	2.9	58
94	Giant shot noise due to mechanical transportation of spin-polarized electrons. Physical Review B, 2008, 77, .	1.1	2
95	Shot noise spectroscopy of electronic spin flips in quantum dots. Applied Physics Letters, 2007, 90, 192105.	1.5	6
96	Transport properties of semiconducting nanocrystal arrays at low temperatures. Physical Review B, 2007, 75, .	1.1	13
97	Giant super-Poissonian shot noise in spin-polarized SET structures. Low Temperature Physics, 2007, 33, 757-761.	0.2	3
98	Localized Superconductivity in the Quantum-Critical Region of the Disorder-Driven Superconductor-Insulator Transition in TiN Thin Films. Physical Review Letters, 2007, 99, 257003.	2.9	174
99	Weak localization in metallic granular media. Physical Review B, 2006, 73, .	1.1	14
100	Insulating state of granular superconductors in a strong-coupling regime. Physical Review B, 2006, 74, .	1.1	12
101	Depinning and dynamics of vortices confined in mesoscopic flow channels. New Journal of Physics, 2005, 7, 71-71.	1.2	36
102	Effects of fluctuations and Coulomb interaction on the transition temperature of granular superconductors. Physical Review B, 2005, 71, .	1.1	12
103	Mechanically assisted spin-dependent transport of electrons. Physical Review B, 2005, 71, .	1.1	9
104	Theory of fluctuations in a two-band superconductor:MgB2. Physical Review B, 2005, 72, .	1.1	28
105	Tunneling density of states of granular metals. Physical Review B, 2004, 70, .	1.1	18
106	Correlation functions for an elastic string in a random potential:â€ƒInstanton approach. Physical Review B, 2002, 66, .	1.1	7
107	Suppression of surface barriers in superconductors by columnar defects. Physical Review B, 2001, 64, .	1.1	24
108	Vortex Avalanches and Magnetic Flux Fragmentation in Superconductors. Physical Review Letters, 2001, 87, 067003.	2.9	77

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109	Properties of electrostatically-driven granular medium: Phase transitions and charge transfer. AIP Conference Proceedings, 2000, , .	0.3	0
110	Reversible Magnetization of Irradiated High-TcSuperconductors. Physical Review Letters, 1996, 77, 936-939.	2.9	40
111	Transport properties of high-temperature superconductors: Surface vs bulk effect. Physical Review B, 1996, 54, 6750-6757.	1.1	72
112	Peak Effect in Twinned Superconductors. Physical Review Letters, 1995, 75, 2992-2995.	2.9	73
113	Vortex Line Pinning and Bose-Glass Dynamics in Heavy-Ion IrradiatedBi2Sr2CaCu2O8+Î´Single Crystals. Physical Review Letters, 1995, 74, 1214-1217.	2.9	111
114	Bose and Vortex Glasses in High Temperature Superconductors. Physical Review Letters, 1995, 75, 4666-4669.	2.9	70
115	Geometrical Barriers in High-Temperature Superconductors. Physical Review Letters, 1994, 73, 1428-1431.	2.9	567
116	Vortices in high-temperature superconductors. Reviews of Modern Physics, 1994, 66, 1125-1388.	16.4	5,637