

# Valerii Vinokour

## List of Publications by Citations

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109  
papers

7,734  
citations

25  
h-index

87  
g-index

118  
ext. papers

8,467  
ext. citations

5.6  
avg, IF

5.54  
L-index

#	Paper	IF	Citations
109	Vortices in high-temperature superconductors. <i>Reviews of Modern Physics</i> , <b>1994</b> , 66, 1125-1388	40.5	5015
108	Geometrical barriers in high-temperature superconductors. <i>Physical Review Letters</i> , <b>1994</b> , 73, 1428-1431	7.4	531
107	Disorder-induced inhomogeneities of the superconducting state close to the superconductor-insulator transition. <i>Physical Review Letters</i> , <b>2008</b> , 101, 157006	7.4	218
106	Superinsulator and quantum synchronization. <i>Nature</i> , <b>2008</b> , 452, 613-5	50.4	162
105	Localized superconductivity in the quantum-critical region of the disorder-driven superconductor-insulator transition in TiN thin films. <i>Physical Review Letters</i> , <b>2007</b> , 99, 257003	7.4	146
104	Pseudogap in a thin film of a conventional superconductor. <i>Nature Communications</i> , <b>2010</b> , 1, 140	17.4	125
103	Vortex line pinning and Bose-glass dynamics in heavy-ion irradiated Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> + $\delta$ single crystals. <i>Physical Review Letters</i> , <b>1995</b> , 74, 1214-1217	7.4	107
102	Magnetic field-induced dissipation-free state in superconducting nanostructures. <i>Nature Communications</i> , <b>2013</b> , 4, 1437	17.4	75
101	Peak effect in twinned superconductors. <i>Physical Review Letters</i> , <b>1995</b> , 75, 2992-2995	7.4	70
100	Vortex avalanches and magnetic flux fragmentation in superconductors. <i>Physical Review Letters</i> , <b>2001</b> , 87, 067003	7.4	69
99	Bose and vortex glasses in high temperature superconductors. <i>Physical Review Letters</i> , <b>1995</b> , 75, 4666-4669	7.4	69
98	Transport properties of high-temperature superconductors: Surface vs bulk effect. <i>Physical Review B</i> , <b>1996</b> , 54, 6750-6757	3.3	68
97	Collective Cooper-pair transport in the insulating state of Josephson-junction arrays. <i>Physical Review Letters</i> , <b>2008</b> , 100, 086805	7.4	53
96	Superconducting phase transitions in ultrathin TiN films. <i>Europhysics Letters</i> , <b>2012</b> , 97, 17012	1.6	47
95	Reversible Magnetization of Irradiated High-Tc Superconductors. <i>Physical Review Letters</i> , <b>1996</b> , 77, 936-939	7.4	38
94	Superinsulator-superconductor duality in two dimensions. <i>Annals of Physics</i> , <b>2013</b> , 331, 236-257	2.5	36
93	Fluctuation spectroscopy of disordered two-dimensional superconductors. <i>Physical Review B</i> , <b>2011</b> , 84,	3.3	36

92	Depinning and dynamics of vortices confined in mesoscopic flow channels. <i>New Journal of Physics</i> , <b>2005</b> , 7, 71-71	2.9	34
91	Parity-time symmetry breaking in magnetic systems. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	33
90	Critical behavior at a dynamic vortex insulator-to-metal transition. <i>Science</i> , <b>2015</b> , 349, 1202-5	33.3	32
89	Ferroelectric symmetry-protected multibit memory cell. <i>Scientific Reports</i> , <b>2017</b> , 7, 42196	4.9	30
88	Superconductivity between standard types: Multiband versus single-band materials. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	30
87	Theory of fluctuations in a two-band superconductor: MgB <sub>2</sub> . <i>Physical Review B</i> , <b>2005</b> , 72,	3.3	27
86	Nanopattern-stimulated superconductor-insulator transition in thin TiN films. <i>Europhysics Letters</i> , <b>2011</b> , 93, 47002	1.6	26
85	Electrodynamics of ferroelectric films with negative capacitance. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	25
84	Quantum-critical region of the disorder-driven superconductor-insulator transition. <i>Physica C: Superconductivity and Its Applications</i> , <b>2008</b> , 468, 316-321	1.3	25
83	Harnessing ferroelectric domains for negative capacitance. <i>Communications Physics</i> , <b>2019</b> , 2,	5.4	23
82	Suppression of surface barriers in superconductors by columnar defects. <i>Physical Review B</i> , <b>2001</b> , 64,	3.3	23
81	Broadband Nonreciprocity Enabled by Strong Coupling of Magnons and Microwave Photons. <i>Physical Review Applied</i> , <b>2020</b> , 13,	4.3	21
80	Hyperactivated resistance in TiN films on the insulating side of the disorder-driven superconductor-insulator transition. <i>JETP Letters</i> , <b>2008</b> , 88, 752-757	1.2	21
79	Sign-Reversing Hall Effect in Atomically Thin High-Temperature Bi <sub>2.1</sub> Sr <sub>1.9</sub> CaCu <sub>2.0</sub> O <sub>8+δ</sub> Superconductors. <i>Physical Review Letters</i> , <b>2019</b> , 122, 247001	7.4	19
78	Charge Berezinskii-Kosterlitz-Thouless transition in superconducting NbTiN films. <i>Scientific Reports</i> , <b>2018</b> , 8, 4082	4.9	18
77	Parity-time symmetry-breaking mechanism of dynamic Mott transitions in dissipative systems. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	18
76	Arrow of time and its reversal on the IBM quantum computer. <i>Scientific Reports</i> , <b>2019</b> , 9, 4396	4.9	17
75	Tunneling density of states of granular metals. <i>Physical Review B</i> , <b>2004</b> , 70,	3.3	17

74	Rayleigh instability of confined vortex droplets in critical superconductors. <i>Nature Physics</i> , <b>2015</b> , 11, 21-25	25.2	16
73	Hopfions emerge in ferroelectrics. <i>Nature Communications</i> , <b>2020</b> , 11, 2433	17.4	16
72	Optical properties of TiN thin films close to the superconductor-insulator transition. <i>New Journal of Physics</i> , <b>2009</b> , 11, 113017	2.9	15
71	Laser-induced micropore formation and modification of cartilage structure in osteoarthritis healing. <i>Journal of Biomedical Optics</i> , <b>2017</b> , 22, 91515	3.5	14
70	H-theorem in quantum physics. <i>Scientific Reports</i> , <b>2016</b> , 6, 32815	4.9	14
69	Weak localization in metallic granular media. <i>Physical Review B</i> , <b>2006</b> , 73,	3.3	14
68	Comment on Vortex-assisted photon counts and their magnetic field dependence in single-photon superconducting detectors <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	13
67	Confinement and asymptotic freedom with Cooper pairs. <i>Communications Physics</i> , <b>2018</b> , 1,	5.4	13
66	Parity-time symmetry breaking in spin chains. <i>Physical Review B</i> , <b>2018</b> , 97,	3.3	13
65	Transport properties of semiconducting nanocrystal arrays at low temperatures. <i>Physical Review B</i> , <b>2007</b> , 75,	3.3	12
64	Insulating state of granular superconductors in a strong-coupling regime. <i>Physical Review B</i> , <b>2006</b> , 74,	3.3	11
63	Reentrant Resistive Behavior and Dimensional Crossover in Disordered Superconducting TiN Films. <i>Scientific Reports</i> , <b>2017</b> , 7, 1718	4.9	10
62	Controllable skyrmion chirality in ferroelectrics. <i>Scientific Reports</i> , <b>2020</b> , 10, 8657	4.9	10
61	Rayleigh approximation to ground state of the Bose and Coulomb glasses. <i>Scientific Reports</i> , <b>2015</b> , 5, 7821	4.9	10
60	Effects of fluctuations and Coulomb interaction on the transition temperature of granular superconductors. <i>Physical Review B</i> , <b>2005</b> , 71,	3.3	10
59	Geometrical vortex lattice pinning and melting in YBaCuO submicron bridges. <i>Scientific Reports</i> , <b>2016</b> , 6, 38677	4.9	10
58	Observation of Unconventional Dynamics of Domain Walls in Uniaxial Ferroelectric Lead Germanate. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 2000284	15.6	9
57	Superconductor-Insulator Transition in NbTiN Films. <i>JETP Letters</i> , <b>2017</b> , 106, 749-753	1.2	9

56	Vortex phase separation in mesoscopic superconductors. <i>Scientific Reports</i> , <b>2013</b> , 3,	4.9	9
55	Mechanically assisted spin-dependent transport of electrons. <i>Physical Review B</i> , <b>2005</b> , 71,	3.3	9
54	Edge effect pinning in mesoscopic superconducting strips with non-uniform distribution of defects. <i>Scientific Reports</i> , <b>2019</b> , 9, 211	4.9	8
53	Bosonic topological insulator intermediate state in the superconductor-insulator transition. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>2020</b> , 384, 126570	2.3	8
52	Electronic transport in two-dimensional high dielectric constant nanosystems. <i>Scientific Reports</i> , <b>2015</b> , 5, 9667	4.9	7
51	Dual threshold diode based on the superconductor-to-insulator transition in ultrathin TiN films. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 042601	3.4	7
50	Linear dynamics of classical spin as Möbius transformation. <i>Scientific Reports</i> , <b>2017</b> , 7, 1168	4.9	7
49	Thermoelectric current in a graphene Cooper pair splitter. <i>Nature Communications</i> , <b>2021</b> , 12, 138	17.4	7
48	Dynamical instability of the electric transport in superconductors. <i>Scientific Reports</i> , <b>2018</b> , 8, 14104	4.9	7
47	Depinning Transition of a Domain Wall in Ferromagnetic Films. <i>Scientific Reports</i> , <b>2015</b> , 5, 14062	4.9	6
46	Heating effects in a chain of quantum dots. <i>Physical Review B</i> , <b>2010</b> , 82,	3.3	6
45	Shot noise spectroscopy of electronic spin flips in quantum dots. <i>Applied Physics Letters</i> , <b>2007</b> , 90, 1921054	3.4	6
44	Correlation functions for an elastic string in a random potential: Instanton approach. <i>Physical Review B</i> , <b>2002</b> , 66,	3.3	6
43	Direct probe of the interior of an electric pion in a Cooper pair superinsulator. <i>Communications Physics</i> , <b>2020</b> , 3,	5.4	6
42	Vogel-Fulcher-Tamman criticality of 3D superinsulators. <i>Scientific Reports</i> , <b>2018</b> , 8, 15718	4.9	6
41	Superconducting phase transitions in disordered NbTiN films. <i>Scientific Reports</i> , <b>2020</b> , 10, 1471	4.9	5
40	Scaling universality at the dynamic vortex Mott transition. <i>Physical Review B</i> , <b>2018</b> , 97,	3.3	5
39	Entropy Dynamics in the System of Interacting Qubits. <i>Journal of Russian Laser Research</i> , <b>2018</b> , 39, 120-127	10.7	5

38	Weak links in proximity-superconducting two-dimensional electron systems. <i>Physical Review B</i> , <b>2014</b> , 89,	3-3	5
37	Synchronized Andreev transmission in SNS junction arrays. <i>Physical Review B</i> , <b>2010</b> , 82,	3-3	5
36	Transport properties of clean and disordered Josephson-junction arrays. <i>Physical Review B</i> , <b>2009</b> , 80,	3-3	5
35	Exceptional points in classical spin dynamics. <i>Scientific Reports</i> , <b>2019</b> , 9, 17484	4-9	5
34	Disordered Berezinskii-Kosterlitz-Thouless transition and superinsulation. <i>Physical Review B</i> , <b>2018</b> , 97,	3-3	4
33	Quantum-to-classical crossover near quantum critical point. <i>Scientific Reports</i> , <b>2015</b> , 5, 18600	4-9	4
32	Magnetic Monopoles and Superinsulation in Josephson Junction Arrays. <i>Quantum Reports</i> , <b>2020</b> , 2, 388-399		4
31	Quantum magnetic monopole condensate. <i>Communications Physics</i> , <b>2021</b> , 4,	5-4	4
30	Extended quantum Maxwell demon acting over macroscopic distances. <i>Physical Review B</i> , <b>2018</b> , 98,	3-3	4
29	Current-driven production of vortex-antivortex pairs in planar Josephson junction arrays and phase cracks in long-range order. <i>Scientific Reports</i> , <b>2018</b> , 8, 15460	4-9	4
28	H-theorem and Maxwell demon in quantum physics <b>2018</b> ,		3
27	Density of states of two-dimensional systems with long-range logarithmic interactions. <i>Physical Review B</i> , <b>2015</b> , 92,	3-3	3
26	Self-organized superconducting textures in thin films. <i>Physical Review B</i> , <b>2011</b> , 84,	3-3	3
25	Far-from-equilibrium superconductor in fluctuational regime. <i>Physical Review B</i> , <b>2011</b> , 84,	3-3	3
24	Giant super-Poissonian shot noise in spin-polarized SET structures. <i>Low Temperature Physics</i> , <b>2007</b> , 33, 757-761	0-7	3
23	Topological gauge theory of the superconductor-insulator transition <b>2018</b> , 197-221		3
22	Gate-tunable electron interaction in high- $\kappa$ dielectric films. <i>Scientific Reports</i> , <b>2017</b> , 7, 42770	4-9	2
21	Dimension Effects in Insulating NbTiN Disordered Films and the Asymptotic Freedom of Cooper Pairs. <i>JETP Letters</i> , <b>2019</b> , 109, 795-798	1-2	2

20	The Superconductor-Superinsulator Transition: S-duality and the QCD on the Desktop. <i>Journal of Superconductivity and Novel Magnetism</i> , <b>2019</b> , 32, 47-51	1.5	2
19	Heat generation due to the Anderson catastrophe in mesoscopic devices. <i>Physical Review B</i> , <b>2020</b> , 102,	3.3	2
18	Converting of Boolean Expression to Linear Equations, Inequalities and QUBO Penalties for Cryptanalysis. <i>Algorithms</i> , <b>2022</b> , 15, 33	1.8	2
17	Spatially correlated incommensurate lattice modulations in an atomically thin high-temperature Bi <sub>2</sub> Sr <sub>1.9</sub> CaCu <sub>2.0</sub> O <sub>8+y</sub> superconductor. <i>Physical Review Materials</i> , <b>2020</b> , 4,	3.2	2
16	Linear Ascending Metrological Algorithm. <i>Physical Review Research</i> , <b>2021</b> , 3,	3.9	2
15	Topological Nature of High Temperature Superconductivity. <i>Advanced Quantum Technologies</i> , <b>2021</b> , 4, 2000135	4.3	2
14	Phase Diagram of a Strained Ferroelectric Nanowire. <i>Crystals</i> , <b>2022</b> , 12, 453	2.3	2
13	Phase estimation algorithm for the multibeam optical metrology. <i>Scientific Reports</i> , <b>2020</b> , 10, 8715	4.9	1
12	Zhao et al. Reply. <i>Physical Review Letters</i> , <b>2020</b> , 124, 249702	7.4	1
11	Giant shot noise due to mechanical transportation of spin-polarized electrons. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	1
10	Superconductivity in a disordered metal with Coulomb interactions. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	1
9	[Formula: see text]-Symmetric Effective Model for Nonequilibrium Phase Transitions in a Dissipative Fermionic Mott Insulator Chain. <i>Scientific Reports</i> , <b>2020</b> , 10, 7304	4.9	1
8	Solving Large-Scale Linear Systems of Equations by a Quantum Hybrid Algorithm. <i>Annalen Der Physik</i> , <b>2020</b> , 2200082	2.6	1
7	Universality and critical behavior of the dynamical Mott transition in a system with long-range interactions. <i>Scientific Reports</i> , <b>2017</b> , 7, 44044	4.9	0
6	Realization of the Werner-Holevo and Landau-Streater Quantum Channels for Qutrits on Quantum Computers. <i>Journal of Russian Laser Research</i> , <b>2020</b> , 41, 40-53	0.7	0
5	Supercapacitance and superinductance of TiN and NbTiN films in the vicinity of superconductor-to-insulator transition. <i>Scientific Reports</i> , <b>2021</b> , 11, 16181	4.9	0
4	Universal Upper Bound for the Entropy of Superconducting Vortices and the Quantum Nernst Effect. <i>Quantum Reports</i> , <b>2022</b> , 4, 16-21	2.1	0
3	Resonant tunneling of fluctuation Cooper pairs. <i>Scientific Reports</i> , <b>2015</b> , 5, 8315	4.9	0

2 Superinsulator-Superconductor Duality in Two Dimensions and Berezinskii-Kosterlitz-Thouless Transition **2013**, 255-295

1 Specific Features of the Destruction of a Superinsulating State by Voltage Pulses in NbTiN Films. *JETP Letters*, **2021**, 114, 76-80

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