Grigory Volovik

List of Publications by Year
in descending order

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115	6,788	57631	60497
papers	citations	44 h-index	81 g-index

121	121	121	3197
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Combined Lorentz Symmetry: Lessons from Superfluid ^{3}He. Journal of Low Temperature Physics, 2022, 206, 1-15.	0.6	6
2	Negative Newton constant may destroy some conjectures. Modern Physics Letters A, 2022, 37, .	0.5	3
3	Gravity from Symmetry Breaking Phase Transition. Journal of Low Temperature Physics, 2022, 207, 127-137.	0.6	3
4	Vortices in Polar and Î² Phases of 3He. JETP Letters, 2022, 115, 276-279.	0.4	7
5	Quantum Turbulence and Planckian Dissipation. JETP Letters, 2022, 115, 461-465.	0.4	2
6	Big bang as a topological quantum phase transition. Physical Review D, 2022, 105, .	1.6	5
7	Nonlinear two-level dynamics of quantum time crystals. Nature Communications, 2022, 13, .	5.8	8
8	^{3}He Universe 2020. Journal of Low Temperature Physics, 2021, 202, 11-28.	0.6	13
9	AC Josephson effect between two superfluid time crystals. Nature Materials, 2021, 20, 171-174.	13.3	42
10	Negative Temperature: Further Extensions. JETP Letters, 2021, 113, 602-604.	0.4	4
11	Dimensionless Physics. Journal of Experimental and Theoretical Physics, 2021, 132, 727-733.	0.2	10
12	Analog of Gravitational Anomaly in Topological Chiral Superconductors. JETP Letters, 2021, 113, 538.	0.4	7
13	Topological polarization, dual invariants, and surface flat bands in crystalline insulators. Physical Review B, 2021, 103, .	1.1	13
14	From black hole to white hole via the intermediate static state. Modern Physics Letters A, 2021, 36, 2150117.	0.5	5
15	Type-II Weyl Semimetal versus Gravastar. JETP Letters, 2021, 114, 236-242.	0.4	5
16	Effect of the inner horizon on the black hole thermodynamics: Reissnerâ€“NordstrÃ¶m black hole and Kerr black hole. Modern Physics Letters A, 2021, 36, 2150177.	0.5	9
17	Suppressing the Kibble-Zurek Mechanism by a Symmetry-Violating Bias. Physical Review Letters, 2021, 127, 115702.	2.9	14
18	Vielbein with Mixed Dimensions and Gravitational Global Monopole in the Planar Phase of Superfluid 3He. JETP Letters, 2020, 112, 505-507.	0.4	6

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19	Varying Newton Constant and Black Hole to White Hole Quantum Tunneling. Universe, 2020, 6, 133.	0.9	10
20	Spin Vortex Lattice in the Landau Vortex-Free State of Rotating Superfluids. JETP Letters, 2020, 111, 582-585.	0.4	3
21	On the Dimension of Tetrads in the Effective Gravity. JETP Letters, 2020, 111, 368-370.	0.4	4
22	String monopoles, string walls, vortex skyrmions, and nexus objects in the polar distorted B phase of He3. Physical Review Research, 2020, 2, .	1.3	21
23	Exceeding the Landau speed limit with topological Bogoliubov Fermi surfaces. Physical Review Research, 2020, 2, .	1.3	26
24	Thermal Nieh-Yan anomaly in Weyl superfluids. Physical Review Research, 2020, 2, .	1.3	23
25	Composite Topological Objects in Topological Superfluids. Journal of Experimental and Theoretical Physics, 2020, 131, 11-17.	0.2	9
26	Negative Temperature for Negative Lapse Function. JETP Letters, 2019, 109, 8-11.	0.4	6
27	Comment to the CPT-Symmetric Universe: Two Possible Extensions. JETP Letters, 2019, 109, 682-683.	0.4	7
28	Tetrads and q-Theory. JETP Letters, 2019, 109, 364-367.	0.4	17
29	Spin, Orbital, Weyl and Other Glasses in Topological Superfluids. Journal of Low Temperature Physics, 2019, 196, 82-101.	0.6	12
30	On Thermal Nieh-Yan Anomaly in Topological Weyl Materials. JETP Letters, 2019, 110, 789-792.	0.4	19
31	Topological Superfluids. Journal of Experimental and Theoretical Physics, 2019, 129, 618-641.	0.2	6
32	Half-quantum vortices and walls bounded by strings in the polar-distorted phases of topological superfluid 3He. Nature Communications, 2019, 10, 237.	5.8	53
33	Elasticity tetrads, mixed axial-gravitational anomalies, and (<mml:math) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 187 Td (xmlns:	1.3	34
34	Polar Phase of Superfluid 3He: Dirac Lines in the Parameter and Momentum Spaces. JETP Letters, 2018, 107, 324-326.	0.4	7
35	Propagation of self-localized Q -ball solitons in the He3 universe. Physical Review B, 2018, 97, .	1.1	13
36	Tetrads in Solids: from Elasticity Theory to Topological Quantum Hall Systems and Weyl Fermions. Journal of Experimental and Theoretical Physics, 2018, 127, 948-957.	0.2	24

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37	Quantum phase transition and universal crossover of effective orbital dynamics in polar distorted <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow><mml:mtext>â€“</mml:mtext><mml:mi mathvariant="normal">A</mml:mi></mml:mrow></mml:math> : Transitions to antispacetime. Physical R	1.6	19
38	Exotic Lifshitz transitions in topological materials. Physics-Uspekhi, 2018, 61, 89-98.	0.8	90
39	Observation of a Time Quasicrystal and Its Transition to a Superfluid Time Crystal. Physical Review Letters, 2018, 120, 215301.	2.9	113
40	Bose-Einstein Condensation of Magnons and Spin Superfluidity in the Polar Phase of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2018, 121, 025303.	2.9	18
41	On the chiral magnetic effect in Weyl superfluid 3He-A. JETP Letters, 2017, 105, 34-37.	0.4	2
42	Dark matter from dark energy in q-theory. JETP Letters, 2017, 105, 74-77.	0.4	16
43	Lifshitz Transitions, Type-II Dirac and Weyl Fermions, Event Horizon and All That. Journal of Low Temperature Physics, 2017, 189, 276-299.	0.6	60
44	Effective Minkowski-to-Euclidean signature change of the magnon BEC pseudo-Goldstone mode in polar 3He. JETP Letters, 2017, 106, 234-241.	0.4	13
45	Chiral vortical effect generated by chiral anomaly in vortex-skyrmions. JETP Letters, 2017, 105, 303-306.	0.4	4
46	Propagating q-field and q-ball solution. Modern Physics Letters A, 2017, 32, 1750103.	0.5	8
47	Black hole and hawking radiation by type-II Weyl fermions. JETP Letters, 2016, 104, 645-648.	0.4	88
48	Observation of Half-Quantum Vortices in Topological Superfluid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2016, 117, 255301.	2.9	105
49	Topology of chiral superfluid: Skyrmions, Weyl fermions, and chiral anomaly. JETP Letters, 2016, 103, 140-146.	0.4	10
50	Dynamic cancellation of a cosmological constant and approach to the Minkowski vacuum. Modern Physics Letters A, 2016, 31, 1650160.	0.5	14
51	Condensation of fermion zero modes in the vortex. JETP Letters, 2016, 104, 201-203.	0.4	3
52	Brane realization of q-theory and the cosmological constant problem. JETP Letters, 2016, 103, 627-630.	0.4	16
53	Light Higgs channel of the resonant decay of magnon condensate in superfluid 3He-B. Nature Communications, 2016, 7, 10294.	5.8	36
54	Scalar excitation with Leggett frequency in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow><mml:mtext>â€“</mml:mtext><mml:mi mathvariant="normal">B</mml:mi></mml:mrow></mml:math>and the 125ÂGeV Higgs particle in top quar	1.6	10

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55	Orbital momentum of chiral superfluids and the spectral asymmetry of edge states. JETP Letters, 2015, 100, 742-745.	0.4	27
56	Topology of the planar phase of superfluid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">He</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>and bulk-boundary correspondence for three-dimensional topological superconductors. Physical Review B, 2014, 89, .	1.1	16
57	Higgs Bosons in Particle Physics and in Condensed Matter. Journal of Low Temperature Physics, 2014, 175, 486-497.	0.6	49
58	Emergent Weyl fermions and the origin of i = $sqrt { - 1} $ in quantum mechanics. JETP Letters, 2014, 99, 481-486.	0.4	2
59	Nambu sum rule and the relation between the masses of composite Higgs bosons. Physical Review D, 2013, 87, .	1.6	28
60	Self-Trapping of Magnon Bose-Einstein Condensates in the Ground State and on Excited Levels: From Harmonic to Box Confinement. Physical Review Letters, 2012, 108, 145303.	2.9	39
61	Bose analogs of the MIT bag model of hadrons in coherent precession. JETP Letters, 2012, 95, 544-548.	0.4	8
62	Dimensional crossover in topological matter: Evolution of the multiple Dirac point in the layered system to the flat band on the surface. JETP Letters, 2011, 93, 59-65.	0.4	140
63	Flat band in the core of topological defects: Bulk-vortex correspondence in topological superfluids with Fermi points. JETP Letters, 2011, 93, 66-69.	0.4	65
64	Soft topological objects in topological media. JETP Letters, 2011, 93, 344-348.	0.4	15
65	Flat bands in topological media. JETP Letters, 2011, 94, 233-239.	0.4	271
66	High-temperature surface superconductivity in topological flat-band systems. Physical Review B, 2011, 83, .	1.1	374
67	Topological Superfluid 3Heâ€“B: Fermion Zero Modes onÂInterfaces and inÂthe Vortex Core. Journal of Low Temperature Physics, 2010, 161, 460-473.	0.6	44
68	Ä§ as parameter of Minkowski metric in effective theory. JETP Letters, 2010, 90, 697-704.	0.4	15
69	Topological superfluid 3He-B in magnetic field and ising variable. JETP Letters, 2010, 91, 201-205.	0.4	59
70	Towards a solution of the cosmological constant problem. JETP Letters, 2010, 91, 259-265.	0.4	28
71	Orbital glass and spin glass states of 3He-A in aerogel. JETP Letters, 2010, 91, 599-606.	0.4	50
72	Particle decay in de sitter spacetime via quantum tunneling. JETP Letters, 2009, 90, 1-4.	0.4	35

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73	ON DE SITTER RADIATION VIA QUANTUM TUNNELING. International Journal of Modern Physics D, 2009, 18, 1227-1241.	0.9	15
74	On Larkin-Imry-Ma State of 3He-A in Aerogel. Journal of Low Temperature Physics, 2008, 150, 453-463.	0.6	105
75	Dynamic vacuum variable and equilibrium approach in cosmology. Physical Review D, 2008, 78, .	1.6	64
76	Self-tuning vacuum variable and cosmological constant. Physical Review D, 2008, 77, .	1.6	84
77	Solution of the problem of catastrophic relaxation of homogeneous spin precession in superfluid 3He-B. JETP Letters, 2006, 83, 530-535.	0.4	14
78	Dynamics of vortices and interfaces in superfluid3He. Reports on Progress in Physics, 2006, 69, 3157-3230.	8.1	65
79	EMERGENT CPT VIOLATION FROM THE SPLITTING OF FERMI POINTS. International Journal of Modern Physics A, 2005, 20, 2795-2812.	0.5	99
80	Coexistence of different vacua in the effective quantum field theory and multiple point principle. JETP Letters, 2004, 79, 101-105.	0.4	11
81	An intrinsic velocity-independent criterion for superfluid turbulence. Nature, 2003, 424, 1022-1025.	13.7	176
82	Classical and quantum regimes of superfluid turbulence. JETP Letters, 2003, 78, 533-537.	0.4	57
83	Universal temperature corrections to the free energy for the gravitational field. JETP Letters, 2003, 78, 751-756.	0.4	52
84	Fermionic microstates within the PainlevÃ©-Gullstrand black hole. Journal of Experimental and Theoretical Physics, 2002, 94, 853-861.	0.2	63
85	Monopoles and fractional vortices in chiral superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 2431-2436.	3.3	82
86	Macroscopic parity violating effects and3Heâ^'A. Physical Review D, 2000, 62, .	1.6	20
87	Fermion zero modes on vortices in chiral superconductors. JETP Letters, 1999, 70, 609-614.	0.4	369
88	Critical velocity and event horizon in pair-correlated systems with â€œrelativisticâ€•fermionic quasiparticles. JETP Letters, 1998, 67, 140-145.	0.4	56
89	Event horizons and ergoregions in3He. Physical Review D, 1998, 58, .	1.6	118
90	Flux Flow ind-Wave Superconductors: Low Temperature Universality and Scaling. Physical Review Letters, 1997, 79, 1377-1380.	2.9	165

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91	Momentum creation by vortices in superfluid 3He as a model of primordial baryogenesis. Nature, 1997, 386, 689-692.	13.7	149
92	On phase ordering behind the propagating front of a second-order transition. JETP Letters, 1997, 65, 102-107.	0.4	105
93	Glass state of superfluid 3He-A in an aerogel. JETP Letters, 1996, 63, 301-304.	0.4	57
94	Vortex formation in neutron-irradiated superfluid 3He as an analogue of cosmological defect formation. Nature, 1996, 382, 334-336.	13.7	521
95	Superconducting classes in heavy-fermion systems. World Scientific Series in 20th Century Physics, 1996, , 258-269.	0.0	3
96	Rotating 3He-A. World Scientific Series in 20th Century Physics, 1996, , 131-133.	0.0	1
97	Vortices with Ferromagnetic Superfluid Core in 3He-B. World Scientific Series in 20th Century Physics, 1996, , 230-233.	0.0	0
98	Investigation of singularities in superfluid He³ in liquid crystals by the homotopic topology methods. World Scientific Series in 20th Century Physics, 1996, , 120-130.	0.0	1
99	Single-Vortex Nucleation in Rotating Superfluid 3 He-B. Europhysics Letters, 1995, 31, 449-454.	0.7	83
100	Spectral Flow in Vortex Dynamics of ³ He-B and Superconductors. Europhysics Letters, 1995, 32, 651-656.	0.7	80
101	Combined spin-mass vortex with soliton tail in superfluidB3. Physical Review Letters, 1992, 68, 3331-3334.	2.9	143
102	Electric dipole moment and spin supercurrent in superfluid3He. Journal of Low Temperature Physics, 1992, 89, 823-830.	0.6	36
103	Collective modes of Larmor precession in3He-B. Transverse NMR on Homogeneously Precessing Domain. Journal of Low Temperature Physics, 1992, 89, 885-895.	0.6	3
104	Direct observation of the nonaxisymmetric vortex in superfluidB3. Physical Review Letters, 1991, 67, 81-84.	2.9	143
105	Observation of a topological transition in theA3vortices. Physical Review Letters, 1990, 65, 3293-3296.	2.9	101
106	Topology of gap nodes in superfluid3He: ?4 Homotopy group for3He-B disclination. Journal of Low Temperature Physics, 1988, 72, 371-380.	0.6	79
107	Cosmiclike domain walls in superfluidB3: Instantons and diabolical points in (k,r) space. Physical Review B, 1988, 37, 9298-9311.	1.1	85
108	Quantized vortices in superfluidHe3. Reviews of Modern Physics, 1987, 59, 533-613.	16.4	548

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109	Vortices with spontaneously broken axisymmetry inB3. Physical Review Letters, 1986, 56, 363-366.	2.9	153
110	Boojums on the fermi surface in3He-A and Hamiltonian dynamics of the orbital momentum. Journal of Low Temperature Physics, 1985, 58, 1-10.	0.6	4
111	Half-Quantum Vortices in SuperfluidHe3-A. Physical Review Letters, 1985, 55, 1184-1187.	2.9	87
112	Continuous Vortices with Broken Symmetry in Rotating SuperfluidHe3-A. Physical Review Letters, 1984, 52, 1802-1805.	2.9	89
113	On the theory of textures in rotating superfluid 3He. AIP Conference Proceedings, 1983, , .	0.3	0
114	Topological analysis of the cores of singularities in 3He-A. Journal of Low Temperature Physics, 1978, 33, 117-126.	0.6	17
115	Planar and linear solitons in superfluidHe3. Physical Review B, 1978, 18, 3197-3203.	1.1	84