

Vasily R Shaginyan

List of Publications by Year in descending order

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152
papers

1,747
citations

279798

23
h-index

377865

34
g-index

166
all docs

166
docs citations

166
times ranked

411
citing authors

#	ARTICLE	IF	CITATIONS
1	New approach in the microscopic Fermi systems theory. Physics Reports, 1994, 249, 1-134.	25.6	148
2	Scaling behavior of heavy fermion metals. Physics Reports, 2010, 492, 31-109.	25.6	116
3	Common quantum phase transition in quasicrystals and heavy-fermion metals. Physical Review B, 2013, 87, .	3.2	41
4	Title is missing!. Physics-Uspekhi, 2007, 50, 563.	2.2	40
5	Universal Behavior of Two-Dimensional He at Low Temperatures. Physical Review Letters, 2008, 100, 096406.	7.8	40
6	Universal behavior of heavy-fermion metals near a quantum critical point. JETP Letters, 2004, 79, 286-292.	1.4	39
7	Thermodynamic properties of the kagome lattice in herbertsmithite. Physical Review B, 2011, 84, .	3.2	38
8	Magnetic field dependence of the residual resistivity of the heavy-fermion metal $CeCoIn_5$. Physical Review B, 2012, 86, .	3.2	38
9	Ground-state instability in systems of strongly interacting fermions. JETP Letters, 1998, 68, 942-949.	1.4	35
10	Rearrangement of the electron Fermi surface in layered compounds. Solid State Communications, 1995, 96, 353-357.	1.9	32
11	Quasiparticle picture of high-temperature superconductors in the frame of a Fermi liquid with the fermion condensate. Physical Review B, 2001, 63, .	3.2	30
12	Quasiparticles and quantum phase transition in universal low-temperature properties of heavy-fermion metals. Europhysics Letters, 2006, 76, 898-904.	2.0	30
13	Superluminal tunneling as a weak measurement effect. Physical Review A, 2005, 71, .	2.5	29
14	Evolution of film temperature during magnetron sputtering. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 1083-1090.	2.1	29
15	Density functional theory of fermion condensation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 249, 237-241.	2.1	28
16	Critical experiments in the search for fermion condensation. JETP Letters, 1997, 65, 863-869.	1.4	27
17	Behavior of Fermi systems approaching the fermion condensation quantum phase transition from the disordered phase. JETP Letters, 2003, 77, 99-103.	1.4	27
18	Asymmetric tunneling, Andreev reflection and dynamic conductance spectra in strongly correlated metals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 361, 406-412.	2.1	27

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19	Proton single-particle energy shifts due to Coulomb correlations. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1999, 469, 1-6.	4.1	25
20	Dissymmetrical tunneling in heavy-fermion metals. JETP Letters, 2005, 81, 222-225.	1.4	25
21	Identification of strongly correlated spin liquid in herbertsmithite. Europhysics Letters, 2012, 97, 56001.	2.0	24
22	Merging of Landau Levels in a Strongly Interacting Two-Dimensional Electron System in Silicon. Physical Review Letters, 2014, 112, 186402.	7.8	24
23	Construction of the exact exchange potential of density-functional theory. Physical Review A, 1993, 47, 1507-1509.	2.5	23
24	Interplay between fermion condensation and density-wave instability. JETP Letters, 1997, 65, 253-258.	1.4	23
25	A systematic surface contribution to the ground-state binding energies. Nuclear Physics A, 1996, 601, 103-116.	1.5	22
26	Second wind of the Dulong-Petit law at a quantum critical point. JETP Letters, 2010, 92, 532-536.	1.4	22
27	Quasiparticles in the theory of fermion condensation. JETP Letters, 1996, 63, 752-757.	1.4	21
28	Quasiclassical physics and $\langle T \rangle$ -linear resistivity in both strongly correlated and ordinary metals. Physical Review B, 2013, 88, .	3.2	21
29	Strongly correlated Fermi-systems: Non-Fermi liquid behavior, quasiparticle effective mass and their interplay. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 2281-2286.	2.1	19
30	Occurrence of flat bands in strongly correlated Fermi systems and high-T _c superconductivity of electron-doped compounds. JETP Letters, 2015, 101, 413-418.	1.4	19
31	Scaling in dynamic susceptibility of herbertsmithite and heavy-fermion metals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 2622-2626.	2.1	18
32	Theoretical and experimental developments in quantum spin liquid in geometrically frustrated magnets: a review. Journal of Materials Science, 2020, 55, 2257-2290.	3.7	18
33	Two types of the effective mass divergence and the Gr ^{1/4} neisen ratio in heavy-fermion metals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 320, 459-464.	2.1	17
34	General properties of phase diagrams of heavy-fermion metals. Europhysics Letters, 2014, 106, 37001.	2.0	17
35	New State of Matter: Heavy Fermion Systems, Quantum Spin Liquids, Quasicrystals, Cold Gases, and High-Temperature Superconductors. Journal of Low Temperature Physics, 2017, 189, 410-450.	1.4	17
36	High-magnetic-fields thermodynamics of the heavy-fermion metal YbRh ₂ Si ₂ . Europhysics Letters, 2011, 93, 17008.	2.0	16

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37	Transition from non-fermi liquid behavior to Landau's Fermi liquid behavior induced by magnetic fields. JETP Letters, 2002, 76, 532-536.	1.4	15
38	Quasiparticles and order parameter near quantum phase transition in heavy fermion metals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 338, 393-401.	2.1	15
39	Quasiparticles of strongly correlated Fermi liquids at high temperatures and in high magnetic fields. Physics of Atomic Nuclei, 2011, 74, 1107-1124.	0.4	15
40	On the ground state of the interacting electron gas the density functional theory. Solid State Communications, 1985, 55, 9-12.	1.9	14
41	Magneto-resistance of a highly correlated electron liquid. JETP Letters, 2003, 77, 178-181.	1.4	14
42	The influence of topological phase transition on the superfluid density of overdoped copper oxides. Physical Chemistry Chemical Physics, 2017, 19, 21964-21969.	2.8	14
43	Asymmetrical tunneling in heavy fermion metals as a possible probe for their non-Fermi liquid peculiarities. Journal of Alloys and Compounds, 2007, 442, 29-33.	5.5	13
44	Fermion Condensation, T-Linear Resistivity, and Planckian Limit. JETP Letters, 2019, 110, 290-295.	1.4	13
45	Universal low-temperature behavior of the CePd _{1-x} Rh _x ferromagnet. Europhysics Letters, 2007, 79, 47001.	2.0	13
46	Topological basis for understanding the behavior of the heavy-fermion metal YbAlB ₄ under application of magnetic field and pressure. Physical Review B, 2016, 93, .	3.2	12
47	Heat transport in magnetic fields by quantum spin liquid in the organic insulators EtMe ₃ Sb[Pd(dmit) ₂] ₂ and I ⁺ -(BEDT - TTF) ₂ Cu ₂ (CN) ₃ . Europhysics Letters, 2013, 103, 67006.	2.0	11
48	Magnetic quantum criticality in quasi-one-dimensional Heisenberg antiferromagnet. Annalen Der Physik, 2016, 528, 483-492.	2.4	11
49	Flat bands and strongly correlated Fermi systems. Physica Scripta, 2019, 94, 065801.	2.5	11
50	New approach to microscopic theory of normal Fermi systems. Nuclear Physics A, 1989, 500, 242-276.	1.5	10
51	Superconductivity in the presence of fermion condensation. JETP Letters, 1998, 68, 527-533.	1.4	10
52	Fermi-condensate quantum phase transition in high-T _c superconductors. JETP Letters, 2001, 73, 232-236.	1.4	10
53	Quasiparticles in a strongly correlated liquid with the fermion condensate: applications to high-temperature superconductors. Journal of Experimental and Theoretical Physics, 2001, 92, 287-296.	0.9	10
54	Theory of high-T _c superconductivity based on the fermion-condensation quantum phase transition. JETP Letters, 2001, 74, 396-400.	1.4	10

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55	Density Functional Theory versus the Hartree-Fock Method: Comparative Assessment. Physica Scripta, 2003, 68, C133-C140.	2.5	10
56	Energy scales and magnetoresistance at a quantum critical point. Physics Letters, Section A: General, Atomic and Solid State Physics, 2009, 373, 986-991.	2.1	10
57	Baryon asymmetry resulting from a quantum phase transition in the early universe. Europhysics Letters, 2011, 94, 69001.	2.0	10
58	Nature of the quantum critical point as disclosed by extraordinary behavior of magnetotransport and the lorentz number in the heavy-fermion metal YbRh ₂ Si ₂ . JETP Letters, 2012, 96, 397-404.	1.4	10
59	Construction of a local density effective interaction for finite many-electron systems. Journal of Physics B: Atomic, Molecular and Optical Physics, 1992, 25, L345-L351.	1.5	9
60	Calculations of single particle spectra in density functional theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 269, 337-342.	2.1	9
61	Fermion condensation quantum phase transition versus conventional quantum phase transitions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 329, 108-115.	2.1	9
62	On the relation between the Hartree-Fock and Kohn-Sham approaches. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 330, 10-15.	2.1	9
63	Relations between action integral, response functions, and causality in density functional theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 250, 157-162.	2.1	8
64	Comment on "Analysis of causality in time-dependent density-functional theory". Physical Review A, 2001, 63, .	2.5	8
65	Fermion-condensation quantum phase transition in high temperature superconductors. Physica B: Condensed Matter, 2002, 312-313, 413-415.	2.7	8
66	Investigation of the field-tuned quantum critical point in CeCoIn ₅ . JETP Letters, 2004, 80, 263-266.	1.4	8
67	Energy scales and the non-Fermi liquid behavior in YbRh ₂ Si ₂ . JETP Letters, 2009, 90, 47-54.	1.4	8
68	Fermion Condensate as a New State of Matter. Contributions To Plasma Physics, 2013, 53, 721-730.	1.1	8
69	Heavy fermion spin liquid in herbertsmithite. Physics Letters, Section A: General, Atomic and Solid State Physics, 2015, 379, 2092-2096.	2.1	8
70	Conventional and Unconventional Pairing and Condensates in Dilute Nuclear Matter. Journal of Physics: Conference Series, 2016, 702, 012012.	0.4	7
71	Peculiar Physics of Heavy-Fermion Metals: Theory versus Experiment. Atoms, 2022, 10, 67.	1.6	7
72	Fermion condensation in Fermi systems with strongly repulsive interaction. Nuclear Physics A, 1993, 555, 33-58.	1.5	6

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73	Trapped atomic Fermi gases. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2002, 293, 205-210.	2.1	6
74	Relationships between the superconducting gap, pseudogap and transition temperature in high-T _c superconductors. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2002, 298, 193-198.	2.1	6
75	Magnetic field-induced Landau Fermi liquid in high-T _c metals. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003, 315, 288-292.	2.1	6
76	Heating of condensation surface during magnetron sputtering. <i>European Physical Journal B</i> , 2005, 46, 335-342.	1.5	6
77	Flat bands and enigma of metamagnetic quantum critical regime in Sr ₃ Ru ₂ O ₇ . <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2013, 377, 2800-2805.	2.1	6
78	Interaction-induced merging of Landau levels in an electron system of double quantum wells. <i>JETP Letters</i> , 2015, 102, 36-40.	1.4	6
79	Quasi-one-dimensional quantum spin liquid in the Cu(C ₄ H ₄ N ₂)(NO ₃) ₂ insulator. <i>JETP Letters</i> , 2016, 103, 30-35.	1.4	6
80	Strongly correlated Fermi systems as a new state of matter. <i>Frontiers of Physics</i> , 2016, 11, 1.	5.0	6
81	Self-consistent description of finite multielectron systems: new approach. <i>Journal De Physique II</i> , 1993, 3, 449-463.	0.9	6
82	Quasiparticle dispersion and lineshape in a strongly correlated liquid with the fermion condensate. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2000, 275, 124-130.	2.1	5
83	Possible universal cause of high-T _c superconductivity in different metals. <i>JETP Letters</i> , 2002, 76, 651-655.	1.4	5
84	Quantum critical point in high-temperature superconductors. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2009, 373, 686-692.	2.1	5
85	Magnetic-field-induced reentrance of Fermi-liquid behavior and spin-lattice relaxation rates in. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2009, 373, 3783-3786.	2.1	5
86	Conventional BCS, unconventional BCS, and non-BCS hidden dineutron phases in neutron matter. <i>Physics of Atomic Nuclei</i> , 2014, 77, 1145-1156.	0.4	5
87	Asymmetric Tunneling Conductance and the Non-Fermi Liquid Behavior of Strongly Correlated Fermi Systems. <i>JETP Letters</i> , 2018, 108, 335-340.	1.4	5
88	Thermodynamic, Dynamic, and Transport Properties of Quantum Spin Liquid in Herbertsmithite from an Experimental and Theoretical Point of View. <i>Condensed Matter</i> , 2019, 4, 75.	1.8	5
89	Violation of the Time-Reversal and Particle-Hole Symmetries in Strongly Correlated Fermi Systems: A Review. <i>Symmetry</i> , 2020, 12, 1596.	2.2	5
90	Universal T/B Scaling Behavior of Heavy Fermion Compounds (Brief Review). <i>JETP Letters</i> , 2020, 112, 657-665.	1.4	5

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91	Coulomb energy of nuclei. Physics of Atomic Nuclei, 2001, 64, 471-476.	0.4	4
92	Hall coefficient in heavy fermion metals. JETP Letters, 2005, 82, 215-219.	1.4	4
93	Behavior of the antiferromagnetic phase transition near the fermion condensation quantum phase transition in YbRh ₂ Si ₂ . Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 659-664.	2.1	4
94	On the target surface temperature during dc magnetron sputtering. EPJ Applied Physics, 2020, 92, 10801.	0.7	4
95	Neutron matter with a model interaction. European Physical Journal A, 2000, 8, 77-80.	2.5	3
96	General properties of a magnetic-field-induced Landau Fermi liquid in high-temperature superconductors and heavy fermion metals. JETP Letters, 2008, 88, 183-188.	1.4	3
97	Strongly correlated quantum spin liquid in herbertsmithite. Journal of Experimental and Theoretical Physics, 2013, 116, 848-853.	0.9	3
98	Fermion condensate generates a new state of matter by making flat bands. Physics of Atomic Nuclei, 2014, 77, 1063-1078.	0.4	3
99	Universal Behavior of Quantum Spin Liquid and Optical Conductivity in the Insulator Herbertsmithite. Journal of Low Temperature Physics, 2018, 191, 4-13.	1.4	3
100	Quasiparticles in the superconducting state of high-T _c metals. JETP Letters, 2003, 77, 671-675.	1.4	2
101	From the Bose-Einstein to fermion condensation. Physics of Atomic Nuclei, 2003, 66, 1802-1819.	0.4	2
102	Universal behavior of CePd _{1-x} Rh _x ferromagnet at the quantum critical point. JETP Letters, 2007, 85, 398-403.	1.4	2
103	Quantum critical point in ferromagnet. Physica B: Condensed Matter, 2008, 403, 755-757.	2.7	2
104	Role of quasiparticles in universal low-temperature properties of. Physica B: Condensed Matter, 2008, 403, 739-741.	2.7	2
105	Comment on "Zeeman-Driven Lifshitz Transition: A Model for the Experimentally Observed Fermi-Surface Reconstruction in YbRh_2Si_2 ". Physical Review Letters, 2011, 107, 279701; author reply 279702.	7.8	2
106	Fate of the Wiedemann-Franz Law near Quantum Critical Points of Electron Systems in Solids. JETP Letters, 2015, 102, 826-833.	1.4	2
107	Scaling behavior of the thermopower of the archetypal heavy-fermion metal YbRh ₂ Si ₂ . Frontiers of Physics, 2016, 11, 1.	5.0	2
108	Flat Bands and Salient Experimental Features Supporting the Fermion Condensation Theory of Strongly Correlated Fermi Systems. Physics of Atomic Nuclei, 2020, 83, 132-142.	0.4	2

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127	Fermi Liquid with Fermion Condensate. Springer Series in Solid-state Sciences, 2015, , 31-50.	0.3	0
128	The Topological Phase Transitions Related to Fermion Condensate. Springer Series in Solid-state Sciences, 2015, , 51-60.	0.3	0
129	Magnetoresistance in the HF Metal at Zero Temperature. Springer Series in Solid-state Sciences, 2015, , 179-198.	0.3	0
130	Landau Fermi Liquid Theory and Beyond. Springer Series in Solid-state Sciences, 2015, , 21-29.	0.3	0
131	Violation of the Wiedemann-Franz Law in HF Metals. Springer Series in Solid-state Sciences, 2015, , 251-260.	0.3	0
132	Metals with a Strongly Correlated Electron Liquid. Springer Series in Solid-state Sciences, 2015, , 139-154.	0.3	0
133	Appearance of Fermion-Condensation Quantum Phase Transition in Fermi Systems. Springer Series in Solid-state Sciences, 2015, , 61-86.	0.3	0
134	Baryon Asymmetry Resulting from FCQPT in the Early Universe. Springer Series in Solid-state Sciences, 2015, , 273-283.	0.3	0
135	High Magnetic Fields Thermodynamics of Heavy Fermion Metals. Springer Series in Solid-state Sciences, 2015, , 261-272.	0.3	0
136	Violation of the Wiedemann-Franz Law in Strongly Correlated Electron Systems. Springer Tracts in Modern Physics, 2020, , 301-310.	0.1	0
137	Quantum Spin Liquid in Organic Insulators and ^3He . Springer Tracts in Modern Physics, 2020, , 179-191.	0.1	0
138	Quantum Spin Liquid in Geometrically Frustrated Magnets and the New State of Matter. Springer Tracts in Modern Physics, 2020, , 125-149.	0.1	0
139	Quantum Criticality, T-linear Resistivity, and Planckian Limit. Springer Tracts in Modern Physics, 2020, , 341-351.	0.1	0
140	Rearrangement of the Single-Particle Degrees of Freedom. Springer Tracts in Modern Physics, 2020, , 71-87.	0.1	0
141	One-Dimensional Quantum Spin Liquid. Springer Tracts in Modern Physics, 2020, , 151-163.	0.1	0
142	Density Functional Theory of Fermion Condensation. Springer Tracts in Modern Physics, 2020, , 31-48.	0.1	0
143	The Universal Behavior of the Archetypical Heavy-Fermion Metals $\text{YbRh}_{2}\text{Si}_{2}$. Springer Tracts in Modern Physics, 2020, , 225-234.	0.1	0
144	Spin-Lattice Relaxation Rate and Optical Conductivity of Quantum Spin Liquid. Springer Tracts in Modern Physics, 2020, , 173-178.	0.1	0

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145	Topological Fermion-Condensation Quantum Phase Transition. Springer Tracts in Modern Physics, 2020, , 49-69.	0.1	0
146	Quasi-classical Physics Within Quantum Criticality in HF Compounds. Springer Tracts in Modern Physics, 2020, , 247-269.	0.1	0
147	Universal Behavior of the Thermopower of HF Compounds. Springer Tracts in Modern Physics, 2020, , 193-213.	0.1	0
148	Asymmetric Conductivity, Pseudogap and Violations of Time and Charge Symmetries. Springer Tracts in Modern Physics, 2020, , 289-299.	0.1	0
149	Dynamic Magnetic Susceptibility of Quantum Spin Liquid. Springer Tracts in Modern Physics, 2020, , 165-171.	0.1	0
150	Forming High- T_c Superconductors by a Topological FCQPT. Springer Tracts in Modern Physics, 2020, , 353-363.	0.1	0
151	Topological FCQPT in Strongly Correlated Fermi Systems. Springer Tracts in Modern Physics, 2020, , 89-114.	0.1	0
152	Universal Behavior of the Heavy-Fermion Metal YbAlB_4 . Springer Tracts in Modern Physics, 2020, , 215-224.	0.1	0