Igor A Shovkovy

List of Publications by Year
in descending order

140	6,866	57758 44	62596 80
papers	citations	h-index	g-index

145	145	145	2117
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Strong suppression of electron convection in Dirac and Weyl semimetals. Physical Review B, 2021, 104, .	3.2	3
2	Photon polarization tensor in a magnetized plasma: Absorptive part. Physical Review D, 2021, 104, .	4.7	13
3	Polarization tensor of magnetized quark-gluon plasma at nonzero baryon density. European Physical Journal C, 2021, 81, 1.	3.9	6
4	Entropy Wave Instability in Dirac and Weyl Semimetals. Physical Review Letters, 2021, 127, 176602.	7.8	1
5	Ellipticity of photon emission from strongly magnetized hot QCD plasma. Physical Review D, 2020, 102, .	4.7	25
6	Hydrodynamic modes in a magnetized chiral plasma with vorticity. Physical Review D, 2019, 99, .	4.7	14
7	Hydrodynamics of Fermi arcs: Bulk flow and surface collective modes. Physical Review B, 2019, 99, .	3.2	19
8	Inter-node superconductivity in strained Weyl semimetals. Journal of Physics Condensed Matter, 2019, 31, 055602.	1.8	6
9	Consistent hydrodynamic theory of chiral electrons in Weyl semimetals. Physical Review B, 2018, 97, .	3.2	27
10	Hydrodynamic electron flow in a Weyl semimetal slab: Role of Chern-Simons terms. Physical Review B, 2018, 97, .	3.2	16
11	Anomalous transport properties of Dirac and Weyl semimetals (Review Article). Low Temperature Physics, 2018, 44, 487-505.	0.6	44
12	Non-Abelian properties of electron wave packets in the Dirac semimetals <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>A</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:m (<mml:math) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 302 Td (xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>A</mml:m	3.2	7
13	Physical Review B, 2018, 98, . Nonlocal transport in Weyl semimetals in the hydrodynamic regime. Physical Review B, 2018, 98, .	3.2	14
14	Electronic Properties of Strained Doubleâ€Weyl Systems. Annalen Der Physik, 2018, 530, 1800219.	2.4	7
15	Collective excitations in Weyl semimetals in the hydrodynamic regime. Journal of Physics Condensed Matter, 2018, 30, 275601.	1.8	16
16	Consistent Chiral Kinetic Theory in Weyl Materials: Chiral Magnetic Plasmons. Physical Review Letters, 2017, 118, 127601.	7.8	76
17	Chiral magnetic plasmons in anomalous relativistic matter. Physical Review B, 2017, 95, .	3.2	32
18	Pseudomagnetic helicons. Physical Review B, 2017, 95, .	3.2	26

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19	Anomalous thermoelectric phenomena in lattice models of multi-Weyl semimetals. Physical Review B, 2017, 96, .	3.2	36
20	Origin of Bardeen-Zumino current in lattice models of Weyl semimetals. Physical Review B, 2017, 96, .	3.2	22
21	Wigner function and kinetic phenomena for chiral plasma in a strong magnetic field. Journal of High Energy Physics, 2017, 2017, 1.	4.7	17
22	Chiral response in lattice models of Weyl materials. Physical Review B, 2017, 96, .	3.2	12
23	Pseudomagnetic lens as a valley and chirality splitter in Dirac and Weyl materials. Physical Review B, 2017, 95, .	3.2	16
24	Second-order chiral kinetic theory: Chiral magnetic and pseudomagnetic waves. Physical Review B, 2017, 95, .	3.2	29
25	Second-order dissipative hydrodynamics for plasma with chiral asymmetry and vorticity. Physical Review D, 2017, 95, .	4.7	22
26	Generalized Landau level representation: Effect of static screening in the quantum Hall effect in graphene. Physical Review B, 2016, 93, .	3.2	4
27	Origin of dissipative Fermi arc transport in Weyl semimetals. Physical Review B, 2016, 93, .	3.2	63
28	Anomalous Maxwell equations for inhomogeneous chiral plasma. Physical Review D, 2016, 93, .	4.7	54
29	Electrified magnetic catalysis in three-dimensional topological insulators. Physical Review B, 2016, 94, .	3.2	6
30	Anomaly-driven inverse cascade and inhomogeneities in a magnetized chiral plasma in the early Universe. Physical Review D, 2016, 94, .	4.7	24
31	Surface Fermi arcs in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="double-struck">Z</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>Weyl semimetals<mml:math		

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37	Quantum oscillations as a probe of interaction effects in Weyl semimetals in a magnetic field. Physical Review B, 2014, 90, .	3.2	12
38	Chiral anomaly, dimensional reduction, and magnetoresistivity of Weyl and Dirac semimetals. Physical Review B, 2014, 89, .	3.2	117
39	Chiral asymmetry in QED matter in a magnetic field. Physical Review D, 2013, 88, .	4.7	12
40	Engineering Weyl nodes in Dirac semimetals by a magnetic field. Physical Review B, 2013, 88, .	3.2	55
41	Magnetic Catalysis: A Review. Lecture Notes in Physics, 2013, , 13-49.	0.7	98
42	Radiative corrections to chiral separation effect in QED. Physical Review D, 2013, 88, .	4.7	53
43	Axial anomaly and chiral asymmetry in magnetized relativistic matter. , 2012, , .		0
44	Broken symmetry<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î½</mml:mi><mml:mo>=</mml:mo><mml:mn>0</mml:mn></mml:mrow></mml:math>quantu Hall states in bilayer graphene: Landau level mixing and dynamical screening. Physical Review B, 2012, 85, .	3.2	37
45	Directional dependence of a color superconducting gap in two-flavor QCD in a magnetic field. Physical Review D, 2012, 85, .	4.7	2
46	Coulomb interaction and magnetic catalysis in the quantum Hall effect in graphene. Physica Scripta, 2012, T146, 014018.	2.5	20
47	Coexistence and competition of nematic and gapped states in bilayer graphene. Physical Review B, 2012, 86, .	3.2	18
48	Surprises in relativistic matter in a magnetic field. Progress in Particle and Nuclear Physics, 2012, 67, 547-551.	14.4	9
49	Normal ground state of dense relativistic matter in a magnetic field. Physical Review D, 2011, 83, .	4.7	82
50	Chiral shift in dense relativistic matter in a strong magnetic field[sup 1]. AIP Conference Proceedings, 2011, , .	0.4	0
51	Fast chemical equilibration of hadrons in an expanding fireball. Indian Journal of Physics, 2011, 85, 819-824.	1.8	0
52	Chiral asymmetry and axial anomaly in magnetized relativistic matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 695, 354-358.	4.1	33
53	Bulk viscosity in the nonlinear and anharmonic regimes of strange quark matter. New Journal of Physics, 2011, 13, 045018.	2.9	7
54	Response of Dense Relativistic Matter to a Magnetic Field. Progress of Theoretical Physics Supplement, 2010, 186, 471-478.	0.1	0

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55	Thermalization through Hagedorn states: the importance of multiparticle collisions. Journal of Physics G: Nuclear and Particle Physics, 2010, 37, 094017.	3.6	8
56	Bulk viscosity of spin-one color superconducting strange quark matter. Physical Review D, 2010, 82, .	4.7	18
57	Dynamics of chemical equilibrium of hadronic matter close toTc. Physical Review C, 2010, 81, .	2.9	33
58	Nonleptonic weak processes in spin-one color superconducting quark matter. Physical Review D, 2010, 81, .	4.7	3
59	Chiral asymmetry in relativistic matter in a magnetic field. , 2009, , .		0
60	Chemical Equilibration and Transport Properties of Hadronic Matter near <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:msub><mml:mi>T</mml:mi><mml:mi>c</mml:mi></mml:msub></mml:math>. Nuclear Physics A, 2009, 830, 745c-748c.	1.5	4
61	Edge states on graphene ribbons in magnetic field: Interplay between Dirac and ferromagnetic-like gaps. Physical Review B, 2009, 79, .	3.2	37
62	Chiral asymmetry of the Fermi surface in dense relativistic matter in a magnetic field. Physical Review C, 2009, 80, .	2.9	51
63	Bound diquarks and their Boseâ€“Einstein condensation in strongly coupled quark matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 663, 228-233.	4.1	34
64	Chemical equilibration of baryons in an expanding fireball. European Physical Journal: Special Topics, 2008, 155, 61-66.	2.6	6
65	Edge states, mass and spin gaps, and quantum Hall effect in graphene. Physical Review B, 2008, 77, .	3.2	48
66	Dynamics in the quantum Hall effect and the phase diagram of graphene. Physical Review B, 2008, 78, .	3.2	56
67	Edge states in quantum Hall effect in graphene (Review Article). Low Temperature Physics, 2008, 34, 778-789.	0.6	17
68	Fast Equilibration of Hadrons in an Expanding Fireball. Physical Review Letters, 2008, 100, 252301.	7.8	50
69	Bose-Einstein Condensation of Diquark Molecules in Three-Flavor Quark Matter. Progress of Theoretical Physics Supplement, 2007, 168, 389-396.	0.1	6
70	Color-flavor locked superconductor in a magnetic field. Physical Review D, 2007, 76, .	4.7	131
71	Bulk viscosity of strange quark matter: Urca versus nonleptonic processes. Physical Review D, 2007, 75, .	4.7	37
72	Bulk viscosity of spin-one color superconductors with two quark flavors. Physical Review D, 2007, 75, .	4.7	39

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73	Current status in color superconductivity. Nuclear Physics A, 2007, 785, 36-43.	1.5	2
74	Excitonic gap, phase transition, and quantum Hall effect in graphene. Physical Review B, 2006, 74, .	3.2	163
75	Collective excitations, instabilities, and the ground state in dense quark matter. Physical Review D, 2006, 73, .	4.7	22
76	Neutrino emission and cooling rates of spin-one color superconductors. Physical Review D, 2006, 73, .	4.7	46
77	Asymmetric neutrino emission from spin-1 color superconductor. AIP Conference Proceedings, 2006, , .	0.4	0
78	Stable gapless superconductivity at strong coupling. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2006, 637, 367-373.	4.1	28
79	Gluonic phase versus LOFF phase in two-flavor quark matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2006, 643, 331-335.	4.1	27
80	Cooling Rates of Anisotropic Color Superconductors. Acta Physica Hungarica A Heavy Ion Physics, 2006, 27, 319-322.	0.4	0
81	Phase diagram of neutral quark matter: The effect of neutrino trapping. Physical Review D, 2006, 73, .	4.7	28
82	NEUTRAL DENSE QUARK MATTER. , 2006, , 225-239.		1
83	Two Lectures on Color Superconductivity*. Foundations of Physics, 2005, 35, 1309-1358.	1.3	153
84	Gapless phases of colour-superconducting matter. Journal of Physics G: Nuclear and Particle Physics, 2005, 31, S849-S855.	3.6	14
85	Pulsar Kicks via Spin-1 Color Superconductivity. Physical Review Letters, 2005, 94, 211101.	7.8	17
86	Chemical equilibration due to heavy Hagedorn states. Journal of Physics G: Nuclear and Particle Physics, 2005, 31, S725-S732.	3.6	30
87	Note on color neutrality in Nambu-Jona-Lasinio-type models. Physical Review D, 2005, 72, .	4.7	55
88	Phase diagram of neutral quark matter: Self-consistent treatment of quark masses. Physical Review D, 2005, 72, .	4.7	198
89	THE GAPLESS 2SC PHASE. , 2005, , .		0
90	Screening masses in a neutral two-flavor color superconductor. Physical Review D, 2004, 70, .	4.7	96

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91	Chromomagnetic instability in dense quark matter. Physical Review D, 2004, 70, .	4.7	136
92	SURPRISES IN NONPERTURBATIVE DYNAMICS IN Ïƒ-MODEL AT FINITE DENSITY. Modern Physics Letters A, 2004, 19, 1341-1356.	1.2	22
93	Phase diagram of dense neutral three-flavor quark matter. Nuclear Physics A, 2004, 743, 127-146.	1.5	75
94	Spontaneous rotational symmetry breaking and roton like excitations in gauged Ïƒ-model at finite density. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2004, 581, 82-92.	4.1	34
95	Quark mass effects on the stability of hybrid stars. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2004, 595, 36-43.	4.1	54
96	Theory of Gapless Superconductivity in Quark Matter. , 2004, , 329-336.		0
97	Gapless color superconductivity at zero and at finite temperature. Nuclear Physics A, 2003, 729, 835-863.	1.5	133
98	Gapless two-flavor color superconductor. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2003, 564, 205-211.	4.1	215
99	Fractal structure of the effective action in (quasi)planar models with long-range interactions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 313, 472-477.	2.1	21
100	Comment on â€œElectron Mass Operator in a Strong Magnetic Field and Dynamical Chiral Symmetry Breakingâ€• Physical Review Letters, 2003, 90, 089101; author reply 089102.	7.8	5
101	Thermal rates for baryon and antibaryon production. Physical Review C, 2003, 68, .	2.9	18
102	LargeNdynamics in QED in a magnetic field. Physical Review D, 2003, 67, .	4.7	15
103	Optically opaque color-flavor locked phase inside compact stars. Physical Review C, 2003, 67, .	2.9	15
104	Nonstrange hybrid compact stars with color superconducting matter. Physical Review D, 2003, 67, .	4.7	74
105	Spontaneous Symmetry Breaking with Abnormal Number of Nambu-Goldstone Bosons and Kaon Condensate. Physical Review Letters, 2002, 88, 111601.	7.8	96
106	Magnetic catalysis and anisotropic confinement in QCD. Physical Review D, 2002, 66, .	4.7	178
107	Longitudinal gluons and Nambu-Goldstone bosons in a two-flavor color superconductor. Physical Review D, 2002, 66, .	4.7	27
108	Thermal conductivity of dense quark matter and cooling of stars. Physical Review C, 2002, 66, .	2.9	58

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109	COLLECTIVE MODES IN COLOR SUPERCONDUCTING MATTER. International Journal of Modern Physics A, 2002, 17, 904-913.	1.5	2
110	Collective modes in colour superconducting matter. Journal of Physics G: Nuclear and Particle Physics, 2002, 28, 1877-1884.	3.6	1
111	Magnetic field driven metal-insulator phase transition in planar systems. Physical Review B, 2002, 66, .	3.2	403
112	Collective modes of colorâ€“flavor locked phase of dense QCD at finite temperature. Nuclear Physics A, 2002, 700, 577-617.	1.5	19
113	Diquark composites in the color superconducting phase of two flavor dense QCD. Nuclear Physics, Section B, Proceedings Supplements, 2001, 102-103, 385-390.	0.4	3
114	THE SPECTRUM OF DIQUARK COMPOSITES IN COLD DENSE QCD. International Journal of Modern Physics A, 2001, 16, 1271-1273.	1.5	0
115	Carlson-Goldman modes in the color superconducting phase of dense QCD. Physical Review D, 2001, 64, .	4.7	3
116	Color superconductivity and nondecoupling phenomena in (2+1)-dimensional QCD. Physical Review D, 2001, 64, .	4.7	6
117	Bethe-Salpeter equation for diquarks in color-flavor locked phase of cold dense QCD. Physical Review D, 2001, 63, .	4.7	20
118	Masses of the pseudo Nambu-Goldstone bosons in the two flavor color superconducting phase. Physical Review D, 2001, 64, .	4.7	7
119	Physical Gauge in the Problem of Dynamical Chiral Symmetry Breaking in QED in a Magnetic Field. Foundations of Physics, 2000, 30, 349-357.	1.3	6
120	Diquarks in cold dense QCD with two flavors. Physical Review D, 2000, 62, .	4.7	18
121	Schwinger-Dyson approach to color superconductivity in dense QCD. Physical Review D, 2000, 61, .	4.7	141
122	Universality and the magnetic catalysis of chiral symmetry breaking. Physical Review D, 1999, 60, .	4.7	58
123	SU(2) Yang-Mills theory with extended supersymmetry in a background magnetic field. Physical Review D, 1999, 59, .	4.7	4
124	Dynamical Chiral Symmetry Breaking in QED in a Magnetic Field: Toward Exact Results. Physical Review Letters, 1999, 83, 1291-1294.	7.8	60
125	Derivative expansion of the effective action for quantum electrodynamics in 2+1 and 3+1 dimensions. Journal of Mathematical Physics, 1999, 40, 5406-5439.	1.1	70
126	Effective potential of composite fields in weakly coupled QED in a uniform external magnetic field. Physical Review D, 1999, 59, .	4.7	6

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127	On gap equations and color-flavor locking in cold dense QCD with three massless flavors. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1999, 470, 189-199.	4.1	100
128	One-loop finite temperature effective potential in QED in the worldline approach. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1998, 441, 313-318.	4.1	24
129	Chiral symmetry breaking by a non-Abelian external field in 2+1 dimensions. Physical Review D, 1998, 57, 5230-5235.	4.7	13
130	Next to leading order effective potential in the 2+1 dimensional Nambuâ€“Jona-Lasinio model at finite temperature. Physical Review D, 1998, 58, .	4.7	6
131	PHASE TRANSITION INDUCED BY A MAGNETIC FIELD. Modern Physics Letters A, 1998, 13, 1143-1154.	1.2	68
132	Mass generation in the supersymmetric Nambu-Jona-Lasinio model in an external magnetic field. , 1998, , 182-186.		0
133	Chiral symmetry breaking in QED in a magnetic field at finite temperature. Physical Review D, 1997, 56, 5251-5253.	4.7	49
134	Catalysis of Dynamical Flavor Symmetry Breaking by a Magnetic Field in 2 + 1 Dimensions. Physical Review Letters, 1996, 76, 1005-1005.	7.8	86
135	Gross-Neveu model and the supersymmetric and nonsupersymmetric Nambuâ€”Jona-Lasinio model in a magnetic field. Physical Review D, 1996, 54, 7884-7893.	4.7	12
136	Derivative expansion for the one-loop effective Lagrangian in QED. Canadian Journal of Physics, 1996, 74, 282-289.	1.1	58
137	Dimensional reduction and dynamical chiral symmetry breaking by a magnetic field in 3 + 1 dimensions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1995, 349, 477-483.	4.1	269
138	Dynamical chiral symmetry breaking by a magnetic field in QED. Physical Review D, 1995, 52, 4747-4751.	4.7	135
139	Dynamical flavor symmetry breaking by a magnetic field in 2+1 dimensions. Physical Review D, 1995, 52, 4718-4735.	4.7	206
140	Catalysis of Dynamical Flavor Symmetry Breaking by a Magnetic Field in 2 + 1 Dimensions. Physical Review Letters, 1994, 73, 3499-3502.	7.8	483