Igor F Herbut

List of Publications by Year
in descending order

66 papers	3,618 citations	145106 33 h-index	150775 59 g-index
67 all docs	67 docs citations	67 times ranked	1765 citing authors

#	Article	IF	Citations
1	Nematic Quantum Criticality in Dirac Systems. Physical Review Letters, 2022, 128, 157203.	2.9	6
2	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>p</mml:mi></mml:math> -wave superconductivity in Luttinger semimetals. Physical Review B, 2022, 105, .	1.1	3
3	Bogoliubov-Fermi surface with inversion symmetry and electron-electron interactions: Relativistic analogies and lattice theory. Physical Review B, 2021, 103, .	1.1	8
4	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>p</mml:mi></mml:math> -wave superconductivity and the axiplanar phase of triple-point fermions. Physical Review B, 2021, 104, .	1.1	3
5	Time-reversal symmetry breaking and d -wave superconductivity of triple-point fermions. Physical Review B, 2021, 104, .	1.1	4
6	Bogoliubov-Fermi Surfaces in Noncentrosymmetric Multicomponent Superconductors. Physical Review Letters, 2020, 125, 237004.	2.9	20
7	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>d</mml:mi></mml:math> -wave superconductivity and Bogoliubov-Fermi surfaces in Rarita-Schwinger-Weyl semimetals. Physical Review B, 2020, 101, .	1.1	24
8	Hydrodynamic transport in the Luttinger-Abrikosov-Beneslavskii non-Fermi liquid. Physical Review B, 2020, 101, .	1.1	7
9	Dirac Hamiltonians for bosonic spectra. Physical Review Research, 2020, 2, .	1.3	10
10	Abelian Higgs model at four loops, fixed-point collision, and deconfined criticality. Physical Review B, 2019, 100, .	1.1	45
11	Ground state of the three-dimensional BCS <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>d</mml:mi></mml:math> -wave superconductor. Physical Review B, 2019, 100, .	1.1	10
12	Hidden role of antiunitary operators in Fierz transformation. Physical Review D, 2019, 100, .	1.6	6
13	Response to Comment on â€œThe role of electron-electron interactions in two-dimensional Dirac fermionsâ€. Science, 2019, 366, .	6.0	1
14	Critical phenomena at the complex tensor ordering phase transition. Physical Review B, 2018, 97, .	1.1	11
15	Compatible orders and fermion-induced emergent symmetry in Dirac systems. Physical Review B, 2018, 97, .	1.1	23
16	Unconventional Superconductivity in Luttinger Semimetals: Theory of Complex Tensor Order and the Emergence of the Uniaxial Nematic State. Physical Review Letters, 2018, 120, 057002.	2.9	57
17	Fermion-induced quantum criticality with two length scales in Dirac systems. Physical Review B, 2018, 97, .	1.1	27
18	Critical <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>O</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>2</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 57 Td (stretchy="false">)</mml:m loop. Physical Review D, 2018, 97, .	1.1	10

#	ARTICLE	IF	CITATIONS
19	Tensor O(N) model near six dimensions: Fixed points and conformal windows from four loops. Physical Review D, 2018, 98, .	1.6	13
20	The role of electron-electron interactions in two-dimensional Dirac fermions. Science, 2018, 361, 570-574.	6.0	82
21	Phase diagram of electronic systems with quadratic Fermi nodes in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>2</mml:mn><mml:mo><</mml:mo><mml:mi>d</m xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>2</mml:mn><mml:mo>+</mml:mo><mml:miϵ</mm xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>4</mml:mn><mml:mo>â^’</mml:mo><mml:. Physical Review B, 2017, 95, .	1.1	49
22	Anisotropy induces non-Fermi-liquid behavior and nematic magnetic order in three-dimensional Luttinger semimetals. Physical Review B, 2017, 95, .	1.1	38
23	Fluctuation-induced continuous transition and quantum criticality in Dirac semimetals. Physical Review B, 2017, 96, .	1.1	48
24	Gross-Neveu-Yukawa model at three loops and Ising critical behavior of Dirac systems. Physical Review B, 2017, 96, .	1.1	56
25	Four-loop critical exponents for the Gross-Neveu-Yukawa models. Physical Review D, 2017, 96, .	1.6	105
26	Gauge-field-assisted KekulÃ© quantum criticality. Physical Review B, 2016, 94, .	1.1	41
27	Competition of density waves and quantum multicritical behavior in Dirac materials from functional renormalization. Physical Review B, 2016, 93, .	1.1	28
28	Half vortex and fractional electrical charge in two dimensions. Physical Review B, 2016, 93, .	1.1	1
29	Critical<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>O</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>2</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 347 Td (stretchy="false"> xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>O</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>3</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 317 Td (stretchy="false">	1.6	12
30	Excitonic instability of three-dimensional gapless semiconductors: Large-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>N</mml:mi></mml:math>theory. Physical Review B, 2016, 93, .	1.1	33
31	Superconducting quantum criticality in three-dimensional Luttinger semimetals. Physical Review B, 2016, 93, .	1.1	61
32	Quadratic band touching with long-range interactions in and out of equilibrium. Physical Review B, 2016, 94, .	1.1	3
33	Emergent Lorentz symmetry near fermionic quantum critical points in two and three dimensions. Journal of High Energy Physics, 2016, 2016, 1-19.	1.6	44
34	Emergent Lorentz symmetry near fermionic quantum critical points in two and three dimensions. , 2016, 2016, 1.		1
35	Mott multicriticality of Dirac electrons in graphene. Physical Review B, 2015, 92, .	1.1	28
36	Nematic quantum criticality in three-dimensional Fermi system with quadratic band touching. Physical Review B, 2015, 92, .	1.1	65

#	Article	IF	Citations
37	Interaction-induced anomalous quantum Hall state on the honeycomb lattice. Physical Review B, 2014, 89, .	1.1	45
38	Antiferromagnetic critical point on graphene's honeycomb lattice: A functional renormalization group approach. Physical Review B, 2014, 89, .	1.1	91
39	Density of States Scaling at the Semimetal to Metal Transition in Three Dimensional Topological Insulators. Physical Review Letters, 2014, 112, 016402.	2.9	145
40	Occurrence of nematic, topological, and Berry phases when a flat and a parabolic band touch. Physical Review B, 2014, 90, .	1.1	43
41	Phase diagram of the Kane-Mele-Coulomb model. Physical Review B, 2014, 90, .	1.1	56
42	Topological Mott Insulator in Three-Dimensional Systems with Quadratic Band Touching. Physical Review Letters, 2014, 113, 106401.	2.9	127
43	Pinning the Order: The Nature of Quantum Criticality in the Hubbard Model on Honeycomb Lattice. Physical Review X, 2013, 3, .	2.8	226
44	Quantum superconducting criticality in graphene and topological insulators. Physical Review B, 2013, 87, .	1.1	78
45	Universal conductivity of graphene in the ultrarelativistic regime. Physical Review B, 2013, 87, .	1.1	21
46	Conserved charges of order-parameter textures in Dirac systems. Physical Review B, 2012, 86, .	1.1	8
47	Isospin of topological defects in Dirac systems. Physical Review B, 2012, 85, .	1.1	36
48	Time reversal, fermion doubling, and the masses of lattice Dirac fermions in three dimensions. Physical Review B, 2011, 83, .	1.1	15
49	Conductivity of interacting massless Dirac particles in graphene: Collisionless regime. Physical Review B, 2010, 82, .	1.1	68
50	Topological Insulator in the Core of the Superconducting Vortex in Graphene. Physical Review Letters, 2010, 104, 066404.	2.9	49
51	Coulomb interaction at the metal-insulator critical point in graphene. Physical Review B, 2009, 80, .	1.1	72
52	Skyrmion in spinor condensates and its stability in trap potentials. Physical Review A, 2009, 79, .	1.0	12
53	Theory of interacting electrons on the honeycomb lattice. Physical Review B, 2009, 79, .	1.1	239
54	Relativistic Mott criticality in graphene. Physical Review B, 2009, 80, .	1.1	155

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55	Electrons in graphene: an interacting fluid par excellence. Physics Magazine, 2009, 2, .	0.1	5
56	Coulomb Interaction, Ripples, and the Minimal Conductivity of Graphene. Physical Review Letters, 2008, 100, 046403.	2.9	205
57	Excitons inQED3and spin response in a phase-fluctuatingd-wave superconductor. Physical Review B, 2007, 76, .	1.1	2
58	Zero-Energy States and Fragmentation of Spin in the Easy-Plane Antiferromagnet on a Honeycomb Lattice. Physical Review Letters, 2007, 99, 206404.	2.9	41
59	Interactions and Phase Transitions on Grapheneâ€™s Honeycomb Lattice. Physical Review Letters, 2006, 97, 146401.	2.9	417
60	Stable Skyrmions in Spinor Condensates. Physical Review Letters, 2006, 97, 080403.	2.9	24
61	Effective Theory of High-Temperature Superconductors. Physical Review Letters, 2005, 94, 237001.	2.9	47
62	Theory of strongly phase fluctuating d-wave superconductors and the spin response in underdoped cuprates. Physica C: Superconductivity and Its Applications, 2004, 408-410, 414-415.	0.6	2
63	Permanent Confinement in the CompactQED3with Fermionic Matter. Physical Review Letters, 2003, 91, 171601.	2.9	66
64	Antiferromagnetism from Phase Disordering of ad-Wave Superconductor. Physical Review Letters, 2002, 88, 047006.	2.9	134
65	MEAN-FIELD TRANSITION TEMPERATURE OF STRONGLY DISORDERED SUPERCONDUCTORS. International Journal of Modern Physics B, 2000, 14, 575-587.	1.0	2
66	Zero-Temperatured-Wave Superconducting Phase Transition. Physical Review Letters, 2000, 85, 1532-1535.	2.9	35