

Timo Hyart

List of Publications by Year in descending order

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57
papers

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citations

331259

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57
all docs

57
docs citations

57
times ranked

1633
citing authors

#	ARTICLE	IF	CITATIONS
1	Flux-controlled quantum computation with Majorana fermions. Physical Review B, 2013, 88, .	1.1	253
2	Fermion-Parity Anomaly of the Critical Supercurrent in the Quantum Spin-Hall Effect. Physical Review Letters, 2013, 110, 017003.	2.9	116
3	Geometric and Conventional Contribution to the Superfluid Weight in Twisted Bilayer Graphene. Physical Review Letters, 2019, 123, 237002.	2.9	116
4	Interplay of Exciton Condensation and the Quantum Spin Hall Effect in InAs GaSb Bilayer Physical Review Letters, 2014, 112, 176403.	2.9	178
5	Giant Negative Magnetoresistance Driven by Spin-Orbit Coupling at the $\text{LaAlO}_3/\text{SrTiO}_3$ Interface. Physical Review Letters, 2015, 115, 016803.	2.9	63
6	Momentum-space structure of surface states in a topological semimetal with a nexus point of Dirac lines. Physical Review B, 2016, 93, .	1.1	55
7	Competition between d -wave and topological p -wave superconducting phases in the doped Kitaev-Huisenberg model. Physical Review B, 2012, 85, .	1.1	54
8	Terahertz Bloch Oscillator with a Modulated Bias. Physical Review Letters, 2009, 102, 140405.	2.9	47
9	Backscattering between helical edge states via dynamic nuclear polarization. Physical Review B, 2013, 87, .	1.1	47
10	Bloch gain in dc-ac-driven semiconductor superlattices in the absence of electric domains. Physical Review B, 2008, 77, .	1.1	43
11	Suppressed absolute negative conductance and generation of high-frequency radiation in semiconductor superlattices. Europhysics Letters, 2006, 73, 934-940.	0.7	41
12	Non-Hermitian topological end-mode lasing in polariton systems. Physical Review Research, 2020, 2, .	1.3	38
13	Theory of Parametric Amplification in Superlattices. Physical Review Letters, 2007, 98, 220404.	2.9	37
14	Competition of electron-phonon mediated superconductivity and Stoner magnetism on a flat band. Physical Review B, 2018, 98, .	1.1	37
15	Superfluid Stiffness of a Driven Dissipative Condensate with Disorder. Physical Review Letters, 2013, 111, 230403.	2.9	36
16	Model of the Influence of an External Magnetic Field on the Gain of Terahertz Radiation from Semiconductor Superlattices. Physical Review Letters, 2009, 103, 117401.	2.9	35
17	Two Topologically Distinct Dirac-Line Semimetal Phases and Topological Phase Transitions in Rhombohedrally Stacked Honeycomb Lattices. Journal of Low Temperature Physics, 2018, 191, 35-48.	0.6	34
18	Existence of zero-energy impurity states in different classes of topological insulators and superconductors and their relation to topological phase transitions. Physical Review B, 2016, 93, .	1.1	32

#	ARTICLE	IF	CITATIONS
19	Quantitative description of Josephson-like tunneling in $\nu=1$ quantum Hall bilayers. Physical Review B, 2011, 83, .	1.1	28
20	Hidden Chern number in one-dimensional non-Hermitian chiral-symmetric systems. Physical Review B, 2019, 100, .	1.1	27
21	Disorder and magnetic-field-induced breakdown of helical edge conduction in an inverted electron-hole bilayer. Physical Review B, 2014, 89, .	1.1	25
22	Terahertz parametric gain in semiconductor superlattices in the absence of electric domains. Applied Physics Letters, 2006, 89, 132105.	1.5	21
23	Zeeman-field-induced topological phase transitions in triplet superconductors. Physical Review B, 2014, 90, .	1.1	20
24	Effects of disorder on Coulomb-assisted braiding of Majorana zero modes. Physical Review B, 2013, 88, .	1.1	19
25	Designing Three-Dimensional Flat Bands in Nodal-Line Semimetals. Physical Review X, 2021, 11, .	2.8	17
26	Non-Hermitian many-body topological excitations in interacting quantum dots. Physical Review Research, 2022, 4, .	1.3	17
27	Yu-Shiba-Rusinov Qubit. PRX Quantum, 2021, 2, .	3.5	14
28	Robust one-dimensional wires in lattice mismatched bilayer graphene. Applied Physics Letters, 2011, 98, 251902.	1.5	13
29	Physical principles of the amplification of electromagnetic radiation due to negative electron masses in a semiconductor superlattice. JETP Letters, 2015, 100, 766-770.	0.4	13
30	Confinement-deconfinement transition due to spontaneous symmetry breaking in quantum Hall bilayers. Nature Communications, 2016, 7, 10462.	5.8	12
31	Topological properties of multilayers and surface steps in the SnTe material class. Physical Review B, 2019, 100, .	1.1	12
32	Symmetry-protected topological invariant and Majorana impurity states in time-reversal-invariant superconductors. Physical Review B, 2015, 91, .	1.1	11
33	Topological valley currents via ballistic edge modes in graphene superlattices near the primary Dirac point. Communications Physics, 2020, 3, .	2.0	11
34	Quantum-metric-enabled exciton condensate in double twisted bilayer graphene. Physical Review B, 2022, 105, .	1.1	10
35	Generation of direct current in a semiconductor superlattice under the action of a bichromatic field as a parametric effect. Journal of Experimental and Theoretical Physics, 2010, 111, 822-829.	0.2	9
36	Collective amplitude mode fluctuations in a flat band superconductor formed at a semimetal surface. Physical Review B, 2016, 93, .	1.1	9

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37	Influence of Topological Excitations on Shapiro Steps and Microwave Dynamical Conductance in Bilayer Exciton Condensates. <i>Physical Review Letters</i> , 2013, 110, 076806.	2.9	8
38	Transition between canted antiferromagnetic and spin-polarized ferromagnetic quantum Hall states in graphene on a ferrimagnetic insulator. <i>Physical Review B</i> , 2020, 101, .	1.1	8
39	Suppressed absolute negative conductance and generation of high-frequency radiation in semiconductor superlattices. <i>Europhysics Letters</i> , 2006, 74, 567-567.	0.7	7
40	NONDEGENERATE PARAMETRIC AMPLIFICATION IN SUPERLATTICES AND THE LIMITS OF STRONG AND WEAK DISSIPATION. <i>International Journal of Modern Physics B</i> , 2009, 23, 4403-4413.	1.0	7
41	Minimal circuit for a flux-controlled Majorana qubit in a quantum spin-Hall insulator. <i>Physica Scripta</i> , 2015, T164, 014007.	1.2	7
42	Enhancing triplet superconductivity by the proximity to a singlet superconductor in oxide heterostructures. <i>Physical Review B</i> , 2016, 93, .	1.1	7
43	Signatures of dephasing by mirror-symmetry breaking in weak-antilocalization magnetoresistance across the topological transition in $Pb_{1-x}Sn_x$. <i>Physical Review B</i> , 2021, 103, .	1.1	7
44	Tunable topological states hosted by unconventional superconductors with adatoms. <i>Physical Review Research</i> , 2021, 3, .	1.3	7
45	Corner states, hinge states, and Majorana modes in SnTe nanowires. <i>Physical Review B</i> , 2022, 105, .	1.1	7
46	Possible THz Bloch gain in dc-ac-driven superlattices. <i>Microelectronics Journal</i> , 2009, 40, 719-721.	1.1	5
47	TERAHERTZ BLOCH OSCILLATOR WITH SUPPRESSED ELECTRIC DOMAINS: EFFECT OF ELASTIC SCATTERING. <i>International Journal of Modern Physics B</i> , 2009, 23, 4459-4472.	1.0	4
48	Topological domain wall states in a nonsymmorphic chiral chain. <i>Physical Review B</i> , 2020, 101, .	1.1	4
49	Robust semi-Dirac points and unconventional topological phase transitions in doped superconducting Sr ₂ IrO ₄ tunnel coupled to t _{2g} electron systems. <i>SciPost Physics</i> , 2017, 3, .	1.5	4
50	Dissipative Parametric Gain in a GaAs/AlGaAs Superlattice. <i>Physical Review Letters</i> , 2022, 128, .	2.9	4
51	Andreev-Bragg Reflection from an Amperian Superconductor. <i>Physical Review Letters</i> , 2015, 115, 097001.	2.9	3
52	Mapping an electron wave function by a local electron scattering probe. <i>New Journal of Physics</i> , 2015, 17, 113048.	1.2	3
53	Many-body Majorana-like zero modes without gauge symmetry breaking. <i>Physical Review Research</i> , 2021, 3, .	1.3	3
54	Topological charge, spin, and heat transistor. <i>Physical Review B</i> , 2021, 103, .	1.1	3

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55	Terahertz parametric gain in semiconductor superlattices. , 2007, , .		1
56	A Magnetic-Field-Free Exciton Condensate. Physics Magazine, 2018, 11, .	0.1	1
57	Moiré with flat bands is different. Europhysics News, 2019, 50, 24-26.	0.1	1