

Barry Bradlyn

List of Publications by Year in descending order

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Version: 2024-02-01

47
papers

4,491
citations

186254

28
h-index

233409

45
g-index

50
all docs

50
docs citations

50
times ranked

3253
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological quantum chemistry. <i>Nature</i> , 2017, 547, 298-305.	27.8	947
2	Beyond Dirac and Weyl fermions: Unconventional quasiparticles in conventional crystals. <i>Science</i> , 2016, 353, aaf5037.	12.6	881
3	Kubo formulas for viscosity: Hall viscosity, Ward identities, and the relation with conductivity. <i>Physical Review B</i> , 2012, 86, .	3.2	195
4	Chiral topological semimetal with multifold band crossings and long Fermi arcs. <i>Nature Physics</i> , 2019, 15, 759-765.	16.7	184
5	Double crystallographic groups and their representations on the Bilbao Crystallographic Server. <i>Journal of Applied Crystallography</i> , 2017, 50, 1457-1477.	4.5	177
6	Building blocks of topological quantum chemistry: Elementary band representations. <i>Physical Review B</i> , 2018, 97, .	3.2	160
7	Strong and fragile topological Dirac semimetals with higher-order Fermi arcs. <i>Nature Communications</i> , 2020, 11, 627.	12.8	152
8	Wallpaper fermions and the nonsymmorphic Dirac insulator. <i>Science</i> , 2018, 361, 246-251.	12.6	125
9	Chiral optical response of multifold fermions. <i>Physical Review B</i> , 2018, 98, .	3.2	118
10	Magnetic topological quantum chemistry. <i>Nature Communications</i> , 2021, 12, 5965.	12.8	118
11	Observation and control of maximal Chern numbers in a chiral topological semimetal. <i>Science</i> , 2020, 369, 179-183.	12.6	103
12	Topology of Disconnected Elementary Band Representations. <i>Physical Review Letters</i> , 2018, 120, 266401.	7.8	102
13	Disconnected elementary band representations, fragile topology, and Wilson loops as topological indices: An example on the triangular lattice. <i>Physical Review B</i> , 2019, 99, .	3.2	99
14	Geometry and Response of Lindbladians. <i>Physical Review X</i> , 2016, 6, .	8.9	94
15	Chiral anomaly factory: Creating Weyl fermions with a magnetic field. <i>Physical Review B</i> , 2017, 95, .	3.2	94
16	Low-energy effective theory in the bulk for transport in a topological phase. <i>Physical Review B</i> , 2015, 91, .	3.2	89
17	Graph theory data for topological quantum chemistry. <i>Physical Review E</i> , 2017, 96, 023310.	2.1	84
18	Topological materials discovery from crystal symmetry. <i>Nature Reviews Materials</i> , 2022, 7, 196-216.	48.7	65

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19	Tutorial: Computing Topological Invariants in 2D Photonic Crystals. <i>Advanced Quantum Technologies</i> , 2020, 3, 1900117.	3.9	63
20	Engineering fragile topology in photonic crystals: Topological quantum chemistry of light. <i>Physical Review Research</i> , 2019, 1, .	3.6	62
21	Topological central charge from Berry curvature: Gravitational anomalies in trial wave functions for topological phases. <i>Physical Review B</i> , 2015, 91, .	3.2	56
22	Robustness of topological corner modes in photonic crystals. <i>Physical Review Research</i> , 2020, 2, .	3.6	53
23	Multifold nodal points in magnetic materials. <i>APL Materials</i> , 2019, 7, .	5.1	51
24	Band Representations and Topological Quantum Chemistry. <i>Annual Review of Condensed Matter Physics</i> , 2021, 12, 225-246.	14.5	51
25	Band connectivity for topological quantum chemistry: Band structures as a graph theory problem. <i>Physical Review B</i> , 2018, 97, .	3.2	49
26	Investigating Anisotropic Quantum Hall States with Bimetric Geometry. <i>Physical Review Letters</i> , 2017, 119, 146602.	7.8	38
27	Effective action approach for quantum phase transitions in bosonic lattices. <i>Physical Review A</i> , 2009, 79, .	2.5	30
28	Quasinormal Modes and the Hawking-Unruh Effect in Quantum Hall Systems: Lessons from Black Hole Phenomena. <i>Physical Review Letters</i> , 2019, 123, 156802.	7.8	28
29	Hall Viscosity in Quantum Systems with Discrete Symmetry: Point Group and Lattice Anisotropy. <i>Physical Review X</i> , 2020, 10, .	8.9	28
30	IrRep: Symmetry eigenvalues and irreducible representations of ab initio band structures. <i>Computer Physics Communications</i> , 2022, 272, 108226.	7.5	27
31	Physics of the Inverted Harmonic Oscillator: From the lowest Landau level to event horizons. <i>Annals of Physics</i> , 2021, 435, 168470.	2.8	23
32	Axionic band topology in inversion-symmetric Weyl-charge-density waves. <i>Physical Review Research</i> , 2020, 2, .	3.6	23
33	Pairing Obstructions in Topological Superconductors. <i>Physical Review Letters</i> , 2020, 124, 247001.	7.8	18
34	Cubic 3D Chern photonic insulators with orientable large Chern vectors. <i>Nature Communications</i> , 2021, 12, 7330.	12.8	18
35	Topology invisible to eigenvalues in obstructed atomic insulators. <i>Physical Review B</i> , 2022, 105, .	3.2	13
36	Viscoelastic response of quantum Hall fluids in a tilted field. <i>Physical Review B</i> , 2019, 99, .	3.2	12

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37	Topological crystalline phases in a disordered inversion-symmetric chain. <i>Physical Review B</i> , 2021, 103, .	3.2	10
38	Supersymmetric waves in Bose-Fermi mixtures. <i>Physical Review A</i> , 2016, 93, .	2.5	8
39	Higher-order and crystalline topology in a phenomenological tight-binding model of lead telluride. <i>Physical Review Materials</i> , 2019, 3, .	2.4	8
40	Cubic Hall viscosity in three-dimensional topological semimetals. <i>Physical Review Research</i> , 2021, 3, .	3.6	7
41	Energy density as a probe of band representations in photonic crystals. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 314002.	1.8	6
42	Wannier-function methods for topological modes in one-dimensional photonic crystals. <i>Physical Review A</i> , 2022, 105, .	2.5	6
43	Structure of the entanglement entropy of (3+1)-dimensional gapped phases of matter. <i>Physical Review B</i> , 2018, 97, .	3.2	5
44	Simulating higher-order topological insulators in density wave insulators. <i>Physical Review B</i> , 2021, 103, .	3.2	5
45	Lecture notes on Berry phases and topology. <i>SciPost Physics Lecture Notes</i> , 0, , .	0.0	4
46	Topological Characterization of Photonic Crystals. , 2021, , .		0
47	Topological photonics: Mistaken paradigms and new opportunities. , 2021, , .		0