

Taylor L Hughes

List of Publications by Year in descending order

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125
papers

21,466
citations

47409

49
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18944

123
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126
all docs

126
docs citations

126
times ranked

11770
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological spintronics and magnetoelectronics. Nature Materials, 2022, 21, 15-23.	13.3	101
2	Nanoscale studies of electric field effects on monolayer $1T\text{-WTe}_2$. Npj Quantum Materials, 2022, 7, .	1.8	15
3	Bound states at partial dislocation defects in multipole higher-order topological insulators. Nature Communications, 2022, 13, 2035.	5.8	23
4	Embedded topological semimetals. Physical Review B, 2022, 105, .	1.1	7
5	Interaction-enabled fractonic higher-order topological phases. Physical Review B, 2022, 105, .	1.1	9
6	Quantized surface magnetism and higher-order topology: Application to the Hopf insulator. Physical Review B, 2021, 103, .	1.1	11
7	Trapped fractional charges at bulk defects in topological insulators. Nature, 2021, 589, 376-380.	13.7	77
8	Theory of dipole insulators. Physical Review B, 2021, 103, .	1.1	6
9	Lieb-Schultz-Mattis-type theorems and other nonperturbative results for strongly correlated systems with conserved dipole moments. Physical Review B, 2021, 103, .	1.1	6
10	Boundary-obstructed topological phases. Physical Review Research, 2021, 3, .	1.3	76
11	Skin effect and winding number in disordered non-Hermitian systems. Physical Review B, 2021, 103, .	1.1	65
12	Multipolar topological field theories: Bridging higher order topological insulators and fractons. Physical Review B, 2021, 103, .	1.1	29
13	Evidence for higher order topology in Bi and $\text{Bi}_{0.92}\text{Sb}_{0.08}$. Nature Communications, 2021, 12, 4420.	5.8	37
14	Topological dipole conserving insulators and multipolar responses. Physical Review B, 2021, 104, .	1.1	9
15	Geometric Response and Disclination-Induced Skin Effects in Non-Hermitian Systems. Physical Review Letters, 2021, 127, 066401.	2.9	47
16	Classification of Strongly Disordered Topological Wires Using Machine Learning. , 2021, , 211-223.		0
17	Topological crystalline phases in a disordered inversion-symmetric chain. Physical Review B, 2021, 103, .	1.1	10
18	Non-Hermitian higher-order Dirac semimetals. Physical Review B, 2021, 104, .	1.1	32

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19	Evidence for dispersing 1D Majorana channels in an iron-based superconductor. <i>Science</i> , 2020, 367, 104-108.	6.0	116
20	Wannier band transitions in disordered \mathbb{Z}_2 -flux ladders. <i>Physical Review B</i> , 2020, 102, .	1.1	4
21	Vortex and Surface Phase Transitions in Superconducting Higher-order Topological Insulators. <i>Physical Review Letters</i> , 2020, 125, 037001.	2.9	31
22	Higher-form gauge symmetries in multipole topological phases. <i>Annals of Physics</i> , 2020, 422, 168297.	1.0	17
23	Disorder driven phase transitions in weak Anomalous Topological Insulators. <i>Physical Review B</i> , 2020, 101, .	1.1	15
24	A fractional corner anomaly reveals higher-order topology. <i>Science</i> , 2020, 368, 1114-1118.	6.0	120
25	Fractional disclination charge in two-dimensional C_n -symmetric topological crystalline insulators. <i>Physical Review B</i> , 2020, 101, .	1.1	12
26	Identifying C_n -symmetric higher-order topology and fractional corner charge using entanglement spectra. <i>Physical Review B</i> , 2020, 101, .	1.1	12
27	Robust temporal pumping in a magneto-mechanical topological insulator. <i>Nature Communications</i> , 2020, 11, 974.	5.8	61
28	Trapped State at a Dislocation in a Weak Magnetomechanical Topological Insulator. <i>Physical Review Applied</i> , 2020, 14, .	1.5	16
29	Higher-Order Weyl Semimetals. <i>Physical Review Letters</i> , 2020, 125, 266804.	2.9	93
30	Higher-Order Topological Insulators in Nanophotonic Smart-Patterns. , 2020, , .		0
31	Strong Nonreciprocity in Modulated Resonator Chains through Synthetic Electric and Magnetic Fields. <i>Physical Review Letters</i> , 2019, 123, 063901.	2.9	28
32	Second-order Dirac superconductors and magnetic field induced Majorana hinge modes. <i>Physical Review B</i> , 2019, 100, .	1.1	89
33	Quantization of fractional corner charge in C_n -symmetric higher-order topological crystalline insulators. <i>Physical Review B</i> , 2019, 99, .	1.1	12
34	Embedded topological insulators. <i>Physical Review B</i> , 2019, 100, .	1.1	16
35	Higher-order bosonic topological phases in spin models. <i>Physical Review B</i> , 2019, 99, .	1.1	34
36	Families of gapped interfaces between fractional quantum Hall states. <i>Physical Review B</i> , 2019, 99, .	1.1	7

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37	Semiclassical wave packet dynamics in nonuniform electric fields. <i>Physical Review B</i> , 2019, 99, .	1.1	47
38	Geometric quench in the fractional quantum Hall effect: Exact solution in quantum Hall matrix models and comparison with bimetric theory. <i>Physical Review B</i> , 2019, 99, .	1.1	11
39	Many-body electric multipole operators in extended systems. <i>Physical Review B</i> , 2019, 100, .	1.1	90
40	Corner modes and ground-state degeneracy in models with gaugelike subsystem symmetries. <i>Physical Review B</i> , 2019, 100, .	1.1	4
41	A quantized microwave quadrupole insulator with topologically protected corner states. <i>Nature</i> , 2018, 555, 346-350.	13.7	592
42	Topological quadrupolar semimetals. <i>Physical Review B</i> , 2018, 98, .	1.1	133
43	Observation of the topological Anderson insulator in disordered atomic wires. <i>Science</i> , 2018, 362, 929-933.	6.0	217
44	Weak-pairing higher order topological superconductors. <i>Physical Review B</i> , 2018, 98, .	1.1	152
45	Hall viscosity and geometric response in the Chern-Simons matrix model of the Laughlin states. <i>Physical Review B</i> , 2018, 97, .	1.1	11
46	Symmetry-protected topological interfaces and entanglement sequences. <i>Physical Review B</i> , 2018, 98, .	1.1	19
47	Hall viscosity in the non-Abelian quantum Hall matrix model. <i>Physical Review B</i> , 2018, 98, .	1.1	8
48	Topological protection of photonic mid-gap defect modes. <i>Nature Photonics</i> , 2018, 12, 408-415.	15.6	418
49	Topological Defects in Symmetry-Protected Topological Phases. <i>Annual Review of Condensed Matter Physics</i> , 2017, 8, 211-237.	5.2	49
50	Parafermionic Wires at the Interface of Chiral Topological States. <i>Physical Review Letters</i> , 2017, 118, 136801.	2.9	21
51	Topological electromagnetic responses of bosonic quantum Hall, topological insulator, and chiral semimetal phases in all dimensions. <i>Physical Review B</i> , 2017, 95, .	1.1	20
52	Quasitopological electromagnetic response of line-node semimetals. <i>Physical Review B</i> , 2017, 95, .	1.1	47
53	Fermion parity flips and Majorana bound states at twist defects in superconducting fractional topological phases. <i>Physical Review B</i> , 2017, 95, .	1.1	7
54	Perturbative and global anomalies in bosonic analogs of integer quantum Hall and topological insulator phases. <i>Physical Review B</i> , 2017, 96, .	1.1	1

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55	Electromagnetic Response of Three-Dimensional Topological Crystalline Insulators. Physical Review Letters, 2017, 118, 146602.	2.9	7
56	Quantized electric multipole insulators. Science, 2017, 357, 61-66.	6.0	1,321
57	Electric multipole moments, topological multipole moment pumping, and chiral hinge states in crystalline insulators. Physical Review B, 2017, 96, .	1.1	920
58	Hall viscosity and the acoustic Faraday effect. Physical Review B, 2017, 96, .	1.1	11
59	Interface contributions to topological entanglement in abelian Chern-Simons theory. Journal of High Energy Physics, 2017, 2017, 1.	1.6	30
60	Bosonic analog of a topological Dirac semimetal: Effective theory, neighboring phases, and wire construction. Physical Review B, 2016, 94, .	1.1	3
61	Composite particle theory of three-dimensional gapped fermionic phases: Fractional topological insulators and charge-loop excitation symmetry. Physical Review B, 2016, 94, .	1.1	27
62	Response properties of axion insulators and Weyl semimetals driven by screw dislocations and dynamical axion strings. Physical Review B, 2016, 94, .	1.1	48
63	Topological superconducting phases from inversion symmetry breaking order in spin-orbit-coupled systems. Physical Review B, 2016, 93, .	1.1	44
64	Entanglement entropy and anomaly inflow. Physical Review D, 2016, 93, .	1.6	12
65	Bulk Topological Proximity Effect. Physical Review Letters, 2016, 116, 086802.	2.9	24
66	Interaction-enabled topological crystalline phases. Physical Review B, 2016, 93, .	1.1	20
67	Charge density waves in disordered media circumventing the Imry-Ma argument. Scientific Reports, 2016, 6, 31897.	1.6	7
68	Competing adiabatic Thouless pumps in enlarged parameter spaces. Physical Review B, 2016, 94, .	1.1	9
69	Phase diagrams of disordered Weyl semimetals. Physical Review B, 2016, 93, .	1.1	82
70	Many-body mobility edge due to symmetry-constrained dynamics and strong interactions. Physical Review B, 2015, 92, .	1.1	44
71	Interactions along an entanglement cut in $D+1$ Abelian topological phases. Physical Review B, 2015, 92, .	1.1	41
72	Patterns of electromagnetic response in topological semimetals. Physical Review B, 2015, 92, .	1.1	50

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73	Hall viscosity and momentum transport in lattice and continuum models of the integer quantum Hall effect in strong magnetic fields. <i>Physical Review B</i> , 2015, 92, .	1.1	9
74	Viscoelastic response of topological tight-binding models in two and three dimensions. <i>Physical Review B</i> , 2015, 92, .	1.1	67
75	Theory of twist liquids: Gauging an anyonic symmetry. <i>Annals of Physics</i> , 2015, 360, 349-445.	1.0	87
76	Condensation of lattice defects and melting transitions in quantum Hall phases. <i>Physical Review B</i> , 2015, 91, .	1.1	13
77	Majorana zero modes in dislocations of SrRuO_4 . <i>Physical Review B</i> , 2014, 90, .	1.1	49
78	Entanglement of a 3D generalization of the Kitaev model on the diamond lattice. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2014, 2014, P10022.	0.9	7
79	Signatures of metal-insulator and topological phase transitions in the entanglement of one-dimensional disordered fermions. <i>Physical Review B</i> , 2014, 90, .	1.1	20
80	Topological Criticality in the Chiral-Symmetric AIII Class at Strong Disorder. <i>Physical Review Letters</i> , 2014, 113, 046802.	2.9	170
81	Classification of two-dimensional topological crystalline superconductors and Majorana bound states at disclinations. <i>Physical Review B</i> , 2014, 89, .	1.1	156
82	Torsion, parity-odd response, and anomalies in topological states. <i>Physical Review D</i> , 2014, 90, .	1.6	64
83	Spin-transfer torque and electric current in helical edge states in quantum spin Hall devices. <i>Physical Review B</i> , 2014, 90, .	1.1	22
84	Effects of surface-bulk hybridization in three-dimensional topological metals. <i>Physical Review B</i> , 2014, 89, .	1.1	13
85	Swimming at low Reynolds number in fluids with odd, or Hall, viscosity. <i>Physical Review E</i> , 2014, 89, 043019.	0.8	58
86	Vortex lattices in the superconducting phases of doped topological insulators and heterostructures. <i>Physical Review B</i> , 2013, 87, .	1.1	25
87	Characterizing Disordered Fermion Systems Using the Momentum-Space Entanglement Spectrum. <i>Physical Review Letters</i> , 2013, 110, 046806.	2.9	42
88	Torsional anomalies, Hall viscosity, and bulk-boundary correspondence in topological states. <i>Physical Review D</i> , 2013, 88, .	1.6	121
89	Existence of Majorana-Fermion Bound States on Disclinations and the Classification of Topological Crystalline Superconductors in Two Dimensions. <i>Physical Review Letters</i> , 2013, 111, 047006.	2.9	131
90	Effective field theories for topological insulators by functional bosonization. <i>Physical Review B</i> , 2013, 87, .	1.1	46

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91	Disclination Classes, Fractional Excitations, and the Melting of Quantum Liquid Crystals. Physical Review Letters, 2013, 111, 025304.	2.9	26
92	Signature of phase transitions in the disordered quantum spin Hall state from the entanglement spectrum. Physical Review B, 2012, 86, .	1.1	13
93	Rényi entropy and the multifractal spectra of systems near the localization transition. Physical Review B, 2012, 86, .	1.1	22
94	Fractional spin Josephson effect and electrically controlled magnetization in quantum spin Hall edges. Physical Review B, 2012, 86, .	1.1	20
95	Imaging topologically protected transport with quantum degenerate gases. Physical Review B, 2012, 85, .	1.1	12
96	Designer quantum spin Hall phase transition in molecular graphene. Physical Review B, 2012, 86, .	1.1	27
97	Gate controlled spin-density wave and chiral FFLO superconducting phases in interacting helical liquids. Physical Review B, 2012, 86, .	1.1	7
98	Stabilization of Majorana Modes in Magnetic Vortices in the Superconducting Phase of Topological Insulators using Topologically Trivial Bands. Physical Review Letters, 2012, 109, 237009.	2.9	23
99	Topological Insulator Magnetic Tunnel Junctions: Quantum Hall Effect and Fractional Charge via Folding. Physical Review Letters, 2012, 109, 176803.	2.9	17
100	Inversion-symmetric topological insulators. Physical Review B, 2011, 83, .	1.1	404
101	The Quantum Spin Hall Effect. Annual Review of Condensed Matter Physics, 2011, 2, 31-53.	5.2	138
102	A Simulation for Exploring the Effects of the "Trait List" Method's Subjectivity on Consistency and Accuracy of Ancestry Estimations*. Journal of Forensic Sciences, 2011, 56, 1094-1106.	0.9	17
103	Transport through Andreev bound states in a graphene quantum dot. Nature Physics, 2011, 7, 386-390.	6.5	118
104	Trace index and spectral flow in the entanglement spectrum of topological insulators. Physical Review B, 2011, 84, .	1.1	70
105	Vortex lines in topological insulator-superconductor heterostructures. Physical Review B, 2011, 84, .	1.1	62
106	Torsional Response and Dissipationless Viscosity in Topological Insulators. Physical Review Letters, 2011, 107, 075502.	2.9	111
107	Torsional Monopoles and Torqued Geometries in Gravity and Condensed Matter. Physical Review Letters, 2011, 106, 161102.	2.9	15
108	Absence of topological insulator phases in non-Hermitian $P < T >$ symmetric Hamiltonians. Physical Review B, 2011, 84, .	1.1	207

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109	Observation of a one-dimensional spin-orbit gap in a quantum wire. Nature Physics, 2010, 6, 336-339.	6.5	194
110	Chiral topological superconductor from the quantum Hall state. Physical Review B, 2010, 82, .	1.1	414
111	Topological quantum phase transition in an exactly solvable model of a chiral spin liquid at finite temperature. Physical Review B, 2010, 81, .	1.1	23
112	Topological invariants for the Fermi surface of a time-reversal-invariant superconductor. Physical Review B, 2010, 81, .	1.1	246
113	Entanglement Spectrum of a Disordered Topological Chern Insulator. Physical Review Letters, 2010, 105, 115501.	2.9	182
114	Topological Entanglement Entropy and Reduced Density Matrix Structure. Physical Review Letters, 2009, 103, 261601.	2.9	155
115	Time-Reversal-Invariant Topological Superconductors and Superfluids in Two and Three Dimensions. Physical Review Letters, 2009, 102, 187001.	2.9	630
116	Topological field theory of time-reversal invariant insulators. Physical Review B, 2008, 78, .	1.1	2,702
117	Fractional charge and quantized current in the quantum spin Hall state. Nature Physics, 2008, 4, 273-276.	6.5	189
118	Quantum Spin Hall Effect in Inverted Type-II Semiconductors. Physical Review Letters, 2008, 100, 236601.	2.9	647
119	Helical edge and surface states in HgTe quantum wells and bulk insulators. Physical Review B, 2008, 77, .	1.1	174
120	Theory of the Three-Dimensional Quantum Hall Effect in Graphite. Physical Review Letters, 2007, 99, 146804.	2.9	70
121	The quantum Hall effect in graphene from a lattice perspective. Solid State Communications, 2007, 143, 20-26.	0.9	7
122	Quantum Spin Hall Effect and Topological Phase Transition in HgTe Quantum Wells. Science, 2006, 314, 1757-1761.	6.0	5,715
123	Transport equations and spin-charge propagating mode in a strongly confined two-dimensional hole gas. Physical Review B, 2006, 74, .	1.1	8
124	BAND COLLAPSE AND THE QUANTUM HALL EFFECT IN GRAPHENE. International Journal of Modern Physics B, 2006, 20, 3257-3278.	1.0	24
125	Orbitronics: The Intrinsic Orbital Current in p-Doped Silicon. Physical Review Letters, 2005, 95, 066601.	2.9	92