

# Ronny Thomale

## List of Publications by Year in descending order

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Version: 2024-02-01

180  
papers

13,402  
citations

18436

62  
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23472

111  
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185  
all docs

185  
docs citations

185  
times ranked

7994  
citing authors

#	ARTICLE	IF	CITATIONS
1	High- $T_c$ superconductor Fe(Se,Te) monolayer: an intrinsic, scalable and electrically tunable Majorana platform. National Science Review, 2022, 9, nwab087.	4.6	27
2	Charge order and superconductivity in kagome materials. Nature Physics, 2022, 18, 137-143.	6.5	152
3	Roadmap on topological photonics. JPhys Photonics, 2022, 4, 032501.	2.2	56
4	Time-reversal symmetry-breaking charge order in a kagome superconductor. Nature, 2022, 602, 245-250.	13.7	207
5	Crystallography of hyperbolic lattices. Physical Review B, 2022, 105, .	1.1	40
6	Rich nature of Van Hove singularities in Kagome superconductor CsV <sub>3</sub> Sb <sub>5</sub> . Nature Communications, 2022, 13, 2220.	5.8	87
7	Universality of Hofstadter Butterflies on Hyperbolic Lattices. Physical Review Letters, 2022, 128, 166402.	2.9	22
8	Van Hove tuning of $A$ $V_3Sb_5$ kagome metals under pressure and strain. Physical Review B, 2022, 105, .	1.1	17
9	Triplet Superconductivity from Nonlocal Coulomb Repulsion in an Atomic Sn Layer Deposited onto a Si(111) Substrate. Physical Review Letters, 2022, 128, 167002.	2.9	23
10	Diagnosis of pairing symmetry by vortex and edge spectra in kagome superconductors. Physical Review B, 2022, 105, .	1.1	7
11	Another exact ground state of a two-dimensional quantum antiferromagnet. Physical Review B, 2022, 105, .	1.1	7
12	Multiloop functional renormalization group approach to quantum spin systems. Physical Review Research, 2022, 4, .	1.3	20
13	Benchmark calculations of multiloop pseudofermion fRG. European Physical Journal B, 2022, 95, .	0.6	9
14	Two-Dimensional Floquet Topological Insulator with PT-Symmetry. , 2021, , .		0
15	Tidal surface states as fingerprints of non-Hermitian nodal knot metals. Communications Physics, 2021, 4, .	2.0	39
16	Breakdown of charge homogeneity in the two-dimensional Hubbard model: Slave-boson study of magnetic order. Physical Review B, 2021, 103, .	1.1	4
17	Topological Defect Engineering and $P$ Symmetry in Non-Hermitian Electrical Circuits. Physical Review Letters, 2021, 126, 215302.	2.9	88
18	Unconventional chiral charge order in kagome superconductor KV <sub>3</sub> Sb <sub>5</sub> . Nature Materials, 2021, 20, 1353-1357.	13.3	391

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19	Any axion insulator must be a bulk three-dimensional topological insulator. Physical Review B, 2021, 103, .	1.1	25
20	Room-Temperature Topological Polariton Laser in an Organic Lattice. Nano Letters, 2021, 21, 6398-6405.	4.5	28
21	Active topoelectrical circuits. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	41
22	From high $T_c$ to low $T_c$ : Multiorbital effects in transition metal oxides. Physical Review B, 2021, 104, .	1.1	6
23	Exceptional topological insulators. Nature Communications, 2021, 12, 5681.	5.8	43
24	Nature of Unconventional Pairing in the Kagome Superconductors		

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37	Generalized bulk–boundary correspondence in non-Hermitian topoelectrical circuits. Nature Physics, 2020, 16, 747-750.	6.5	471
38	Slave-boson analysis of the two-dimensional Hubbard model. Physical Review B, 2020, 101, .	1.1	13
39	Non-Abelian chiral spin liquid on a simple non-Archimedean lattice. Physical Review B, 2020, 101, .	1.1	6
40	Topological funneling of light. Science, 2020, 368, 311-314.	6.0	425
41	Robust $d$ -wave superconductivity of infinite-layer nickelates. Physical Review B, 2020, 101, .		
42	Kagome metal-organic frameworks as a platform for strongly correlated electrons. JPhys Materials, 2020, 3, 025001.	1.8	11
43	Harmonic fingerprint of unconventional superconductivity in twisted bilayer graphene. Physical Review B, 2020, 101, .	1.1	19
44	Electronics tuned in twisted bilayer graphene. Nature, 2020, 583, 364-365.	13.7	7
45	Reciprocal skin effect and its realization in a topoelectrical circuit. Physical Review Research, 2020, 2, .	1.3	230
46	The non-Hermitian Skin Effect as Light Funnel. , 2020, , .		0
47	Unconventional superconductivity in a doped quantum spin Hall insulator. Physical Review B, 2019, 100, .	1.1	24
48	Quantum paramagnetism and helimagnetic orders in the Heisenberg model on the body centered cubic lattice. Physical Review B, 2019, 100, .	1.1	20
49	Rashba-like spin splitting along three momentum directions in trigonal layered PtBi <sub>2</sub> . Nature Communications, 2019, 10, 4765.	5.8	42
50	Large resistivity reduction in mixed-valent $\text{CsAuBr}_3$ under pressure. Physical Review B, 2019, 100, .		
51	Non-Abelian statistics in one dimension: Topological momentum spacings and $\text{SU}(2)$ level-k fusion rules. Physical Review B, 2019, 100, .	1.1	6
52	Internal screening and dielectric engineering in magic-angle twisted bilayer graphene. Physical Review B, 2019, 100, .	1.1	67
53	Demonstration of a two-dimensional $\text{P}_T$ -symmetric crystal. Nature Communications, 2019, 10, 435.	5.8	85
54	Chiral Voltage Propagation and Calibration in a Topoelectrical Chern Circuit. Physical Review Letters, 2019, 122, 247702.	2.9	199

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55	Anatomy of skin modes and topology in non-Hermitian systems. <i>Physical Review B</i> , 2019, 99, .	1.1	483
56	Triplet superconductivity in the Dirac semimetal germanene on a substrate. <i>Physical Review B</i> , 2019, 99, .	1.1	16
57	Band structure engineering and reconstruction in electric circuit networks. <i>Physical Review B</i> , 2019, 99, .	1.1	110
58	Orbital Fingerprint of Topological Fermi Arcs in the Weyl Semimetal TaP. <i>Physical Review Letters</i> , 2019, 122, 116402.	2.9	22
59	Ultrafast electron calorimetry uncovers a new long-lived metastable state in $1T\text{-TaSe}_2$ mediated by mode-selective electron-phonon coupling. <i>Science Advances</i> , 2019, 5, eaav4449.	4.7	43
60	Custodial glide symmetry of quantum spin Hall edge modes in monolayer $\text{WTe}_2$ . <i>Physical Review B</i> , 2019, 99, .	1.1	35
61	Electronic properties of candidate type-II Weyl semimetal $\text{WTe}_2$ . A review perspective. <i>Electronic Structure</i> , 2019, 1, 014003.	1.0	32
62	Breathing chromium spinels: a showcase for a variety of pyrochlore Heisenberg Hamiltonians. <i>Npj Quantum Materials</i> , 2019, 4, .	1.8	42
63	Experimental Realization of Two-Dimensional PT-Symmetric Graphene: Bulk Properties and Edge States. , 2019, , .		1
64	Superconducting order parameter of the nodal-line semimetal NaAlSi. <i>APL Materials</i> , 2019, 7, 121103.	2.2	25
65	Topological superconductivity in Ni-based transition metal trichalcogenides. <i>Physical Review B</i> , 2019, 100, .	1.1	6
66	Quantum and Classical Phases of the Pyrochlore Heisenberg Model with Competing Interactions. <i>Physical Review X</i> , 2019, 9, .	2.8	52
67	Multiple topological states in iron-based superconductors. <i>Nature Physics</i> , 2019, 15, 41-47.	6.5	170
68	Landau level quantization of Dirac electrons on the sphere. <i>Annals of Physics</i> , 2018, 394, 33-39.	1.0	6
69	Persistence of the gapless spin liquid in the breathing kagome Heisenberg antiferromagnet. <i>Physical Review B</i> , 2018, 97, .	1.1	24
70	Platform for Electrically Pumped Polariton Simulators and Topological Lasers. <i>Physical Review Letters</i> , 2018, 121, 257402.	2.9	31
71	Microscopic origin of Cooper pairing in the iron-based superconductor $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$ . <i>Npj Quantum Materials</i> , 2018, 3, .	1.8	17
72	Testing topological protection of edge states in hexagonal quantum spin Hall candidate materials. <i>Physical Review B</i> , 2018, 98, .	1.1	32

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73	Theoretical paradigm for the quantum spin Hall effect at high temperatures. Physical Review B, 2018, 98, .	1.1	55
74	Topoelectrical-circuit realization of topological corner modes. Nature Physics, 2018, 14, 925-929.	6.5	776
75	Stability of the spiral spin liquid in $MnSc_2S_4$ . Physical Review B, 2018, 98, .	1.1	32
76	Method to identify parent Hamiltonians for trial states. Physical Review B, 2018, 98, .	1.1	27
77	Dirac semimetal in $i\hat{I}^2$ -Cu without surface Fermi arcs. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8311-8315.	3.3	30
78	Topoelectrical Circuits. Communications Physics, 2018, 1, .	2.0	364
79	Evolution of superconducting gap anisotropy in hole-doped 122 iron pnictides. Physica Status Solidi (B): Basic Research, 2017, 254, 1600350.	0.7	2
80	Incommensurate quantum-size oscillations in acene-based molecular wires—Effects of quantum fluctuations. Journal of Chemical Physics, 2017, 146, .	1.2	16
81	Braiding errors in interacting Majorana quantum wires. Physical Review B, 2017, 96, .	1.1	26
82	Realizing double Dirac particles in the presence of electronic interactions. Physical Review B, 2017, 96, .	1.1	23
83	Three-band Hubbard model for Na <sub>2</sub> IrO <sub>3</sub> : Topological insulator, zigzag antiferromagnet, and Kitaev-Heisenberg material. Physical Review B, 2017, 96, .	1.1	12
84	Dynamical transport measurement of the Luttinger parameter in helical edges states of two-dimensional topological insulators. Physical Review B, 2017, 95, .	1.1	12
85	Band structure engineering of ideal fractional Chern insulators. Physical Review B, 2017, 96, .	1.1	52
86	Three-Dimensional Electronic Structure of the Type-II Weyl Semimetal $WTe_2$ . Physical Review Letters, 2017, 119, 026403.	2.9	55
87	Scaling of the Quantum Anomalous Hall Effect as an Indicator of Axion Electrodynamics. Physical Review Letters, 2017, 118, 246801.	2.9	67
88	Bismuthene on a SiC substrate: A candidate for a high-temperature quantum spin Hall material. Science, 2017, 357, 287-290.	6.0	803
89	Pseudo-Goldstone Magnons in the Frustrated Heisenberg Helimagnet $ZnCr_2P_2O_7$ . Physical Review X, 2017, 7, 041047.	2.8	18
90	Signatures of a gearwheel quantum spin liquid in a spin-1/2 pyrochlore molybdate Heisenberg antiferromagnet. Physical Review Materials, 2017, 1, .	0.9	12

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91	Intertwined nematic orders in a frustrated ferromagnet. Physical Review B, 2016, 94, .	1.1	36
92	Robust spin-polarized midgap states at step edges of topological crystalline insulators. Science, 2016, 354, 1269-1273.	6.0	91
93	Density wave instabilities and surface state evolution in interacting Weyl semimetals. Physical Review B, 2016, 94, .	1.1	42
94	Functional renormalization group for three-dimensional quantum magnetism. Physical Review B, 2016, 94, .	1.1	51
95	Quantum disordered insulating phase in the frustrated cubic-lattice Hubbard model. Physical Review B, 2016, 93, .	1.1	15
96	Band flatness optimization through complex analysis. Physical Review B, 2016, 93, .	1.1	36
97	Spin-orbit coupling and odd-parity superconductivity in the quasi-one-dimensional compound $\text{LiO}_2$ . Physical Review B, 2016, 93, .	1.1	11
98	Laughlin states and their quasiparticle excitations on the torus. Physical Review B, 2016, 93, .	1.1	11
99	Spin liquid nature in the Heisenberg antiferromagnet. Physical Review B, 2016, 93, .	1.1	13
100	Universal entanglement spectra in critical spin chains. Physical Review B, 2016, 94, .	1.1	13
101	Coupled-wire construction of chiral spin liquids. Physical Review B, 2015, 91, .	1.1	78
102	Paramagnetism in the kagome compounds $\text{Zn}_2\text{AsO}_4$ . Physical Review B, 2015, 92, .	1.1	13
103	Topological nature and the multiple Dirac cones hidden in Bismuth high-Tc superconductors. Scientific Reports, 2015, 5, 10435.	1.6	30
104	Entanglement analysis of isotropic spin-1 chains. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P07017.	0.9	12
105	Phase Diagram and Quantum Order by Disorder in the Kitaev Magnet. Physical Review X, 2015, 5, .	2.8	70
106	Geometric Construction of Quantum Hall Clustering Hamiltonians. Physical Review X, 2015, 5, .	2.8	28
107	Generalized Kitaev Models and Extrinsic Non-Abelian Twist Defects. Physical Review Letters, 2015, 114, 026401.	2.9	29
108	Quantum Paramagnet in a Flux Triangular Lattice Hubbard Model. Physical Review Letters, 2015, 114, 167201.	2.9	18

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109	Interacting Surface States of Three-Dimensional Topological Insulators. Physical Review Letters, 2015, 115, 017001.	2.9	16
110	Position-Momentum Duality and Fractional Quantum Hall Effect in Chern Insulators. Physical Review Letters, 2015, 114, 236802.	2.9	73
111	Triangular Spin-Orbit-Coupled Lattice with Strong Coulomb Correlations: Sn Atoms on a SiC(0001) Substrate. Physical Review Letters, 2015, 114, 247602.	2.9	27
112	Phase diagram of the Hubbard model on the anisotropic triangular lattice. Physical Review B, 2015, 91, .	1.1	61
113	Accessing topological superconductivity via a combined STM and renormalization group analysis. Nature Communications, 2015, 6, 8232.	5.8	5
114	Sprungtemperatur Gibt es einen Supraleiter bei Zimmerwärme?. , 2015, , 163-164.		0
115	The 1D Ising model and the topological phase of the Kitaev chain. Annals of Physics, 2014, 351, 1026-1033.	1.0	69
116	Momentum-Space Entanglement Spectrum of Bosons and Fermions with Interactions. Physical Review Letters, 2014, 113, 256404.	2.9	43
117	Numerical exploration of spontaneous broken symmetries in multiorbital Hubbard models. Physical Review B, 2014, 90, .	1.1	15
118	Superconductivity from weak repulsion in hexagonal lattice systems. Physical Review B, 2014, 89, .	1.1	77
119	Chiral $d$ -wave superconductivity in SrPtAs. Physical Review B, 2014, 89, .	1.1	139
120	Parent Hamiltonian for the non-Abelian chiral spin liquid. Physical Review B, 2014, 89, .	1.1	63
121	Wire deconstructionism of two-dimensional topological phases. Physical Review B, 2014, 90, .	1.1	109
122	Cluster functional renormalization group. Physical Review B, 2014, 89, .	1.1	26
123	Rashba spin-orbit coupling in the Kane-Mele-Hubbard model. Physical Review B, 2014, 90, .	1.1	69
124	Renormalization group analysis of competing quantum phases in the $J_1$ - $J_2$ model on the kagome lattice. Physical Review B, 2014, 89, .		60
125	Spiral order in the honeycomb iridate $Li_2IrO_4$ . Physical Review B, 2014, 90, .		80
126	Functional renormalization group study of an eight-band model for the iron arsenides. Physical Review B, 2014, 89, .	1.1	12



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127	Theoretical prediction of a strongly correlated Dirac metal. Nature Communications, 2014, 5, 4261.	5.8	167
128	Band structure effects on the superconductivity in Hubbard models. Physical Review B, 2013, 88, .	1.1	40
129	Theory of superconductivity in a three-orbital model of Sr $\text{RuO}_4$ . Europhysics Letters, 2013, 104, 17013.	0.7	94
130	Functional renormalization group for multi-orbital Fermi surface instabilities. Advances in Physics, 2013, 62, 453-562.	35.9	149
131	Correlations and renormalization of the electron-phonon coupling in the honeycomb Hubbard ladder and superconductivity in polyacene. Physical Review B, 2013, 88, .	1.1	13
132	Pseudopotential formalism for fractional Chern insulators. Physical Review B, 2013, 88, .	1.1	52
133	Unconventional Fermi Surface Instabilities in the Kagome Hubbard Model. Physical Review Letters, 2013, 110, 126405.	2.9	271
134	Model Evidence of an Anisotropic Chiral $d$ -Wave Pairing State for the Water-Intercalated $\text{Na}_x\text{CoO}_y$ . Physical Review Letters, 2013, 111, 097001.	2.9	78
135	Tunneling spectra simulation of interacting Majorana wires. Physical Review B, 2013, 88, .	1.1	76
136	Doping evolution of the oxygen $K$ -edge x-ray absorption spectra of cuprate superconductors using a three-orbital Hubbard model. Physical Review B, 2013, 87, .	1.1	25
137	Particle-hole condensates of higher angular momentum in hexagonal systems. Physical Review B, 2013, 88, .	1.1	12
138	Generalizations of Perelomov's identity on the completeness of coherent states. Physical Review B, 2012, 85, .	1.1	5
139	Thermal Hall conductivity as a probe of gap structure in multiband superconductors: The case of $\text{BaFe}_2\text{As}_2$ .		
140	Deviating band symmetries and many-body interactions in a model hole-doped iron pnictide superconductor. Physical Review B, 2012, 86, .	1.1	4
141	Sublattice interference in the kagome Hubbard model. Physical Review B, 2012, 86, .	1.1	137
142	Fluctuation-induced topological quantum phase transitions in quantum spin-Hall and anomalous-Hall insulators. Physical Review B, 2012, 86, .	1.1	67
143	Competing many-body instabilities and unconventional superconductivity in graphene. Physical Review B, 2012, 86, .	1.1	231
144	Mechanism for a pairing state with time-reversal symmetry breaking in iron-based superconductors. Physical Review B, 2012, 85, .	1.1	98

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145	Family of spin- $S$ chain representations of $SU(2)$ Wess-Zumino-Witten models. Physical Review B, 2012, 85, .	1.1	34
146	Gaffnian holonomy through the coherent state method. Physical Review B, 2012, 86, .	1.1	9
147	Relevance of the Heisenberg-Kitaev Model for the Honeycomb Lattice Iridates $IrO_2$ . Physical Review Letters, 2012, 108, 127203.	2.9	609
148	Magnetic ordering phenomena of interacting quantum spin Hall models. Physical Review B, 2012, 86, .	1.1	68
149	Optimal T <sub>c</sub> of cuprates: The role of screening and reservoir layers. Physical Review B, 2012, 86, .	1.1	26
150	Magnetic order and paramagnetic phases in the quantum $J_1$ - $J_2$ model. Physical Review B, 2012, 86, .	1.1	106
151	Robustness of topological phases in the $S=1$ Heisenberg chain. Physical Review X, 2013, 3, .	2.8	73
152	Thermodynamic and transport signatures of a fractionalized Fermi liquid. Physical Review B, 2011, 83, .	1.1	4
153	Order-parameter anisotropies in the pnictides: An optimization principle for multi-band superconductivity. Annalen Der Physik, 2011, 523, 638-644.	0.9	10
154	Finite-temperature phase diagram of the Heisenberg-Kitaev model. Physical Review B, 2011, 84, .	1.1	167
155	Decomposition of fractional quantum Hall model states: Product rule symmetries and approximations. Physical Review B, 2011, 84, .	1.1	46
156	Functional renormalization group for the anisotropic triangular antiferromagnet. Physical Review B, 2011, 83, .	1.1	107
157	Mechanism for Explaining Differences in the Order Parameters of FeAs-Based and FeP-Based Pnictide Superconductors. Physical Review Letters, 2011, 106, 187003.	2.9	126
158	Superconducting state of the iron pnictide LiFeAs: A combined density-functional and functional-renormalization-group study. Physical Review B, 2011, 84, .	1.1	63
159	Excitonic $d$ -Wave Superconducting State of Strongly Hole-Doped $Kx$ -Ba <sub>1-x</sub> Fe <sub>2</sub> As <sub>2</sub> . Physical Review Letters, 2011, 107, 117001.	2.9	141
160	Minimal model of quantized conductance in interacting ballistic quantum wires. Physical Review B, 2011, 83, .	1.1	15
161	Non-Abelian statistics and a hierarchy of fractional spin liquids in spin-S antiferromagnets. Physical Review B, 2011, 84, .	1.1	30
162	Tunable Electron Interactions and Fractional Quantum Hall States in Graphene. Physical Review Letters, 2011, 107, 176602.	2.9	31

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163	Spontaneous parity violation in a quantum spin chain. Journal of Physics: Conference Series, 2010, 200, 022049.	0.3	13
164	Color-charge separation in trapped SU(2) spin chains. Physical Review A, 2010, 82, .	1.0	11
165	Stochastic mean-field theory: Method and application to the disordered Bose-Hubbard model at finite temperature and speckle disorder. Physical Review A, 2010, 81, .	1.0	41
166	Nonlocal Order in Gapless Systems: Entanglement Spectrum in Spin Chains. Physical Review Letters, 2010, 105, 116805.	2.9	120
167	Entanglement Gap and a New Principle of Adiabatic Continuity. Physical Review Letters, 2010, 104, 180502.	2.9	155
168	Bound states in two-dimensional spin systems near the Ising limit: A quantum finite-lattice study. Physical Review B, 2010, 81, .	1.1	41
169	Self-duality and bound states of the toric code model in a transverse field. Physical Review B, 2009, 80, .	1.1	90
170	Parent Hamiltonian for the chiral spin liquid. Physical Review B, 2009, 80, .	1.1	62
171	Spinon confinement and the Haldane gap in SU(2) spin chains. Physical Review B, 2009, 80, .	1.1	39
172	Non-Abelian Statistics in a Quantum Antiferromagnet. Physical Review Letters, 2009, 102, 207203.	2.9	88
173	Functional renormalization-group study of the doping dependence of pairing symmetry in the iron pnictide superconductors. Physical Review B, 2009, 80, .	1.1	108
174	DMRG studies of critical SU(N) spin chains. Annalen Der Physik, 2008, 17, 922-936.	0.9	54
175	Numerical analysis of three-band models for CuO planes as candidates for a spontaneous T-violating orbital current phase. Physical Review B, 2008, 77, .	1.1	31
176	Charge excitations in SU(n) spin chains: Exact results for the 1D model. Physical Review B, 2007, 75, .	1.1	5
177	No Evidence for Spontaneous Orbital Currents in Numerical Studies of Three-Band Models for the CuO Planes of High Temperature Superconductors. Physical Review Letters, 2007, 99, 027005.	2.9	25
178	Spin Hamiltonian for which the Chiral Spin Liquid is the Exact Ground State. Physical Review Letters, 2007, 99, 097202.	2.9	124
179	Exact two-holon wave functions in the Kuramoto-Yokoyama model. Physical Review B, 2006, 74, .	1.1	6
180	Topological confinement in Skyrme holography. Classical and Quantum Gravity, 0, , .	1.5	1