Timothy C H Liew

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

166
papers5,660
citations39
h-index69
g-index169
ext. papers7,072
ext. citations6.6
avg, IF6.1
L-index

#	Paper	IF	Citations
166	Nonlinear polariton parametric emission in an atomically thin semiconductor based microcavity <i>Nature Nanotechnology</i> , 2022 ,	28.7	4
165	Direct measurement of a non-Hermitian topological invariant in a hybrid light-matter system. <i>Science Advances</i> , 2021 , 7, eabj8905	14.3	6
164	All-optical switching based on interacting exciton polaritons in self-assembled perovskite microwires. <i>Science Advances</i> , 2021 , 7, eabj6627	14.3	7
163	Nonreciprocal exciton-polariton ring lattices. <i>Physical Review B</i> , 2021 , 104,	3.3	2
162	Perovskite polariton parametric oscillator. <i>Advanced Photonics</i> , 2021 , 3,	8.1	2
161	Reconstructing Quantum States With Quantum Reservoir Networks. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2021 , 32, 3148-3155	10.3	7
160	Spontaneously coherent orbital coupling of counterrotating exciton polaritons in annular perovskite microcavities. <i>Light: Science and Applications</i> , 2021 , 10, 45	16.7	9
159	Room Temperature Light-Mediated Long-Range Coupling of Excitons in Perovskites. <i>Advanced Optical Materials</i> , 2021 , 9, 2001835	8.1	1
158	Nonlinear Parametric Scattering of Exciton Polaritons in Perovskite Microcavities. <i>Nano Letters</i> , 2021 , 21, 3120-3126	11.5	9
157	Creating and concentrating quantum resource states in noisy environments using a quantum neural network. <i>Neural Networks</i> , 2021 , 136, 141-151	9.1	5
156	Ultralow Threshold Polariton Condensate in a Monolayer Semiconductor Microcavity at Room Temperature. <i>Nano Letters</i> , 2021 , 21, 3331-3339	11.5	19
155	Optically induced topological spin-valley Hall effect for exciton polaritons. <i>Physical Review B</i> , 2021 , 103,	3.3	5
154	Superpolynomial quantum enhancement in polaritonic neuromorphic computing. <i>Physical Review B</i> , 2021 , 103,	3.3	1
153	Optical switching of topological phase in a perovskite polariton lattice. Science Advances, 2021, 7,	14.3	15
152	Realising and compressing quantum circuits with quantum reservoir computing. <i>Communications Physics</i> , 2021 , 4,	5.4	4
151	Interaction-induced double-sided skin effect in an exciton-polariton system. <i>Physical Review B</i> , 2021 , 103,	3.3	4
150	Neuromorphic Binarized Polariton Networks. <i>Nano Letters</i> , 2021 , 21, 3715-3720	11.5	11

149	Quantum Neuromorphic Computing with Reservoir Computing Networks. <i>Advanced Quantum Technologies</i> , 2021 , 4, 2100053	4.3	5
148	Perovskite semiconductors for room-temperature exciton-polaritonics. <i>Nature Materials</i> , 2021 , 20, 131.	5 <i>217</i> 324	33
147	Topological phase transition in an all-optical exciton-polariton lattice. <i>Optica</i> , 2021 , 8, 1084	8.6	4
146	Energy-Efficient Neural Network Inference with Microcavity Exciton Polaritons. <i>Physical Review Applied</i> , 2021 , 16,	4.3	3
145	Giant Enhancement of Unconventional Photon Blockade in a Dimer Chain <i>Physical Review Letters</i> , 2021 , 127, 240402	7.4	1
144	Polaritonic Neuromorphic Computing Outperforms Linear Classifiers. <i>Nano Letters</i> , 2020 , 20, 3506-351	211.5	26
143	Universal Self-Correcting Computing with Disordered Exciton-Polariton Neural Networks. <i>Physical Review Applied</i> , 2020 , 13,	4.3	3
142	Quantum computing with exciton-polariton condensates. Npj Quantum Information, 2020, 6,	8.6	21
141	Emergence of microfrequency comb via limit cycles in dissipatively coupled condensates. <i>Physical Review B</i> , 2020 , 101,	3.3	11
140	Coupling between Exciton-Polariton Corner Modes through Edge States. <i>Physical Review Letters</i> , 2020 , 124, 063901	7.4	19
139	Observation of exciton polariton condensation in a perovskite lattice at room temperature. <i>Nature Physics</i> , 2020 , 16, 301-306	16.2	8o
138	Artificial life in an exciton-polariton lattice. New Journal of Physics, 2020, 22, 103062	2.9	4
137	Robust Room Temperature Valley Hall Effect of Interlayer Excitons. <i>Nano Letters</i> , 2020 , 20, 1345-1351	11.5	23
136	Electrically controllable router of interlayer excitons. Science Advances, 2020, 6,	14.3	20
135	Nonreciprocal Transport of Exciton Polaritons in a Non-Hermitian Chain. <i>Physical Review Letters</i> , 2020 , 125, 123902	7.4	14
134	Neuromorphic Computing in Ginzburg-Landau Polariton-Lattice Systems. <i>Physical Review Applied</i> , 2019 , 11,	4.3	17
133	Probabilistic solving of NP-hard problems with bistable nonlinear optical networks. <i>Physical Review B</i> , 2019 , 99,	3.3	7
132	Quantum reservoir processing. <i>Npj Quantum Information</i> , 2019 , 5,	8.6	36

131	Antichiral edge states in an exciton polariton strip. Physical Review B, 2019, 99,	3.3	23
130	Nonresonant spin selection methods and polarization control in exciton-polariton condensates. <i>Physical Review B</i> , 2019 , 99,	3.3	10
129	Direct measurement of polariton-polariton interaction strength in the Thomas-Fermi regime of exciton-polariton condensation. <i>Physical Review B</i> , 2019 , 100,	3.3	32
128	Dynamical Blockade in a Single-Mode Bosonic System. <i>Physical Review Letters</i> , 2019 , 123, 013602	7.4	14
127	One-Way Reflection-Free Exciton-Polariton Spin-Filtering Channel. <i>Physical Review Applied</i> , 2019 , 12,	4.3	4
126	On the possibility of a terahertz light emitting diode based on a dressed quantum well. <i>Scientific Reports</i> , 2019 , 9, 16320	4.9	1
125	Polarization-dependent light-matter coupling and highly indistinguishable resonant fluorescence photons from quantum dot-micropillar cavities with elliptical cross section. <i>Physical Review B</i> , 2019 , 100,	3.3	6
124	Quantum Neuromorphic Platform for Quantum State Preparation. <i>Physical Review Letters</i> , 2019 , 123, 260404	7.4	16
123	All-to-All Intramodal Condensate Coupling by Multifrequency Excitation of Polaritons. <i>ACS Photonics</i> , 2019 , 6, 123-129	6.3	1
122	Parity bifurcations in trapped multistable phase locked exciton-polariton condensates. <i>Physical Review B</i> , 2018 , 97,	3.3	10
121	Chiral Modes at Exceptional Points in Exciton-Polariton Quantum Fluids. <i>Physical Review Letters</i> , 2018 , 120, 065301	7.4	31
120	Unidirectional flow of lossless exciton-polariton signals. <i>Journal of Optics (United Kingdom)</i> , 2018 , 20, 025503	1.7	1
119	Quantum exciton-polariton networks through inverse four-wave mixing. <i>Physical Review B</i> , 2018 , 97,	3.3	12
118	Semiconductor quantum well irradiated by a two-mode electromagnetic field as a terahertz emitter. <i>Physical Review A</i> , 2018 , 97,	2.6	4
117	Design for a Nanoscale Single-Photon Spin Splitter for Modes with Orbital Angular Momentum. <i>Physical Review Letters</i> , 2018 , 121, 053901	7.4	6
116	Optically induced transparency in bosonic cascade lasers. <i>Optics Letters</i> , 2018 , 43, 259-262	3	4
115	Floquet topological polaritons in semiconductor microcavities. <i>Physical Review B</i> , 2018 , 97,	3.3	7
114	Synchronization crossover of polariton condensates in weakly disordered lattices. <i>Physical Review B</i> , 2018 , 97,	3.3	23

(2017-2018)

113	Realization of Hofstadter's butterfly and a one-way edge mode in a polaritonic system. <i>Physical Review B</i> , 2018 , 98,	3.3	11
112	Room Temperature Coherently Coupled Exciton-Polaritons in Two-Dimensional Organic-Inorganic Perovskite. <i>ACS Nano</i> , 2018 , 12, 8382-8389	16.7	64
111	Single photons from a gain medium below threshold. <i>Physical Review B</i> , 2018 , 97,	3.3	5
110	Exciton-polariton topological insulator. <i>Nature</i> , 2018 , 562, 552-556	50.4	222
109	Room temperature long-range coherent exciton polariton condensate flow in lead halide perovskites. <i>Science Advances</i> , 2018 , 4, eaau0244	14.3	74
108	Single-shot condensation of exciton polaritons and the hole burning effect. <i>Nature Communications</i> , 2018 , 9, 2944	17.4	27
107	Terahertz cascades from nanoparticles. <i>Physical Review B</i> , 2018 , 97,	3.3	1
106	An exciton-polariton bolometer for terahertz radiation detection. <i>Scientific Reports</i> , 2018 , 8, 10092	4.9	5
105	Interactive optomechanical coupling with nonlinear polaritonic systems. <i>Physical Review B</i> , 2017 , 95,	3.3	6
104	Optical probing of the Coulomb interactions of an electrically pumped polariton condensate. <i>Applied Physics Letters</i> , 2017 , 110, 151103	3.4	3
103	Room-Temperature Polariton Lasing in All-Inorganic Perovskite Nanoplatelets. <i>Nano Letters</i> , 2017 , 17, 3982-3988	11.5	227
102	Hyperbolic Region in an Array of Quantum Wires in a Planar Cavity. ACS Photonics, 2017, 4, 1165-1171	6.3	6
101	Multivalley engineering in semiconductor microcavities. <i>Scientific Reports</i> , 2017 , 7, 45243	4.9	10
100	Spontaneous spin bifurcations in a Bose-Einstein condensate of indirect excitons. <i>Superlattices and Microstructures</i> , 2017 , 108, 57-63	2.8	3
99	Driven-dissipative spin chain model based on exciton-polariton condensates. <i>Physical Review B</i> , 2017 , 96,	3.3	12
98	Spontaneous and superfluid chiral edge states in exciton-polariton condensates. <i>Physical Review B</i> , 2017 , 96,	3.3	19
97	Kinetic Monte Carlo approach to nonequilibrium bosonic systems. <i>Physical Review B</i> , 2017 , 96,	3.3	3
96	Tightly bound indirect exciton in single-layer hybrid organic-inorganic perovskite semiconductor. <i>Superlattices and Microstructures</i> , 2017 , 110, 108-113	2.8	

95	Electrical and optical switching in the bistable regime of an electrically injected polariton laser. <i>Physical Review B</i> , 2017 , 96,	3.3	6
94	Prototype of a bistable polariton field-effect transistor switch. <i>Scientific Reports</i> , 2017 , 7, 5114	4.9	7
93	Spin Order and Phase Transitions in Chains of Polariton Condensates. <i>Physical Review Letters</i> , 2017 , 119, 067401	7.4	53
92	Spontaneous Polariton Currents in Periodic Lateral Chains. <i>Physical Review Letters</i> , 2017 , 119, 067406	7.4	17
91	Parity solitons in nonresonantly driven-dissipative condensate channels. <i>Physical Review B</i> , 2017 , 96,	3.3	5
90	Half-skyrmion spin textures in polariton microcavities. <i>Physical Review B</i> , 2016 , 94,	3.3	23
89	Chiral Bogoliubov excitations in nonlinear bosonic systems. <i>Physical Review B</i> , 2016 , 93,	3.3	84
88	Collective state transitions of exciton-polaritons loaded into a periodic potential. <i>Physical Review B</i> , 2016 , 93,	3.3	39
87	Nonresonant optical control of a spinor polariton condensate. <i>Physical Review B</i> , 2016 , 93,	3.3	24
86	Exciton-polariton quantum gates based on continuous variables. <i>Physical Review B</i> , 2016 , 93,	3.3	14
85	Lasing in Bose-Fermi mixtures. <i>Scientific Reports</i> , 2016 , 6, 20091	4.9	20
84	Quantum statistics of bosonic cascades. <i>New Journal of Physics</i> , 2016 , 18, 023041	2.9	6
83	Cellular automata in photonic cavity arrays. <i>Optics Express</i> , 2016 , 24, 24930-24937	3.3	4
82	Bosonic lasers: The state of the art (Review Article). Low Temperature Physics, 2016 , 42, 323-329	0.7	6
81	Polariton condensates: Electrical spin switching. <i>Nature Materials</i> , 2016 , 15, 1053-4	27	
80	Perceptrons with Hebbian learning based on wave ensembles in spatially patterned potentials. <i>Physical Review Letters</i> , 2015 , 114, 118101	7.4	7
79	Observation of non-Hermitian degeneracies in a chaotic exciton-polariton billiard. <i>Nature</i> , 2015 , 526, 554-8	50.4	281
78	Optical control of spin textures in quasi-one-dimensional polariton condensates. <i>Physical Review B</i> , 2015 , 91,	3.3	20

(2014-2015)

77	Robust platform for engineering pure-quantum-state transitions in polariton condensates. <i>Physical Review B</i> , 2015 , 92,	3.3	34
76	Incoherent excitation and switching of spin states in exciton-polariton condensates. <i>Physical Review B</i> , 2015 , 92,	3.3	13
75	Polariton spin whirls. <i>Physical Review B</i> , 2015 , 92,	3.3	14
74	Switching waves in multilevel incoherently driven polariton condensates. <i>Physical Review B</i> , 2015 , 92,	3.3	6
73	Topological polaritons and excitons in garden-variety systems. <i>Physical Review B</i> , 2015 , 91,	3.3	104
72	Spin selective filtering of polariton condensate flow. <i>Applied Physics Letters</i> , 2015 , 107, 011106	3.4	19
71	Optical bistability in electrically driven polariton condensates. <i>Physical Review B</i> , 2015 , 91,	3.3	23
70	Instability-induced formation and nonequilibrium dynamics of phase defects in polariton condensates. <i>Physical Review B</i> , 2015 , 91,	3.3	40
69	Polarization shaping of Poincar[beams by polariton oscillations. <i>Light: Science and Applications</i> , 2015 , 4, e350-e350	16.7	37
68	Bistability in bosonic terahertz lasers. <i>Journal of Physics Condensed Matter</i> , 2014 , 26, 085303	1.8	2
67	Bistability in microcavities with incoherent optical or electrical excitation. <i>Physical Review B</i> , 2014 , 90,	3.3	19
66	Motion of patterns in polariton quantum fluids with spin-orbit interaction. <i>Physical Review B</i> , 2014 , 89,	3.3	15
65	Exciton-polariton oscillations in real space. <i>Physical Review B</i> , 2014 , 90,	3.3	10
64	Triggered single-photon emitters based on stimulated parametric scattering in weakly nonlinear systems. <i>Physical Review A</i> , 2014 , 90,	2.6	34
63	Information processing with topologically protected vortex memories in exciton-polariton condensates. <i>Physical Review B</i> , 2014 , 90,	3.3	21
62	Optomechanics with cavity polaritons: dissipative coupling and unconventional bistability. <i>Physical Review Letters</i> , 2014 , 112, 076402	7.4	56
61	Operation speed of polariton condensate switches gated by excitons. <i>Physical Review B</i> , 2014 , 89,	3.3	15
60	Tunable single-photon emission from dipolaritons. <i>Physical Review A</i> , 2014 , 90,	2.6	56

59	Vortices in spinor cold exciton condensates with spin-orbit interaction. <i>Physical Review B</i> , 2014 , 89,	3.3	6
58	Magnetic field control of the optical spin Hall effect. <i>Physical Review B</i> , 2013 , 88,	3.3	10
57	Energy relaxation of exciton-polariton condensates in quasi-one-dimensional microcavities. <i>Physical Review B</i> , 2013 , 88,	3.3	24
56	One-dimensional cubic-quintic Gross-Pitaevskii equation for Bose-Einstein condensates in a trap potential. <i>European Physical Journal D</i> , 2013 , 67, 1	1.3	22
55	Optical diode based on exciton-polaritons. <i>Applied Physics Letters</i> , 2013 , 103, 191110	3.4	11
54	Continuous terahertz emission from dipolaritons. <i>Physical Review B</i> , 2013 , 88,	3.3	26
53	Ballistic spin transport in exciton gases. <i>Physical Review B</i> , 2013 , 88,	3.3	18
52	Stochastic Gross-Pitaevskii equation for the dynamical thermalization of Bose-Einstein condensates. <i>Physical Review Letters</i> , 2013 , 110, 127402	7.4	25
51	Proposal for a bosonic cascade laser. <i>Physical Review Letters</i> , 2013 , 110, 047402	7.4	47
50	Spin currents in a coherent exciton gas. <i>Physical Review Letters</i> , 2013 , 110, 246403	7.4	66
49	Spontaneous self-ordered states of vortex-antivortex pairs in a polariton condensate. <i>Physical Review B</i> , 2013 , 88,	3.3	32
48	Multimode entanglement in coupled cavity arrays. New Journal of Physics, 2013, 15, 025015	2.9	28
47	Nonlinear effects in multi-photon polaritonics. <i>Optics Express</i> , 2013 , 21, 15183-94	3.3	6
46	Quantum reflections and shunting of polariton condensate wave trains: Implementation of a logic AND gate. <i>Physical Review B</i> , 2013 , 88,	3.3	26
45	Complete architecture of integrated photonic circuits based on and and not logic gates of exciton polaritons in semiconductor microcavities. <i>Physical Review B</i> , 2013 , 87,	3.3	81
44	Dissociation dynamics of singly charged vortices into half-quantum vortex pairs. <i>Nature Communications</i> , 2012 , 3, 1309	17.4	42
43	Propagation and amplification dynamics of 1D polariton condensates. <i>Physical Review Letters</i> , 2012 , 109, 216404	7.4	90
42	Nonlinear optical spin Hall effect and long-range spin transport in polariton lasers. <i>Physical Review Letters</i> , 2012 , 109, 036404	7.4	89

(2010-2012)

41	Optically erasing disorder in semiconductor microcavities using polariton polariton interactions. <i>Physica Status Solidi (B): Basic Research</i> , 2012 , 249, 880-884	1.3	2
40	Spontaneous symmetry breaking in a polariton and photon laser. <i>Physical Review Letters</i> , 2012 , 109, 01	6 4 04	48
39	Polariton condensate transistor switch. <i>Physical Review B</i> , 2012 , 85,	3.3	144
38	Non-adiabatic population transfer in coupled bosonic systems. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012 , 45, 245003	1.3	3
37	Dynamics of a polariton condensate transistor switch. <i>Applied Physics Letters</i> , 2012 , 101, 261116	3.4	29
36	Spin-orbit coupling and the topology of gases of spin-degenerate cold excitons in photoexcited GaAs-AlGaAs quantum wells. <i>Physical Review B</i> , 2012 , 86,	3.3	14
35	Quantum entanglement in nanocavity arrays. <i>Physical Review A</i> , 2012 , 85,	2.6	21
34	Holographic arrays based on semiconductor microstructures. <i>Physical Review B</i> , 2012 , 86,	3.3	1
33	Spontaneous pattern formation in a polariton condensate. <i>Physical Review Letters</i> , 2011 , 107, 106401	7.4	74
32	Optically erasing disorder in semiconductor microcavities with dynamic nuclear polarization. <i>Physical Review Letters</i> , 2011 , 106, 146404	7.4	5
31	Motion of spin polariton bullets in semiconductor microcavities. <i>Physical Review Letters</i> , 2011 , 107, 146	4 9 .4	49
30	Hybrid states of Tamm plasmons and exciton-polaritons. <i>Superlattices and Microstructures</i> , 2011 , 49, 229-232	2.8	7
29	Probing the dynamics of spontaneous quantum vortices in polariton superfluids. <i>Physical Review Letters</i> , 2011 , 106, 115301	7.4	99
28	Polaritonic devices. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2011 , 43, 1543-1568	3	87
27	Multipartite polariton entanglement in semiconductor microcavities. <i>Physical Review A</i> , 2011 , 84,	2.6	14
26	Suppression of Zeeman splitting of the energy levels of exciton-polariton condensates in semiconductor microcavities in an external magnetic field. <i>Physical Review Letters</i> , 2011 , 106, 257401	7.4	45
25	Spin-to-orbital angular momentum conversion in semiconductor microcavities. <i>Physical Review B</i> , 2011 , 83,	3.3	32
24	Excitonpolariton spin switches. <i>Nature Photonics</i> , 2010 , 4, 361-366	33.9	256

23	Spin rings in bistable planar semiconductor microcavities. <i>Physical Review Letters</i> , 2010 , 105, 216403	7.4	50
22	Polariton polarization-sensitive phenomena in planar semiconductor microcavities. <i>Semiconductor Science and Technology</i> , 2010 , 25, 013001	1.8	173
21	Energy relaxation in one-dimensional polariton condensates. <i>Physical Review B</i> , 2010 , 82,	3.3	75
20	Exciton-polariton integrated circuits. <i>Physical Review B</i> , 2010 , 82,	3.3	100
19	Single photons from coupled quantum modes. <i>Physical Review Letters</i> , 2010 , 104, 183601	7.4	251
18	Polarization of exciton-polariton condensates in lateral traps. <i>Physical Review B</i> , 2010 , 82,	3.3	6
17	Polarization phenomena in resonantly pumped disordered semiconductor microcavities. <i>Physical Review B</i> , 2009 , 80,	3.3	6
16	Interplay between weak localization of exciton-polaritons and the optical spin Hall effect. <i>Physical Review B</i> , 2009 , 79,	3.3	11
15	Stochastic polarization formation in exciton-polariton Bose-Einstein condensates. <i>Physical Review B</i> , 2009 , 80,	3.3	57
14	Anisotropic optical spin Hall effect in semiconductor microcavities. <i>Physical Review B</i> , 2009 , 80,	3.3	31
13	Phase shift of a weak coherent beam induced by a single atom. <i>Physical Review Letters</i> , 2009 , 103, 153	60 / 1.4	59
12	Interfacing light and single atoms with a lens. New Journal of Physics, 2009, 11, 043011	2.9	48
11	Signature of the microcavity excitonpolariton relaxation mechanism in the polarization of emitted light. <i>Physical Review B</i> , 2009 , 79,	3.3	23
10	Device-independent state estimation based on Bell inequalities. <i>Physical Review A</i> , 2009 , 80,	2.6	78
9	Interplay between superfluidity and magnetic self-trapping of exciton polaritons. <i>Physical Review B</i> , 2009 , 80,	3.3	12
8	Suppression of Zeeman splitting and polarization steps in localized exciton-polariton condensates. <i>Physical Review B</i> , 2008 , 77,	3.3	15
7	Generation and dynamics of vortex lattices in coherent exciton-polariton fields. <i>Physical Review Letters</i> , 2008 , 101, 187401	7.4	37
6	Optical circuits based on polariton neurons in semiconductor microcavities. <i>Physical Review Letters</i> , 2008 , 101, 016402	7.4	188

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5	Spin rings in semiconductor microcavities. <i>Physical Review Letters</i> , 2008 , 100, 116401	7.4	49
4	Interference of coherent polariton beams in microcavities: polarization-controlled optical gates. <i>Physical Review Letters</i> , 2007 , 99, 196402	7.4	69
3	Observation of the optical spin Hall effect. <i>Nature Physics</i> , 2007 , 3, 628-631	16.2	229
2	Excitation of vortices in semiconductor microcavities. <i>Physical Review B</i> , 2007 , 75,	3.3	34
1	Polariton condensates for classical and quantum computing. <i>Nature Reviews Physics</i> ,	23.6	1