Timothy C H Liew

List of Publications by Citations

166 papers	5,660 citations	39 h-index	69 g-index
169 ext. papers	7,072 ext. citations	6.6 avg, IF	6.1 L-index

#	Paper	IF	Citations
166	Observation of non-Hermitian degeneracies in a chaotic exciton-polariton billiard. *Nature*, **2015**, 526, 554-8	50.4	281
165	Exciton-polariton spin switches. *Nature Photonics*, **2010**, 4, 361-366	33.9	256
164	Single photons from coupled quantum modes. *Physical Review Letters*, **2010**, 104, 183601	7.4	251
163	Observation of the optical spin Hall effect. *Nature Physics*, **2007**, 3, 628-631	16.2	229
162	Room-Temperature Polariton Lasing in All-Inorganic Perovskite Nanoplatelets. *Nano Letters*, **2017**, 17, 3982-3988	11.5	227
161	Exciton-polariton topological insulator. *Nature*, **2018**, 562, 552-556	50.4	222
160	Optical circuits based on polariton neurons in semiconductor microcavities. *Physical Review Letters*, **2008**, 101, 016402	7.4	188
159	Polariton polarization-sensitive phenomena in planar semiconductor microcavities. *Semiconductor Science and Technology*, **2010**, 25, 013001	1.8	173
158	Polariton condensate transistor switch. *Physical Review B*, **2012**, 85,	3.3	144
157	Topological polaritons and excitons in garden-variety systems. *Physical Review B*, **2015**, 91,	3.3	104
156	Exciton-polariton integrated circuits. *Physical Review B*, **2010**, 82,	3.3	100
155	Probing the dynamics of spontaneous quantum vortices in polariton superfluids. *Physical Review Letters*, **2011**, 106, 115301	7.4	99
154	Propagation and amplification dynamics of 1D polariton condensates. *Physical Review Letters*, **2012**, 109, 216404	7.4	90
153	Nonlinear optical spin Hall effect and long-range spin transport in polariton lasers. *Physical Review Letters*, **2012**, 109, 036404	7.4	89
152	Polaritonic devices. *Physica E: Low-Dimensional Systems and Nanostructures*, **2011**, 43, 1543-1568	3	87
151	Chiral Bogoliubov excitations in nonlinear bosonic systems. *Physical Review B*, **2016**, 93,	3.3	84
150	Complete architecture of integrated photonic circuits based on and and not logic gates of exciton polaritons in semiconductor microcavities. *Physical Review B*, **2013**, 87,	3.3	81

149	Observation of exciton polariton condensation in a perovskite lattice at room temperature. *Nature Physics*, **2020**, 16, 301-306	16.2	80
148	Device-independent state estimation based on Bell inequalities. *Physical Review A*, **2009**, 80,	2.6	78
147	Energy relaxation in one-dimensional polariton condensates. *Physical Review B*, **2010**, 82,	3.3	75
146	Spontaneous pattern formation in a polariton condensate. *Physical Review Letters*, **2011**, 107, 106401	7.4	74
145	Room temperature long-range coherent exciton polariton condensate flow in lead halide perovskites. *Science Advances*, **2018**, 4, eaau0244	14.3	74
144	Interference of coherent polariton beams in microcavities: polarization-controlled optical gates. *Physical Review Letters*, **2007**, 99, 196402	7.4	69
143	Spin currents in a coherent exciton gas. *Physical Review Letters*, **2013**, 110, 246403	7.4	66
142	Room Temperature Coherently Coupled Exciton-Polaritons in Two-Dimensional Organic-Inorganic Perovskite. *ACS Nano*, **2018**, 12, 8382-8389	16.7	64
141	Phase shift of a weak coherent beam induced by a single atom. *Physical Review Letters*, **2009**, 103, 153601	7.4	59
140	Stochastic polarization formation in exciton-polariton Bose-Einstein condensates. *Physical Review B* , **2009**, 80,	3.3	57
139	Optomechanics with cavity polaritons: dissipative coupling and unconventional bistability. *Physical Review Letters*, **2014**, 112, 076402	7.4	56
138	Tunable single-photon emission from dipolaritons. *Physical Review A*, **2014**, 90,	2.6	56
137	Spin Order and Phase Transitions in Chains of Polariton Condensates. *Physical Review Letters*, **2017**, 119, 067401	7.4	53
136	Spin rings in bistable planar semiconductor microcavities. *Physical Review Letters*, **2010**, 105, 216403	7.4	50
135	Motion of spin polariton bullets in semiconductor microcavities. *Physical Review Letters*, **2011**, 107, 146402	7.4	49
134	Spin rings in semiconductor microcavities. *Physical Review Letters*, **2008**, 100, 116401	7.4	49
133	Spontaneous symmetry breaking in a polariton and photon laser. *Physical Review Letters*, **2012**, 109, 016404	7.4	48
132	Interfacing light and single atoms with a lens. *New Journal of Physics*, **2009**, 11, 043011	2.9	48

131	Proposal for a bosonic cascade laser. *Physical Review Letters*, **2013**, 110, 047402	7.4	47
130	Suppression of Zeeman splitting of the energy levels of exciton-polariton condensates in semiconductor microcavities in an external magnetic field. *Physical Review Letters*, **2011**, 106, 257401	7.4	45
129	Dissociation dynamics of singly charged vortices into half-quantum vortex pairs. *Nature Communications*, **2012**, 3, 1309	17.4	42
128	Instability-induced formation and nonequilibrium dynamics of phase defects in polariton condensates. *Physical Review B*, **2015**, 91,	3.3	40
127	Collective state transitions of exciton-polaritons loaded into a periodic potential. *Physical Review B*, **2016**, 93,	3.3	39
126	Polarization shaping of Poincar beams by polariton oscillations. *Light: Science and Applications*, **2015**, 4, e350-e350	16.7	37
125	Generation and dynamics of vortex lattices in coherent exciton-polariton fields. *Physical Review Letters*, **2008**, 101, 187401	7.4	37
124	Quantum reservoir processing. *Npj Quantum Information*, **2019**, 5,	8.6	36
123	Robust platform for engineering pure-quantum-state transitions in polariton condensates. *Physical Review B*, **2015**, 92,	3.3	34
122	Triggered single-photon emitters based on stimulated parametric scattering in weakly nonlinear systems. *Physical Review A*, **2014**, 90,	2.6	34
121	Excitation of vortices in semiconductor microcavities. *Physical Review B*, **2007**, 75,	3.3	34
120	Perovskite semiconductors for room-temperature exciton-polaritonics. *Nature Materials*, **2021**, 20, 1315-1324	27	33
119	Direct measurement of polariton-polariton interaction strength in the Thomas-Fermi regime of exciton-polariton condensation. *Physical Review B*, **2019**, 100,	3.3	32
118	Spontaneous self-ordered states of vortex-antivortex pairs in a polariton condensate. *Physical Review B*, **2013**, 88,	3.3	32
117	Spin-to-orbital angular momentum conversion in semiconductor microcavities. *Physical Review B*, **2011**, 83,	3.3	32
116	Chiral Modes at Exceptional Points in Exciton-Polariton Quantum Fluids. *Physical Review Letters*, **2018**, 120, 065301	7.4	31
115	Anisotropic optical spin Hall effect in semiconductor microcavities. *Physical Review B*, **2009**, 80,	3.3	31
114	Dynamics of a polariton condensate transistor switch. *Applied Physics Letters*, **2012**, 101, 261116	3.4	29

113	Multimode entanglement in coupled cavity arrays. *New Journal of Physics*, **2013**, 15, 025015	2.9	28
112	Single-shot condensation of exciton polaritons and the hole burning effect. *Nature Communications*, **2018**, 9, 2944	17.4	27
111	Polaritonic Neuromorphic Computing Outperforms Linear Classifiers. *Nano Letters*, **2020**, 20, 3506-3512	11.5	26
110	Continuous terahertz emission from dipolaritons. *Physical Review B*, **2013**, 88,	3.3	26
109	Quantum reflections and shunting of polariton condensate wave trains: Implementation of a logic AND gate. *Physical Review B*, **2013**, 88,	3.3	26
108	Stochastic Gross-Pitaevskii equation for the dynamical thermalization of Bose-Einstein condensates. *Physical Review Letters*, **2013**, 110, 127402	7.4	25
107	Nonresonant optical control of a spinor polariton condensate. *Physical Review B*, **2016**, 93,	3.3	24
106	Energy relaxation of exciton-polariton condensates in quasi-one-dimensional microcavities. *Physical Review B*, **2013**, 88,	3.3	24
105	Antichiral edge states in an exciton polariton strip. *Physical Review B*, **2019**, 99,	3.3	23
104	Half-skyrmion spin textures in polariton microcavities. *Physical Review B*, **2016**, 94,	3.3	23
103	Synchronization crossover of polariton condensates in weakly disordered lattices. *Physical Review B*, **2018**, 97,	3.3	23
102	Optical bistability in electrically driven polariton condensates. *Physical Review B*, **2015**, 91,	3.3	23
101	Signature of the microcavity exciton-polariton relaxation mechanism in the polarization of emitted light. *Physical Review B*, **2009**, 79,	3.3	23
100	Robust Room Temperature Valley Hall Effect of Interlayer Excitons. *Nano Letters*, **2020**, 20, 1345-1351	11.5	23
99	One-dimensional cubic-quintic Gross-Pitaevskii equation for Bose-Einstein condensates in a trap potential. *European Physical Journal D*, **2013**, 67, 1	1.3	22
98	Quantum computing with exciton-polariton condensates. *Npj Quantum Information*, **2020**, 6,	8.6	21
97	Information processing with topologically protected vortex memories in exciton-polariton condensates. *Physical Review B*, **2014**, 90,	3.3	21
96	Quantum entanglement in nanocavity arrays. *Physical Review A*, **2012**, 85,	2.6	21

95	Lasing in Bose-Fermi mixtures. *Scientific Reports*, **2016**, 6, 20091	4.9	20
94	Optical control of spin textures in quasi-one-dimensional polariton condensates. *Physical Review B*, **2015**, 91,	3.3	20
93	Electrically controllable router of interlayer excitons. *Science Advances*, **2020**, 6,	14.3	20
92	Spontaneous and superfluid chiral edge states in exciton-polariton condensates. *Physical Review B*, **2017**, 96,	3.3	19
91	Coupling between Exciton-Polariton Corner Modes through Edge States. *Physical Review Letters*, **2020**, 124, 063901	7.4	19
90	Bistability in microcavities with incoherent optical or electrical excitation. *Physical Review B*, **2014**, 90,	3.3	19
89	Spin selective filtering of polariton condensate flow. *Applied Physics Letters*, **2015**, 107, 011106	3.4	19
88	Ultralow Threshold Polariton Condensate in a Monolayer Semiconductor Microcavity at Room Temperature. *Nano Letters*, **2021**, 21, 3331-3339	11.5	19
87	Ballistic spin transport in exciton gases. *Physical Review B*, **2013**, 88,	3.3	18
86	Neuromorphic Computing in Ginzburg-Landau Polariton-Lattice Systems. *Physical Review Applied*, **2019**, 11,	4.3	17
85	Spontaneous Polariton Currents in Periodic Lateral Chains. *Physical Review Letters*, **2017**, 119, 067406	7.4	17
84	Quantum Neuromorphic Platform for Quantum State Preparation. *Physical Review Letters*, **2019**, 123, 260404	7.4	16
83	Motion of patterns in polariton quantum fluids with spin-orbit interaction. *Physical Review B*, **2014**, 89,	3.3	15
82	Operation speed of polariton condensate switches gated by excitons. *Physical Review B*, **2014**, 89,	3.3	15
81	Suppression of Zeeman splitting and polarization steps in localized exciton-polariton condensates. *Physical Review B*, **2008**, 77,	3.3	15
80	Optical switching of topological phase in a perovskite polariton lattice. *Science Advances*, **2021**, 7,	14.3	15
79	Exciton-polariton quantum gates based on continuous variables. *Physical Review B*, **2016**, 93,	3.3	14
78	Dynamical Blockade in a Single-Mode Bosonic System. *Physical Review Letters*, **2019**, 123, 013602	7.4	14

77	Polariton spin whirls. *Physical Review B*, **2015**, 92,	3.3	14
76	Multipartite polariton entanglement in semiconductor microcavities. *Physical Review A*, **2011**, 84,	2.6	14
75	Spin-orbit coupling and the topology of gases of spin-degenerate cold excitons in photoexcited GaAs-AlGaAs quantum wells. *Physical Review B*, **2012**, 86,	3.3	14
74	Nonreciprocal Transport of Exciton Polaritons in a Non-Hermitian Chain. *Physical Review Letters*, **2020**, 125, 123902	7.4	14
73	Incoherent excitation and switching of spin states in exciton-polariton condensates. *Physical Review B*, **2015**, 92,	3.3	13
72	Driven-dissipative spin chain model based on exciton-polariton condensates. *Physical Review B*, **2017**, 96,	3.3	12
71	Quantum exciton-polariton networks through inverse four-wave mixing. *Physical Review B*, **2018**, 97,	3.3	12
70	Interplay between superfluidity and magnetic self-trapping of exciton polaritons. *Physical Review B*, **2009**, 80,	3.3	12
69	Emergence of microfrequency comb via limit cycles in dissipatively coupled condensates. *Physical Review B*, **2020**, 101,	3.3	11
68	Realization of Hofstadter's butterfly and a one-way edge mode in a polaritonic system. *Physical Review B*, **2018**, 98,	3.3	11
67	Optical diode based on exciton-polaritons. *Applied Physics Letters*, **2013**, 103, 191110	3.4	11
66	Interplay between weak localization of exciton-polaritons and the optical spin Hall effect. *Physical Review B*, **2009**, 79,	3.3	11
65	Neuromorphic Binarized Polariton Networks. *Nano Letters*, **2021**, 21, 3715-3720	11.5	11
64	Multivalley engineering in semiconductor microcavities. *Scientific Reports*, **2017**, 7, 45243	4.9	10
63	Nonresonant spin selection methods and polarization control in exciton-polariton condensates. *Physical Review B*, **2019**, 99,	3.3	10
62	Parity bifurcations in trapped multistable phase locked exciton-polariton condensates. *Physical Review B*, **2018**, 97,	3.3	10
61	Magnetic field control of the optical spin Hall effect. *Physical Review B*, **2013**, 88,	3.3	10
60	Exciton-polariton oscillations in real space. *Physical Review B*, **2014**, 90,	3.3	10

59	Spontaneously coherent orbital coupling of counterrotating exciton polaritons in annular perovskite microcavities. *Light: Science and Applications*, **2021**, 10, 45	16.7	9
58	Nonlinear Parametric Scattering of Exciton Polaritons in Perovskite Microcavities. *Nano Letters*, **2021**, 21, 3120-3126	11.5	9
57	Probabilistic solving of NP-hard problems with bistable nonlinear optical networks. *Physical Review B*, **2019**, 99,	3.3	7
56	Perceptrons with Hebbian learning based on wave ensembles in spatially patterned potentials. *Physical Review Letters*, **2015**, 114, 118101	7.4	7
55	Floquet topological polaritons in semiconductor microcavities. *Physical Review B*, **2018**, 97,	3.3	7
54	Prototype of a bistable polariton field-effect transistor switch. *Scientific Reports*, **2017**, 7, 5114	4.9	7
53	Hybrid states of Tamm plasmons and exciton-polaritons. *Superlattices and Microstructures*, **2011**, 49, 229-232	2.8	7
52	All-optical switching based on interacting exciton polaritons in self-assembled perovskite microwires. *Science Advances*, **2021**, 7, eabj6627	14.3	7
51	Reconstructing Quantum States With Quantum Reservoir Networks. *IEEE Transactions on Neural Networks and Learning Systems*, **2021**, 32, 3148-3155	10.3	7
50	Interactive optomechanical coupling with nonlinear polaritonic systems. *Physical Review B*, **2017**, 95,	3.3	6
49	Hyperbolic Region in an Array of Quantum Wires in a Planar Cavity. *ACS Photonics*, **2017**, 4, 1165-1171	6.3	6
48	Quantum statistics of bosonic cascades. *New Journal of Physics*, **2016**, 18, 023041	2.9	6
47	Design for a Nanoscale Single-Photon Spin Splitter for Modes with Orbital Angular Momentum. *Physical Review Letters*, **2018**, 121, 053901	7.4	6
46	Electrical and optical switching in the bistable regime of an electrically injected polariton laser. *Physical Review B*, **2017**, 96,	3.3	6
45	Switching waves in multilevel incoherently driven polariton condensates. *Physical Review B*, **2015**, 92,	3.3	6
44	Vortices in spinor cold exciton condensates with spin-orbit interaction. *Physical Review B*, **2014**, 89,	3.3	6
43	Nonlinear effects in multi-photon polaritonics. *Optics Express*, **2013**, 21, 15183-94	3.3	6
42	Polarization of exciton-polariton condensates in lateral traps. *Physical Review B*, **2010**, 82,	3.3	6

41	Polarization phenomena in resonantly pumped disordered semiconductor microcavities. *Physical Review B*, **2009**, 80,	3.3	6
40	Direct measurement of a non-Hermitian topological invariant in a hybrid light-matter system. *Science Advances*, **2021**, 7, eabj8905	14.3	6
39	Bosonic lasers: The state of the art (Review Article). *Low Temperature Physics*, **2016**, 42, 323-329	0.7	6
38	Polarization-dependent light-matter coupling and highly indistinguishable resonant fluorescence photons from quantum dot-micropillar cavities with elliptical cross section. *Physical Review B*, **2019**, 100,	3.3	6
37	Single photons from a gain medium below threshold. *Physical Review B*, **2018**, 97,	3.3	5
36	Parity solitons in nonresonantly driven-dissipative condensate channels. *Physical Review B*, **2017**, 96,	3.3	5
35	Optically erasing disorder in semiconductor microcavities with dynamic nuclear polarization. *Physical Review Letters*, **2011**, 106, 146404	7.4	5
34	Creating and concentrating quantum resource states in noisy environments using a quantum neural network. *Neural Networks*, **2021**, 136, 141-151	9.1	5
33	Optically induced topological spin-valley Hall effect for exciton polaritons. *Physical Review B*, **2021**, 103,	3.3	5
32	An exciton-polariton bolometer for terahertz radiation detection. *Scientific Reports*, **2018**, 8, 10092	4.9	5
31	Quantum Neuromorphic Computing with Reservoir Computing Networks. *Advanced Quantum Technologies*, **2021**, 4, 2100053	4.3	5
30	Semiconductor quantum well irradiated by a two-mode electromagnetic field as a terahertz emitter. *Physical Review A*, **2018**, 97,	2.6	4
29	Optically induced transparency in bosonic cascade lasers. *Optics Letters*, **2018**, 43, 259-262	3	4
28	Artificial life in an exciton-polariton lattice. *New Journal of Physics*, **2020**, 22, 103062	2.9	4
27	Realising and compressing quantum circuits with quantum reservoir computing. *Communications Physics*, **2021**, 4,	5.4	4
26	Interaction-induced double-sided skin effect in an exciton-polariton system. *Physical Review B*, **2021**, 103,	3.3	4
25	Cellular automata in photonic cavity arrays. *Optics Express*, **2016**, 24, 24930-24937	3.3	4
24	One-Way Reflection-Free Exciton-Polariton Spin-Filtering Channel. *Physical Review Applied*, **2019**, 12,	4.3	4

23	Topological phase transition in an all-optical exciton-polariton lattice. *Optica*, **2021**, 8, 1084	8.6	4
22	Nonlinear polariton parametric emission in an atomically thin semiconductor based microcavity.. *Nature Nanotechnology*, **2022**,	28.7	4
21	Optical probing of the Coulomb interactions of an electrically pumped polariton condensate. *Applied Physics Letters*, **2017**, 110, 151103	3.4	3
20	Spontaneous spin bifurcations in a Bose-Einstein condensate of indirect excitons. *Superlattices and Microstructures*, **2017**, 108, 57-63	2.8	3
19	Universal Self-Correcting Computing with Disordered Exciton-Polariton Neural Networks. *Physical Review Applied*, **2020**, 13,	4.3	3
18	Kinetic Monte Carlo approach to nonequilibrium bosonic systems. *Physical Review B*, **2017**, 96,	3.3	3
17	Non-adiabatic population transfer in coupled bosonic systems. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2012**, 45, 245003	1.3	3
16	Energy-Efficient Neural Network Inference with Microcavity Exciton Polaritons. *Physical Review Applied*, **2021**, 16,	4.3	3
15	Bistability in bosonic terahertz lasers. *Journal of Physics Condensed Matter*, **2014**, 26, 085303	1.8	2
14	Optically erasing disorder in semiconductor microcavities using polariton□polariton interactions. *Physica Status Solidi (B): Basic Research*, **2012**, 249, 880-884	1.3	2
13	Nonreciprocal exciton-polariton ring lattices. *Physical Review B*, **2021**, 104,	3.3	2
12	Perovskite polariton parametric oscillator. *Advanced Photonics*, **2021**, 3,	8.1	2
11	Unidirectional flow of lossless exciton-polariton signals. *Journal of Optics (United Kingdom)*, **2018**, 20, 025503	1.7	1
10	Holographic arrays based on semiconductor microstructures. *Physical Review B*, **2012**, 86,	3.3	1
9	Room Temperature Light-Mediated Long-Range Coupling of Excitons in Perovskites. *Advanced Optical Materials*, **2021**, 9, 2001835	8.1	1
8	Superpolynomial quantum enhancement in polaritonic neuromorphic computing. *Physical Review B*, **2021**, 103,	3.3	1
7	On the possibility of a terahertz light emitting diode based on a dressed quantum well. *Scientific Reports*, **2019**, 9, 16320	4.9	1
6	All-to-All Intramodal Condensate Coupling by Multifrequency Excitation of Polaritons. *ACS Photonics*, **2019**, 6, 123-129	6.3	1

5	Terahertz cascades from nanoparticles. *Physical Review B*, **2018**, 97,	3.3	1
4	Giant Enhancement of Unconventional Photon Blockade in a Dimer Chain.. *Physical Review Letters*, **2021**, 127, 240402	7.4	1
3	Polariton condensates for classical and quantum computing. *Nature Reviews Physics*,	23.6	1
2	Tightly bound indirect exciton in single-layer hybrid organic-inorganic perovskite semiconductor. *Superlattices and Microstructures*, **2017**, 110, 108-113	2.8	
1	Polariton condensates: Electrical spin switching. *Nature Materials*, **2016**, 15, 1053-4	27	