

Mohammad Hafezi

List of Publications by Year in descending order

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Version: 2024-02-01

96
papers

10,114
citations

76326

40
h-index

58581

82
g-index

97
all docs

97
docs citations

97
times ranked

6018
citing authors

#	ARTICLE	IF	CITATIONS
1	Topological photonics. <i>Reviews of Modern Physics</i> , 2019, 91, .	45.6	2,190
2	Imaging topological edge states in silicon photonics. <i>Nature Photonics</i> , 2013, 7, 1001-1005.	31.4	1,264
3	Robust optical delay lines with topological protection. <i>Nature Physics</i> , 2011, 7, 907-912.	16.7	1,110
4	A topological quantum optics interface. <i>Science</i> , 2018, 359, 666-668.	12.6	518
5	Efficient All-Optical Switching Using Slow Light within a Hollow Fiber. <i>Physical Review Letters</i> , 2009, 102, 203902.	7.8	412
6	Photonic quadrupole topological phases. <i>Nature Photonics</i> , 2019, 13, 692-696.	31.4	373
7	Slowing and stopping light using an optomechanical crystal array. <i>New Journal of Physics</i> , 2011, 13, 023003.	2.9	247
8	Optomechanically induced non-reciprocity in microring resonators. <i>Optics Express</i> , 2012, 20, 7672.	3.4	226
9	Two-dimensionally confined topological edge states in photonic crystals. <i>New Journal of Physics</i> , 2016, 18, 113013.	2.9	222
10	Topologically Robust Transport of Photons in a Synthetic Gauge Field. <i>Physical Review Letters</i> , 2014, 113, 087403.	7.8	214
11	Fractional quantum Hall effect in optical lattices. <i>Physical Review A</i> , 2007, 76, .	2.5	212
12	A topological source of quantum light. <i>Nature</i> , 2018, 561, 502-506.	27.8	208
13	Measurement of topological invariants in a 2D photonic system. <i>Nature Photonics</i> , 2016, 10, 180-183.	31.4	137
14	Constrained Dynamics via the Zeno Effect in Quantum Simulation: Implementing Non-Abelian Lattice Gauge Theories with Cold Atoms. <i>Physical Review Letters</i> , 2014, 112, 120406.	7.8	136
15	Maximal violation of Bell inequalities using continuous-variable measurements. <i>Physical Review A</i> , 2003, 67, .	2.5	132
16	Measurement of many-body chaos using a quantum clock. <i>Physical Review A</i> , 2016, 94, .	2.5	120
17	Ultra-sensitive chip-based photonic temperature sensor using ring resonator structures. <i>Optics Express</i> , 2014, 22, 3098.	3.4	118
18	Anyonic interferometry and protected memories in atomic spin lattices. <i>Nature Physics</i> , 2008, 4, 482-488.	16.7	97

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19	Two-dimensional lattice gauge theories with superconducting quantum circuits. <i>Annals of Physics</i> , 2014, 351, 634-654.	2.8	93
20	Emergent equilibrium in many-body optical bistability. <i>Physical Review A</i> , 2017, 95, .	2.5	91
21	Atomic interface between microwave and optical photons. <i>Physical Review A</i> , 2012, 85, .	2.5	90
22	Cavity Quantum Eliashberg Enhancement of Superconductivity. <i>Physical Review Letters</i> , 2019, 122, 167002.	7.8	90
23	Measuring Topological Invariants in Photonic Systems. <i>Physical Review Letters</i> , 2014, 112, .	7.8	87
24	Induced Self-Stabilization in Fractional Quantum Hall States of Light. <i>Physical Review X</i> , 2014, 4, .	8.9	86
25	Chiral quantum optics using a topological resonator. <i>Physical Review B</i> , 2020, 101, .	3.2	84
26	Non-equilibrium fractional quantum Hall state of light. <i>New Journal of Physics</i> , 2013, 15, 063001.	2.9	82
27	Measurement Protocol for the Entanglement Spectrum of Cold Atoms. <i>Physical Review X</i> , 2016, 6, .	8.9	80
28	Towards analog quantum simulations of lattice gauge theories with trapped ions. <i>Physical Review Research</i> , 2020, 2, .	3.6	78
29	Strongly correlated electron-“photon systems. <i>Nature</i> , 2022, 606, 41-48.	27.8	66
30	Photonic Anomalous Quantum Hall Effect. <i>Physical Review Letters</i> , 2019, 123, 043201.	7.8	61
31	Machine learning the thermodynamic arrow of time. <i>Nature Physics</i> , 2021, 17, 105-113.	16.7	55
32	Many-body topological invariants from randomized measurements in synthetic quantum matter. <i>Science Advances</i> , 2020, 6, eaaz3666.	10.3	54
33	Chemical potential for light by parametric coupling. <i>Physical Review B</i> , 2015, 92, .	3.2	52
34	Thermal management and non-reciprocal control of phonon flow via optomechanics. <i>Nature Communications</i> , 2018, 9, 1207.	12.8	48
35	Topologically robust transport of entangled photons in a 2D photonic system. <i>Optics Express</i> , 2016, 24, 15631.	3.4	45
36	Collective phases of strongly interacting cavity photons. <i>Physical Review A</i> , 2016, 94, .	2.5	45

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37	Quantum transport of strongly interacting photons in a one-dimensional nonlinear waveguide. Physical Review A, 2012, 85, .	2.5	43
38	Synthetic Gauge Field for Two-Dimensional Time-Multiplexed Quantum Random Walks. Physical Review Letters, 2019, 123, 150503.	7.8	43
39	Fractional quantum Hall states of Rydberg polaritons. Physical Review A, 2015, 91, .	2.5	42
40	Phase spectroscopy of topological invariants in photonic crystals. Physical Review A, 2015, 91, .	2.5	41
41	Engineering three-body interaction and Pfaffian states in circuit QED systems. Physical Review B, 2014, 90, .	3.2	40
42	Topological frequency combs and nested temporal solitons. Nature Physics, 2021, 17, 1169-1176.	16.7	39
43	Topological Growing of Laughlin States in Synthetic Gauge Fields. Physical Review Letters, 2014, 113, 155301.	7.8	36
44	Many-Body Chern Number from Statistical Correlations of Randomized Measurements. Physical Review Letters, 2021, 126, 050501.	7.8	36
45	Entanglement Entropy Scaling Transition under Competing Monitoring Protocols. Physical Review Letters, 2021, 126, 123604.	7.8	36
46	Tunable quantum interference using a topological source of indistinguishable photon pairs. Nature Photonics, 2021, 15, 542-548.	31.4	33
47	Light-Matter Interactions in Synthetic Magnetic Fields: Landau-Photon Polaritons. Physical Review Letters, 2021, 126, 103603.	7.8	31
48	Temporal and spectral manipulations of correlated photons using a time lens. Physical Review A, 2017, 96, .	2.5	30
49	SYNTHETIC GAUGE FIELDS WITH PHOTONS. International Journal of Modern Physics B, 2014, 28, 1441002.	2.0	29
50	Two coupled nonlinear cavities in a driven-dissipative environment. Physical Review A, 2016, 94, .	2.5	28
51	Interference of Temporally Distinguishable Photons Using Frequency-Resolved Detection. Physical Review Letters, 2019, 123, 123603.	7.8	26
52	Characterization of topological states on a lattice with Chern number. Europhysics Letters, 2008, 81, 10005.	2.0	21
53	Optical Bistability at Low Light Level due to Collective Atomic Recoil. Physical Review Letters, 2008, 101, 063901.	7.8	21
54	Photonic quantum transport in a nonlinear optical fiber. Europhysics Letters, 2011, 94, 54006.	2.0	21

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55	Hardware-efficient fermionic simulation with a cavity QED system. Npj Quantum Information, 2018, 4, .	6.7	18
56	Engineering an effective three-spin Hamiltonian in trapped-ion systems for applications in quantum simulation. Quantum Science and Technology, 2022, 7, 034001.	5.8	18
57	Nonlinear Optics Quantum Computing with Circuit QED. Physical Review Letters, 2013, 110, 060503.	7.8	17
58	Optical Lattice with Torus Topology. Physical Review Letters, 2018, 121, 133002.	7.8	17
59	Extraction of the many-body Chern number from a single wave function. Physical Review B, 2021, 103, .	3.2	17
60	Thin-film superconducting resonator tunable to the ground-state hyperfine splitting of 87Rb. AIP Advances, 2011, 1, .	1.3	15
61	Quantum origami: Transversal gates for quantum computation and measurement of topological order. Physical Review Research, 2020, 2, .	3.6	15
62	Light-Induced Fractional Quantum Hall Phases in Graphene. Physical Review Letters, 2017, 119, 247403.	7.8	14
63	Light-induced topological superconductivity via Floquet interaction engineering. Physical Review Research, 2021, 3, .	3.6	14
64	Guiding and confining of light in a two-dimensional synthetic space using electric fields. Optica, 2020, 7, 506.	9.3	14
65	Topological physics with light. Physics Today, 2014, 67, 68-69.	0.3	13
66	Cavity Higgs polaritons. Physical Review Research, 2020, 2, .	3.6	12
67	Optical enhancement of superconductivity via targeted destruction of charge density waves. Physical Review B, 2020, 101, .	3.2	11
68	Optical control over bulk excitations in fractional quantum Hall systems. Physical Review B, 2018, 98, .	3.2	10
69	Optical imprinting of superlattices in two-dimensional materials. Physical Review Research, 2020, 2, .	3.6	10
70	Switching and Counting With Atomic Vapors in Photonic-Crystal Fibers. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 1747-1753.	2.9	9
71	Photon Pair Condensation by Engineered Dissipation. Physical Review Letters, 2019, 123, 063602.	7.8	9
72	High-order multipole radiation from quantum Hall states in Dirac materials. Physical Review B, 2017, 95, .	3.2	7

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73	Engineering quantum Hall phases in a synthetic bilayer graphene system. Physical Review B, 2020, 102, .	3.2	7
74	Efficient product formulas for commutators and applications to quantum simulation. Physical Review Research, 2022, 4, .	3.6	7
75	Robust and compact waveguides. Nature Nanotechnology, 2019, 14, 8-9.	31.5	6
76	Optical flux pump in the quantum Hall regime. Physical Review B, 2021, 103, .	3.2	6
77	Enhancement of superconductivity with external phonon squeezing. Physical Review B, 2021, 104, .	3.2	6
78	Broadband optomechanical non-reciprocity. Nature Photonics, 2018, 12, 60-61.	31.4	4
79	Optical excitations in compressible and incompressible two-dimensional electron liquids. Physical Review B, 2020, 101, .	3.2	4
80	Mode delocalization in disordered photonic Chern insulator. Physical Review B, 2021, 103, .	3.2	4
81	Slowing and stopping light with an optomechanical crystal array. , 2010, , .		3
82	Floquet vortex states induced by light carrying an orbital angular momentum. Physical Review B, 2022, 105, .	3.2	3
83	Two-dimensional excitons from twisted light and the fate of the photon's orbital angular momentum. Physical Review B, 2022, 105, .	3.2	3
84	Few photon switching with slow light in hollow fiber. , 2009, , .		1
85	Topological Edge States in Silicon Photonics. , 2014, , .		1
86	SWITCHING OF LIGHT WITH LIGHT USING COLD ATOMS INSIDE A HOLLOW OPTICAL FIBER. , 2010, , .		0
87	Round the bend with microwaves. Nature, 2015, 522, 292-293.	27.8	0
88	Towards non-classical topological physics in photonic structures. , 2016, , .		0
89	Topological Physics with Photons. Quantum Science and Technology, 2017, , 71-89.	2.6	0
90	Stability of fractional quantum Hall states in disordered photonic systems. New Journal of Physics, 2017, 19, 115004.	2.9	0

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91	Observation of edge states at telecom wavelengths in a nanoscale topological photonic crystal. , 2017, , .		0
92	Design for Dielectric Slab Photonic Crystals to Realize Topological Edge States. , 2016, , .		0
93	Temporal and Spectral Manipulations of Correlated Photons using a Time-Lens. , 2017, , .		0
94	Observation of edge states at telecom wavelengths in topological photonic crystal. , 2017, , .		0
95	Entangled photons in 2D topological photonic systems. , 2017, , .		0
96	Chiral coupling of a quantum emitter in a topological photonic resonator. , 2020, , .		0