

# 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	Floquet vortex states induced by light carrying an orbital angular momentum. <i>Physical Review B</i> , 2022, 105, .	3.2	3
2	Efficient product formulas for commutators and applications to quantum simulation. <i>Physical Review Research</i> , 2022, 4, .	3.6	7
3	Engineering an effective three-spin Hamiltonian in trapped-ion systems for applications in quantum simulation. <i>Quantum Science and Technology</i> , 2022, 7, 034001.	5.8	18
4	Two-dimensional excitons from twisted light and the fate of the photon's orbital angular momentum. <i>Physical Review B</i> , 2022, 105, .	3.2	3
5	Strongly correlated electron-photon systems. <i>Nature</i> , 2022, 606, 41-48.	27.8	66
6	Machine learning the thermodynamic arrow of time. <i>Nature Physics</i> , 2021, 17, 105-113.	16.7	55
7	Many-Body Chern Number from Statistical Correlations of Randomized Measurements. <i>Physical Review Letters</i> , 2021, 126, 050501.	7.8	36
8	Extraction of the many-body Chern number from a single wave function. <i>Physical Review B</i> , 2021, 103, .	3.2	17
9	Light-Matter Interactions in Synthetic Magnetic Fields: Landau-Photon Polaritons. <i>Physical Review Letters</i> , 2021, 126, 103603.	7.8	31
10	Entanglement Entropy Scaling Transition under Competing Monitoring Protocols. <i>Physical Review Letters</i> , 2021, 126, 123604.	7.8	36
11	Light-induced topological superconductivity via Floquet interaction engineering. <i>Physical Review Research</i> , 2021, 3, .	3.6	14
12	Tunable quantum interference using a topological source of indistinguishable photon pairs. <i>Nature Photonics</i> , 2021, 15, 542-548.	31.4	33
13	Optical flux pump in the quantum Hall regime. <i>Physical Review B</i> , 2021, 103, .	3.2	6
14	Mode delocalization in disordered photonic Chern insulator. <i>Physical Review B</i> , 2021, 103, .	3.2	4
15	Topological frequency combs and nested temporal solitons. <i>Nature Physics</i> , 2021, 17, 1169-1176.	16.7	39
16	Enhancement of superconductivity with external phonon squeezing. <i>Physical Review B</i> , 2021, 104, .	3.2	6
17	Engineering quantum Hall phases in a synthetic bilayer graphene system. <i>Physical Review B</i> , 2020, 102, .	3.2	7
18	Chiral quantum optics using a topological resonator. <i>Physical Review B</i> , 2020, 101, .	3.2	84

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19	Optical excitations in compressible and incompressible two-dimensional electron liquids. Physical Review B, 2020, 101, .	3.2	4
20	Optical enhancement of superconductivity via targeted destruction of charge density waves. Physical Review B, 2020, 101, .	3.2	11
21	Many-body topological invariants from randomized measurements in synthetic quantum matter. Science Advances, 2020, 6, eaaz3666.	10.3	54
22	Cavity Higgs polaritons. Physical Review Research, 2020, 2, .	3.6	12
23	Quantum origami: Transversal gates for quantum computation and measurement of topological order. Physical Review Research, 2020, 2, .	3.6	15
24	Towards analog quantum simulations of lattice gauge theories with trapped ions. Physical Review Research, 2020, 2, .	3.6	78
25	Optical imprinting of superlattices in two-dimensional materials. Physical Review Research, 2020, 2, .	3.6	10
26	Guiding and confining of light in a two-dimensional synthetic space using electric fields. Optica, 2020, 7, 506.	9.3	14
27	Chiral coupling of a quantum emitter in a topological photonic resonator. , 2020, , .		0
28	Photon Pair Condensation by Engineered Dissipation. Physical Review Letters, 2019, 123, 063602.	7.8	9
29	Photonic Anomalous Quantum Hall Effect. Physical Review Letters, 2019, 123, 043201.	7.8	61
30	Synthetic Gauge Field for Two-Dimensional Time-Multiplexed Quantum Random Walks. Physical Review Letters, 2019, 123, 150503.	7.8	43
31	Interference of Temporally Distinguishable Photons Using Frequency-Resolved Detection. Physical Review Letters, 2019, 123, 123603.	7.8	26
32	Photonic quadrupole topological phases. Nature Photonics, 2019, 13, 692-696.	31.4	373
33	Cavity Quantum Eliashberg Enhancement of Superconductivity. Physical Review Letters, 2019, 122, 167002.	7.8	90
34	Topological photonics. Reviews of Modern Physics, 2019, 91, .	45.6	2,190
35	Robust and compact waveguides. Nature Nanotechnology, 2019, 14, 8-9.	31.5	6
36	Broadband optomechanical non-reciprocity. Nature Photonics, 2018, 12, 60-61.	31.4	4

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37	A topological quantum optics interface. <i>Science</i> , 2018, 359, 666-668.	12.6	518
38	Hardware-efficient fermionic simulation with a cavity-QED system. <i>Npj Quantum Information</i> , 2018, 4, .	6.7	18
39	Optical Lattice with Torus Topology. <i>Physical Review Letters</i> , 2018, 121, 133002.	7.8	17
40	Optical control over bulk excitations in fractional quantum Hall systems. <i>Physical Review B</i> , 2018, 98, .	3.2	10
41	A topological source of quantum light. <i>Nature</i> , 2018, 561, 502-506.	27.8	208
42	Thermal management and non-reciprocal control of phonon flow via optomechanics. <i>Nature Communications</i> , 2018, 9, 1207.	12.8	48
43	Topological Physics with Photons. <i>Quantum Science and Technology</i> , 2017, , 71-89.	2.6	0
44	Temporal and spectral manipulations of correlated photons using a time lens. <i>Physical Review A</i> , 2017, 96, .	2.5	30
45	Emergent equilibrium in many-body optical bistability. <i>Physical Review A</i> , 2017, 95, .	2.5	91
46	High-order multipole radiation from quantum Hall states in Dirac materials. <i>Physical Review B</i> , 2017, 95, .	3.2	7
47	Light-Induced Fractional Quantum Hall Phases in Graphene. <i>Physical Review Letters</i> , 2017, 119, 247403.	7.8	14
48	Stability of fractional quantum Hall states in disordered photonic systems. <i>New Journal of Physics</i> , 2017, 19, 115004.	2.9	0
49	Observation of edge states at telecom wavelengths in a nanoscale topological photonic crystal. , 2017, , .		0
50	Temporal and Spectral Manipulations of Correlated Photons using a Time-Lens. , 2017, , .		0
51	Observation of edge states at telecom wavelengths in topological photonic crystal. , 2017, , .		0
52	Entangled photons in 2D topological photonic systems. , 2017, , .		0
53	Topologically robust transport of entangled photons in a 2D photonic system. <i>Optics Express</i> , 2016, 24, 15631.	3.4	45
54	Two coupled nonlinear cavities in a driven-dissipative environment. <i>Physical Review A</i> , 2016, 94, .	2.5	28

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55	Two-dimensionally confined topological edge states in photonic crystals. <i>New Journal of Physics</i> , 2016, 18, 113013.	2.9	222
56	Measurement of many-body chaos using a quantum clock. <i>Physical Review A</i> , 2016, 94, .	2.5	120
57	Collective phases of strongly interacting cavity photons. <i>Physical Review A</i> , 2016, 94, .	2.5	45
58	Towards non-classical topological physics in photonic structures. , 2016, , .		0
59	Measurement Protocol for the Entanglement Spectrum of Cold Atoms. <i>Physical Review X</i> , 2016, 6, .	8.9	80
60	Measurement of topological invariants in a 2D photonic system. <i>Nature Photonics</i> , 2016, 10, 180-183.	31.4	137
61	Design for Dielectric Slab Photonic Crystals to Realize Topological Edge States. , 2016, , .		0
62	Chemical potential for light by parametric coupling. <i>Physical Review B</i> , 2015, 92, .	3.2	52
63	Round the bend with microwaves. <i>Nature</i> , 2015, 522, 292-293.	27.8	0
64	Phase spectroscopy of topological invariants in photonic crystals. <i>Physical Review A</i> , 2015, 91, .	2.5	41
65	Fractional quantum Hall states of Rydberg polaritons. <i>Physical Review A</i> , 2015, 91, .	2.5	42
66	Two-dimensional lattice gauge theories with superconducting quantum circuits. <i>Annals of Physics</i> , 2014, 351, 634-654.	2.8	93
67	Topological Edge States in Silicon Photonics. , 2014, , .		1
68	Measuring Topological Invariants in Photonic Systems. <i>Physical Review Letters</i> , 2014, 112, .	7.8	87
69	Induced Self-Stabilization in Fractional Quantum Hall States of Light. <i>Physical Review X</i> , 2014, 4, .	8.9	86
70	Topological Growing of Laughlin States in Synthetic Gauge Fields. <i>Physical Review Letters</i> , 2014, 113, 155301.	7.8	36
71	SYNTHETIC GAUGE FIELDS WITH PHOTONS. <i>International Journal of Modern Physics B</i> , 2014, 28, 1441002.	2.0	29
72	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

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73	Ultra-sensitive chip-based photonic temperature sensor using ring resonator structures. Optics Express, 2014, 22, 3098.	3.4	118
74	Engineering three-body interaction and Pfaffian states in circuit QED systems. Physical Review B, 2014, 90, .	3.2	40
75	Topologically Robust Transport of Photons in a Synthetic Gauge Field. Physical Review Letters, 2014, 113, 087403.	7.8	214
76	Topological physics with light. Physics Today, 2014, 67, 68-69.	0.3	13
77	Imaging topological edge states in silicon photonics. Nature Photonics, 2013, 7, 1001-1005.	31.4	1,264
78	Nonlinear Optics Quantum Computing with Circuit QED. Physical Review Letters, 2013, 110, 060503.	7.8	17
79	Non-equilibrium fractional quantum Hall state of light. New Journal of Physics, 2013, 15, 063001.	2.9	82
80	Optomechanically induced non-reciprocity in microring resonators. Optics Express, 2012, 20, 7672.	3.4	226
81	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
82	Atomic interface between microwave and optical photons. Physical Review A, 2012, 85, .	2.5	90
83	Quantum transport of strongly interacting photons in a one-dimensional nonlinear waveguide. Physical Review A, 2012, 85, .	2.5	43
84	Slowing and stopping light using an optomechanical crystal array. New Journal of Physics, 2011, 13, 023003.	2.9	247
85	Robust optical delay lines with topological protection. Nature Physics, 2011, 7, 907-912.	16.7	1,110
86	Thin-film superconducting resonator tunable to the ground-state hyperfine splitting of 87Rb. AIP Advances, 2011, 1, .	1.3	15
87	Photonic quantum transport in a nonlinear optical fiber. Europhysics Letters, 2011, 94, 54006.	2.0	21
88	Slowing and stopping light with an optomechanical crystal array. , 2010, , .		3
89	SWITCHING OF LIGHT WITH LIGHT USING COLD ATOMS INSIDE A HOLLOW OPTICAL FIBER. , 2010, , .		0
90	Efficient All-Optical Switching Using Slow Light within a Hollow Fiber. Physical Review Letters, 2009, 102, 203902.	7.8	412

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91	Few photon switching with slow light in hollow fiber. , 2009, , .		1
92	Anyonic interferometry and protected memories in atomic spin lattices. Nature Physics, 2008, 4, 482-488.	16.7	97
93	Characterization of topological states on a lattice with Chern number. Europhysics Letters, 2008, 81, 10005.	2.0	21
94	Optical Bistability at Low Light Level due to Collective Atomic Recoil. Physical Review Letters, 2008, 101, 063901.	7.8	21
95	Fractional quantum Hall effect in optical lattices. Physical Review A, 2007, 76, .	2.5	212
96	Maximal violation of Bell inequalities using continuous-variable measurements. Physical Review A, 2003, 67, .	2.5	132