John D Joannopoulos

List of Publications by Year in descending order

98 papers	15,246 citations	47006 47 h-index	46799 89 g-index
103 all docs	103 docs citations	103 times ranked	11968 citing authors

#	Article	IF	Citations
1	Toward 3D-Printed Inverse-Designed Metaoptics. ACS Photonics, 2022, 9, 43-51.	6.6	23
2	Controlling two-photon emission from superluminal and accelerating index perturbations. Nature Physics, 2022, 18, 67-74.	16.7	13
3	A framework for scintillation in nanophotonics. Science, 2022, 375, eabm9293.	12.6	59
4	Analytical Criteria for Designing Multiresonance Filters in Scattering Systems, with Application to Microwave Metasurfaces. Physical Review Applied, 2022, 17, .	3.8	6
5	Control of quantum electrodynamical processes by shaping electron wavepackets. Nature Communications, 2021, 12, 1700.	12.8	34
6	Casimir Light in Dispersive Nanophotonics. Physical Review Letters, 2021, 127, 053603.	7.8	21
7	Quasi-normal mode theory of the scattering matrix, enforcing fundamental constraints for truncated expansions. Physical Review Research, 2021, 3, .	3.6	16
8	Three-dimensional non-Abelian generalizations of the Hofstadter model: Spin-orbit-coupled butterfly trios. Physical Review B, 2021, 104, .	3.2	2
9	Enabling Manufacturable Optical Broadband Angular-Range Selective Films. ACS Nano, 2021, 15, 19917-19923.	14.6	3
10	Non-Abelian generalizations of the Hofstadter model: spinâ€“orbit-coupled butterfly pairs. Light: Science and Applications, 2020, 9, 177.	16.6	15
11	Heuristic recurrent algorithms for photonic Ising machines. Nature Communications, 2020, 11, 249.	12.8	69
12	Plasmonics in argentene. Physical Review Materials, 2020, 4, .	2.4	15
13	Predictive and generative machine learning models for photonic crystals. Nanophotonics, 2020, 9, 4183-4192.	6.0	58
14	Observation of non-Abelian Aharonov-Bohm Effect with synthetic gauge fields. , 2020, , .		0
15	Towards integrated tunable all-silicon free-electron light sources. Nature Communications, 2019, 10, 3176.	12.8	55
16	Light emission based on nanophotonic vacuum forces. Nature Physics, 2019, 15, 1284-1289.	16.7	21
17	Synthesis and observation of non-Abelian gauge fields in real space. Science, 2019, 365, 1021-1025.	12.6	65
18	Controlling spins with surface magnon polaritons. Physical Review B, 2019, 100, .	3.2	19

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19	A general theoretical and experimental framework for nanoscale electromagnetism. Nature, 2019, 576, 248-252.	27.8	103
20	Observation of bulk Fermi arc and polarization half charge from paired exceptional points. Science, 2018, 359, 1009-1012.	12.6	438
21	Front-electrode design for efficient near-field ThermoPhotoVoltaics. , 2018, , .		0
22	Plasmonic meta-surfaces dispersionless both temporally and spatially. , 2018, , .		0
23	Nonperturbative Quantum Electrodynamics in the Cherenkov Effect. Physical Review X, 2018, 8, .	8.9	9
24	Nanophotonic particle simulation and inverse design using artificial neural networks. Science Advances, 2018, 4, eaar4206.	10.3	574
25	Controlling Cherenkov angles with resonance transition radiation. Nature Physics, 2018, 14, 816-821.	16.7	88
26	Superlight inverse Doppler effect. Nature Physics, 2018, 14, 1001-1005.	16.7	54
27	Maximal spontaneous photon emission and energy loss from free electrons. Nature Physics, 2018, 14, 894-899.	16.7	100
28	Control of semiconductor emitter frequency by increasing polariton momenta. Nature Photonics, 2018, 12, 423-429.	31.4	32
29	A high-efficiency regime for gas-phase terahertz lasers. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 6614-6619.	7.1	24
30	Splashing transients of 2D plasmons launched by swift electrons. Science Advances, 2017, 3, e1601192.	10.3	69
31	Low-Loss Plasmonic Dielectric Nanoresonators. Nano Letters, 2017, 17, 3238-3245.	9.1	113
32	Confined in-fiber solidification and structural control of silicon and siliconâ˜germanium microparticles. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7240-7245.	7.1	39
33	All-angle negative refraction of highly squeezed plasmon and phonon polaritons in grapheneâ€“boron nitride heterostructures. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6717-6721.	7.1	144
34	Constructing â€œDesigner Atomsâ€•via Resonant Graphene-Induced Lamb Shifts. ACS Photonics, 2017, 4, 3098-3105.	6.6	14
35	Thermally-drawn fibers with spatially-selective porous domains. Nature Communications, 2017, 8, 364.	12.8	34
36	Laser-Induced Linear-Field Particle Acceleration in Free Space. Scientific Reports, 2017, 7, 11159.	3.3	39

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37	Limits to the Optical Response of Graphene and Two-Dimensional Materials. Nano Letters, 2017, 17, 5408-5415.	9.1	40
38	Optoelectronic Fibers via Selective Amplification of Inâ€Fiber Capillary Instabilities. Advanced Materials, 2017, 29, 1603033.	21.0	52
39	Making two-photon processes dominate one-photon processes using mid-IR phonon polaritons. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13607-13612.	7.1	44
40	Narrowband Metamaterial Absorber for Terahertz Secure Labeling. Journal of Infrared, Millimeter, and Terahertz Waves, 2017, 38, 1120-1129.	2.2	15
41	Topological magnetoplasmon. Nature Communications, 2016, 7, 13486.	12.8	108
42	Formation mechanism of guided resonances and bound states in the continuum in photonic crystal slabs. Scientific Reports, 2016, 6, 31908.	3.3	98
43	Broadband angular selectivity of light at the nanoscale: Progress, applications, and outlook. Applied Physics Reviews, 2016, 3, 011103.	11.3	59
44	Direct imaging of isofrequency contours in photonic structures. Science Advances, 2016, 2, e1601591.	10.3	25
45	Efficient plasmonic emission by the quantum ÄŒerenkov effect from hot carriers in graphene. Nature Communications, 2016, 7, ncomms11880.	12.8	78
46	Shrinking light to allow forbidden transitions on the atomic scale. Science, 2016, 353, 263-269.	12.6	185
47	Controlling Directionality and Dimensionality of Radiation by Perturbing Separable Bound States in the Continuum. Scientific Reports, 2016, 6, 33394.	3.3	30
48	Probing topological protection using a designer surface plasmon structure. Nature Communications, 2016, 7, 11619.	12.8	210
49	Bound states in the continuum. Nature Reviews Materials, 2016, 1, .	48.7	1,774
50	Digital design of multimaterial photonic particles. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 6839-6844.	7.1	17
51	Optically Thin Metallic Films for High-Radiative-Efficiency Plasmonics. Nano Letters, 2016, 16, 4110-4117.	9.1	14
52	Topological states in photonic systems. Nature Physics, 2016, 12, 626-629.	16.7	271
53	Sputtered Tantalum Photonic Crystal Coatings for High-Temperature Energy Conversion Applications. IEEE Nanotechnology Magazine, 2016, 15, 303-309.	2.0	19
54	Invisible metallic mesh. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2568-2572.	7.1	24

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55	Substrate-Independent Light Confinement in Bioinspired All-Dielectric Surface Resonators. ACS Photonics, 2016, 3, 532-536.	6.6	9
56	Tailoring high-temperature radiation and the resurrection of the incandescent source. Nature Nanotechnology, 2016, 11, 320-324.	31.5	153
57	Symmetry-protected topological photonic crystal in three dimensions. Nature Physics, 2016, 12, 337-340.	16.7	245
58	Towards graphene plasmon-based free-electron infrared to X-ray sources. Nature Photonics, 2016, 10, 46-52.	31.4	112
59	Broadband surface-wave transformation cloak. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7635-7638.	7.1	58
60	Sputtered tantalum photonic crystal coatings for high-temperature energy conversion applications. , 2015, , .		1
61	Structural Colors from Fano Resonances. ACS Photonics, 2015, 2, 27-32.	6.6	114
62	Crystalline silicon core fibres from aluminium core preforms. Nature Communications, 2015, 6, 6248.	12.8	62
63	Experimental observation of Weyl points. Science, 2015, 349, 622-624.	12.6	833
64	Spawning rings of exceptional points out of Dirac cones. Nature, 2015, 525, 354-358.	27.8	610
65	Metamaterial broadband angular selectivity. Physical Review B, 2014, 90, .	3.2	45
66	An animal-to-human scaling law for blast-induced traumatic brain injury risk assessment. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15310-15315.	7.1	60
67	Transparent displays enabled by resonant nanoparticle scattering. Nature Communications, 2014, 5, 3152.	12.8	186
68	Topological photonics. Nature Photonics, 2014, 8, 821-829.	31.4	2,492
69	Metallic Photonic Crystal Absorberâ€Emitter for Efficient Spectral Control in Highâ€Temperature Solar Thermophotovoltaics. Advanced Energy Materials, 2014, 4, 1400334.	19.5	230
70	What is â€” and what is not â€” an optical isolator. Nature Photonics, 2013, 7, 579-582.	31.4	712
71	Artificial faraday rotation using active metamaterials. , 2013, , .		0
72	Weyl points and line nodes in gyroid photonic crystals. Nature Photonics, 2013, 7, 294-299.	31.4	560

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73	Bloch surface eigenstates within the radiation continuum. Light: Science and Applications, 2013, 2, e84-e84.	16.6	163
74	Fabrication and characterization of thermally drawn fiber capacitors. Applied Physics Letters, 2013, 102, .	3.3	18
75	Fabrication and characterization of fibers with built-in liquid crystal channels and electrodes for transverse incident-light modulation. Applied Physics Letters, 2012, 101, .	3.3	28
76	Recent developments in high-temperature photonic crystals for energy conversion. Energy and Environmental Science, 2012, 5, 8815.	30.8	132
77	Acoustics: Piezoelectric Fibers for Conformal Acoustics (Adv. Mater. 39/2012). Advanced Materials, 2012, 24, 5400-5400.	21.0	0
78	Microfluidic directional emission control of an azimuthally polarized radial fibre laser. Nature Photonics, 2012, 6, 229-233.	31.4	80
79	Near-field thermal radiation transfer controlled by plasmons in graphene. Physical Review B, 2012, 85, .	3.2	194
80	Multimaterial piezoelectric fibres — Fibers that can hear and sing. , 2011, , .		0
81	Structural anisotropy and orientation-induced Casimir repulsion in fluids. Physical Review A, 2011, 83, .	2.5	12
82	Ovonic Memory Switching in Multimaterial Fibers. Advanced Functional Materials, 2011, 21, 1095-1101.	14.9	26
83	Casimir forces in the time domain: Applications. Physical Review A, 2010, 81, .	2.5	42
84	Microstructure effects for Casimir forces in chiral metamaterials. Physical Review B, 2010, 82, .	3.2	29
85	Casimir forces in the time domain: Theory. Physical Review A, 2009, 80, .	2.5	60
86	Kilometer-Long Ordered Nanophotonic Devices by Preform-to-Fiber Fabrication. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1202-1213.	2.9	36
87	Integrated fibres for self-monitored opticalÂtransport. Nature Materials, 2005, 4, 820-825.	27.5	68
88	Negative Refraction and Subwavelength Imaging in Photonic Crystals. , 2005, , 269-312.		0
89	The Color of Shock Waves in Photonic Crystals. AIP Conference Proceedings, 2004, , .	0.4	1
90	First-principles Calculation of Electron Mobilities in Ultrathin SOI MOSFETs. Materials Research Society Symposia Proceedings, 2004, 829, 326.	0.1	0

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91	Guiding 1.5 Î¼m light in photonic crystals based on dielectric rods. Applied Physics Letters, 2004, 85, 6110-6112.	3.3	64
92	Negative effective permeability in polaritonic photonic crystals. Applied Physics Letters, 2004, 85, 543-545.	3.3	101
93	Structural and Mechanical Properties of Boron Nanotubes. Materials Research Society Symposia Proceedings, 2003, 791, 346.	0.1	0
94	Enhanced coupling to vertical radiation using a two-dimensional photonic crystal in a semiconductor light-emitting diode. Applied Physics Letters, 2001, 78, 563-565.	3.3	254
95	Self-assembly lights up. Nature, 2001, 414, 257-258.	27.8	158
96	Enhanced Emission from a Light-Emitting Diode Modified by a Photonic Crystal. Materials Research Society Symposia Proceedings, 2000, 637, E2.8.1.	0.1	0
97	A Dielectric Omnidirectional Reflector. , 1998, 282, 1679-1682.		1,148
98	Minding the gap. Nature, 1995, 375, 278-278.	27.8	2