

Oskar Jon Painter

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.

137
papers

17,524
citations

62
h-index

132
g-index

192
ext. papers

21,233
ext. citations

10
avg, IF

6.72
L-index

#	Paper	IF	Citations
137	Building a Fault-Tolerant Quantum Computer Using Concatenated Cat Codes. <i>PRX Quantum</i> , 2022 , 3,	6.1	6
136	Quantum Electrodynamics in a Topological Waveguide. <i>Physical Review X</i> , 2021 , 11,	9.1	21
135	Superconducting qubit to optical photon transduction. <i>Nature</i> , 2020 , 588, 599-603	50.4	68
134	Two-dimensional optomechanical crystal cavity with high quantum cooperativity. <i>Nature Communications</i> , 2020 , 11, 3373	17.4	25
133	Nano-acoustic resonator with ultralong phonon lifetime. <i>Science</i> , 2020 , 370, 840-843	33.3	53
132	Subradiant states of quantum bits coupled to a one-dimensional waveguide. <i>New Journal of Physics</i> , 2019 , 21, 025003	2.9	49
131	Cavity quantum electrodynamics with atom-like mirrors. <i>Nature</i> , 2019 , 569, 692-697	50.4	71
130	Telecom-Band Quantum Optics with Ytterbium Atoms and Silicon Nanophotonics. <i>Physical Review Applied</i> , 2019 , 11,	4.3	21
129	Quantum electromechanics of a hypersonic crystal. <i>Nature Nanotechnology</i> , 2019 , 14, 334-339	28.7	21
128	Snowflake phononic topological insulator at the nanoscale. <i>Physical Review B</i> , 2018 , 97,	3.3	77
127	Superconducting metamaterials for waveguide quantum electrodynamics. <i>Nature Communications</i> , 2018 , 9, 3706	17.4	51
126	Generalized non-reciprocity in an optomechanical circuit via synthetic magnetism and reservoir engineering. <i>Nature Physics</i> , 2017 , 13, 465-471	16.2	227
125	Pseudomagnetic fields for sound at the nanoscale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E3390-E3395	11.5	69
124	All transmon qubits on silicon-on-insulator for quantum device integration. <i>Applied Physics Letters</i> , 2017 , 111, 042603	3.4	14
123	Design of tunable GHz-frequency optomechanical crystal resonators. <i>Optics Express</i> , 2016 , 24, 11407-19	3.3	14
122	Optical transduction and routing of microwave phonons in cavity-optomechanical circuits. <i>Nature Photonics</i> , 2016 , 10, 489-496	33.9	112
121	Efficient microwave to optical photon conversion: an electro-optical realization. <i>Optica</i> , 2016 , 3, 597	8.6	124

120	Diamond optomechanical crystals. <i>Optica</i> , 2016 , 3, 1404	8.6	87
119	Design of a quasi-2D photonic crystal optomechanical cavity with tunable, large x2-coupling. <i>Optics Express</i> , 2016 , 24, 21308-28	3.3	24
118	Superconducting Cavity Electromechanics on a Silicon-on-Insulator Platform. <i>Physical Review Applied</i> , 2016 , 6,	4.3	14
117	Phonon counting and intensity interferometry of a nanomechanical resonator. <i>Nature</i> , 2015 , 520, 522-5	50.4	124
116	Strong opto-electro-mechanical coupling in a silicon photonic crystal cavity. <i>Optics Express</i> , 2015 , 23, 3196-208	3.3	40
115	Silicon-chip source of bright photon pairs. <i>Optics Express</i> , 2015 , 23, 20884-904	3.3	53
114	Optomechanical creation of magnetic fields for photons on a lattice. <i>Optica</i> , 2015 , 2, 635	8.6	95
113	Position-Squared Coupling in a Tunable Photonic Crystal Optomechanical Cavity. <i>Physical Review X</i> , 2015 , 5,	9.1	60
112	Nonlinear Radiation Pressure Dynamics in an Optomechanical Crystal. <i>Physical Review Letters</i> , 2015 , 115, 233601	7.4	42
111	Pulsed Excitation Dynamics of an Optomechanical Crystal Resonator near Its Quantum Ground State of Motion. <i>Physical Review X</i> , 2015 , 5,	9.1	67
110	Two-dimensional phononic-photonic band gap optomechanical crystal cavity. <i>Physical Review Letters</i> , 2014 , 112, 153603	7.4	154
109	Optomechanical Crystal Devices 2014 , 195-231		3
108	Silicon optomechanical crystal resonator at millikelvin temperatures. <i>Physical Review A</i> , 2014 , 90,	2.6	74
107	Nanowire photonic crystal waveguides for single-atom trapping and strong light-matter interactions. <i>Applied Physics Letters</i> , 2014 , 104, 111103	3.4	79
106	Squeezed light from a silicon micromechanical resonator. <i>Nature</i> , 2013 , 500, 185-9	50.4	372
105	Optical coupling to nanoscale optomechanical cavities for near quantum-limited motion transduction. <i>Optics Express</i> , 2013 , 21, 11227-36	3.3	37
104	Laser noise in cavity-optomechanical cooling and thermometry. <i>New Journal of Physics</i> , 2013 , 15, 035007	2.9	55
103	Highly efficient coupling from an optical fiber to a nanoscale silicon optomechanical cavity. <i>Applied Physics Letters</i> , 2013 , 103, 181104	3.4	55

102	Trapped atoms in one-dimensional photonic crystals 2013 ,		1
101	Coherent optical wavelength conversion via cavity optomechanics. <i>Nature Communications</i> , 2012 , 3, 1196-7	7.4	318
100	Quantum back-action in measurements of zero-point mechanical oscillations. <i>Physical Review A</i> , 2012 , 86,	2.6	43
99	A high-resolution microchip optomechanical accelerometer. <i>Nature Photonics</i> , 2012 , 6, 768-772	33.9	330
98	Optimized optomechanical crystal cavity with acoustic radiation shield. <i>Applied Physics Letters</i> , 2012 , 101, 081115	3.4	202
97	Enhanced quantum nonlinearities in a two-mode optomechanical system. <i>Physical Review Letters</i> , 2012 , 109, 063601	7.4	219
96	Ultra-low-loss optical delay line on a silicon chip. <i>Nature Communications</i> , 2012 , 3, 867	17.4	128
95	Chemically etched ultrahigh-Q wedge-resonator on a silicon chip. <i>Nature Photonics</i> , 2012 , 6, 369-373	33.9	386
94	Slot-mode-coupled optomechanical crystals. <i>Optics Express</i> , 2012 , 20, 24394-410	3.3	35
93	Enhancement of mechanical Q factors by optical trapping. <i>Physical Review Letters</i> , 2012 , 108, 214302	7.4	50
92	Observation of quantum motion of a nanomechanical resonator. <i>Physical Review Letters</i> , 2012 , 108, 033602	7.4	287
91	Quasi-two-dimensional optomechanical crystals with a complete phononic bandgap. <i>Optics Express</i> , 2011 , 19, 5658-69	3.3	58
90	On-chip two-octave supercontinuum generation by enhancing self-steepening of optical pulses. <i>Optics Express</i> , 2011 , 19, 11584-90	3.3	49
89	Laser cooling of a nanomechanical oscillator into its quantum ground state. <i>Nature</i> , 2011 , 478, 89-92	50.4	1500
88	Electromagnetically induced transparency and slow light with optomechanics. <i>Nature</i> , 2011 , 472, 69-73	50.4	985
87	Mechanical Trapping in a Quadratically Coupled Optomechanical Double Disk 2011 ,		1
86	Proposal for an optomechanical traveling wave phonon-photon translator. <i>New Journal of Physics</i> , 2011 , 13, 013017	2.9	220
85	Coherent mixing of mechanical excitations in nano-optomechanical structures. <i>Nature Photonics</i> , 2010 , 4, 236-242	33.9	193

84	Optomechanics in an ultrahigh-Q two-dimensional photonic crystal cavity. <i>Applied Physics Letters</i> , 2010 , 97, 181106	3-4	99
83	Design of plasmonic photonic crystal resonant cavities for polarization sensitive infrared photodetectors. <i>Optics Express</i> , 2010 , 18, 3672-86	3-3	37
82	Optomechanical zipper cavity lasers: theoretical analysis of tuning range and stability. <i>Optics Express</i> , 2010 , 18, 7872-85	3-3	18
81	Design of optomechanical cavities and waveguides on a simultaneous bandgap phononic-photonic crystal slab. <i>Optics Express</i> , 2010 , 18, 14926-43	3-3	139
80	Cavity opto-mechanics using an optically levitated nanosphere. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 1005-10	11.5	381
79	Electrostatically tunable optomechanical zipper cavity laser. <i>Applied Physics Letters</i> , 2010 , 97, 191112	3-4	42
78	Multispectral Quantum Dots-in-a-Well Infrared Detectors Using Plasmon Assisted Cavities. <i>IEEE Journal of Quantum Electronics</i> , 2010 , 46, 1051-1057	2	15
77	Sensitive Phonon Detection in a Spiderweb Optomechanical Resonator 2010 ,		1
76	Surface-plasmon mode hybridization in subwavelength microdisk lasers. <i>Applied Physics Letters</i> , 2009 , 95, 201114	3-4	47
75	High temperature cavity polaritons in epitaxial Er2O3 on silicon. <i>Applied Physics Letters</i> , 2009 , 94, 131103	3-4	7
74	A picogram- and nanometre-scale photonic-crystal optomechanical cavity. <i>Nature</i> , 2009 , 459, 550-5	50.4	478
73	Optomechanical crystals. <i>Nature</i> , 2009 , 462, 78-82	50.4	725
72	Static and dynamic wavelength routing via the gradient optical force. <i>Nature Photonics</i> , 2009 , 3, 478-483	33.9	126
71	Optical and mechanical design of a "zipper" photonic crystal optomechanical cavity. <i>Optics Express</i> , 2009 , 17, 3802-17	3-3	110
70	Coherent interference effects in a nano-assembled diamond NV center cavity-QED system. <i>Optics Express</i> , 2009 , 17, 8081-97	3-3	118
69	Characterization of radiation pressure and thermal effects in a nanoscale optomechanical cavity. <i>Optics Express</i> , 2009 , 17, 15726-35	3-3	20
68	Modeling dispersive coupling and losses of localized optical and mechanical modes in optomechanical crystals. <i>Optics Express</i> , 2009 , 17, 20078-98	3-3	63
67	High-Q double-disk microcavities for cavity optomechanics. <i>Optics Express</i> , 2009 , 17, 20911-9	3-3	62

66	A multispectral and polarization-selective surface-plasmon resonant midinfrared detector. <i>Applied Physics Letters</i> , 2009 , 95, 161101	3.4	135
65	Mechanical oscillation and cooling actuated by the optical gradient force. <i>Physical Review Letters</i> , 2009 , 103, 103601	7.4	129
64	Passive Modification of Free Carrier Lifetime in High-Q Silicon-on-Insulator Optics 2009 ,		2
63	Proof-of-principle of surface detection with air-guided quantum cascade lasers. <i>Optics Express</i> , 2008 , 16, 6387-96	3.3	5
62	A proposal for highly tunable optical parametric oscillation in silicon micro-resonators. <i>Optics Express</i> , 2008 , 16, 10596-610	3.3	39
61	Adiabatic self-tuning in a silicon microdisk optical resonator. <i>Optics Express</i> , 2008 , 16, 14801-11	3.3	15
60	First-principle derivation of gain in high-index-contrast waveguides. <i>Optics Express</i> , 2008 , 16, 16659-69	3.3	141
59	Growth, processing, and optical properties of epitaxial Er ₂ O ₃ on silicon. <i>Optics Express</i> , 2008 , 16, 19649-56	3.3	49
58	Investigations of a coherently driven semiconductor optical cavity QED system. <i>Physical Review A</i> , 2008 , 78,	2.6	17
57	Optomechanics of strongly-coupled stacked monolithic microdisks 2008 ,		1
56	Actuation of micro-optomechanical systems via cavity-enhanced optical dipole forces. <i>Nature Photonics</i> , 2007 , 1, 416-422	33.9	163
55	Linear and nonlinear optical spectroscopy of a strongly coupled microdisk-quantum dot system. <i>Nature</i> , 2007 , 450, 862-5	50.4	313
54	Optical fiber taper coupling and high-resolution wavelength tuning of microdisk resonators at cryogenic temperatures. <i>Applied Physics Letters</i> , 2007 , 90, 031114	3.4	51
53	Surface encapsulation for low-loss silicon photonics. <i>Applied Physics Letters</i> , 2007 , 91, 131117	3.4	16
52	Accurate measurement of scattering and absorption loss in microphotonic devices. <i>Optics Letters</i> , 2007 , 32, 2954-6	3	27
51	An optical fiber-taper probe for wafer-scale microphotonic device characterization. <i>Optics Express</i> , 2007 , 15, 4745-52	3.3	80
50	Design of mid-IR and THz quantum cascade laser cavities with complete TM photonic bandgap. <i>Optics Express</i> , 2007 , 15, 5948-65	3.3	52
49	Demonstration of air-guided quantum cascade lasers without top claddings. <i>Optics Express</i> , 2007 , 15, 14861-9	3.3	11

48	Nonlinear optical phenomena in silicon waveguides: modeling and applications. <i>Optics Express</i> , 2007 , 15, 16604-44	3.3	608
47	Mode coupling and cavity-quantum-dot interactions in a fiber-coupled microdisk cavity. <i>Physical Review A</i> , 2007 , 75,	2.6	95
46	Single quantum dot spectroscopy using a fiber taper waveguide near-field optic. <i>Applied Physics Letters</i> , 2007 , 91, 091102	3.4	21
45	Quantum dot photonic crystal detectors 2006 ,		1
44	Nanoscale quantum dot infrared sensors with photonic crystal cavity. <i>Applied Physics Letters</i> , 2006 , 88, 151104	3.4	66
43	Measuring the role of surface chemistry in silicon microphotronics. <i>Applied Physics Letters</i> , 2006 , 88, 131114	3.4	65
42	Integration of fiber-coupled high-Q SiNx microdisks with atom chips. <i>Applied Physics Letters</i> , 2006 , 89, 131108	3.4	94
41	Self-induced optical modulation of the transmission through a high-Q silicon microdisk resonator. <i>Optics Express</i> , 2006 , 14, 817-31	3.3	136
40	Cavity Q, mode volume, and lasing threshold in small diameter AlGaAs microdisks with embedded quantum dots. <i>Optics Express</i> , 2006 , 14, 1094-105	3.3	122
39	Nonlinear response of silicon photonic crystal microresonators excited via an integrated waveguide and fiber taper. <i>Optics Express</i> , 2005 , 13, 801-20	3.3	292
38	Beyond the Rayleigh scattering limit in high-Q silicon microdisks: theory and experiment. <i>Optics Express</i> , 2005 , 13, 1515-30	3.3	332
37	An optical-fiber-based probe for photonic crystal microcavities. <i>IEEE Journal on Selected Areas in Communications</i> , 2005 , 23, 1321-1329	14.2	10
36	Guest Editorial Nanotechnologies for Communications. <i>IEEE Journal on Selected Areas in Communications</i> , 2005 , 23, 1305-1307	14.2	
35	Photonic crystal microcavities for chip-based cavity QED. <i>Physica Status Solidi (B): Basic Research</i> , 2005 , 242, 1187-1191	1.3	2
34	Experimental demonstration of fiber-accessible metal nanoparticle plasmon waveguides for planar energy guiding and sensing. <i>Applied Physics Letters</i> , 2005 , 86, 071103	3.4	112
33	Optical loss and lasing characteristics of high-quality-factor AlGaAs microdisk resonators with embedded quantum dots. <i>Applied Physics Letters</i> , 2005 , 86, 151106	3.4	61
32	Photoluminescence measurements of quantum-dot-containing semiconductor microdisk resonators using optical fiber taper waveguides. <i>Physical Review B</i> , 2005 , 72,	3.3	19
31	Fabrication of high-quality-factor photonic crystal microcavities in InAsP/InGaAsP membranes. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004 , 22, 875		6

30	Rayleigh scattering, mode coupling, and optical loss in silicon microdisks. <i>Applied Physics Letters</i> , 2004 , 85, 3693-3695	3-4	104
29	Lasing mode pattern of a quantum cascade photonic crystal surface-emitting microcavity laser. <i>Applied Physics Letters</i> , 2004 , 84, 4164-4166	3-4	10
28	Probing the dispersive and spatial properties of photonic crystal waveguides via highly efficient coupling from fiber tapers. <i>Applied Physics Letters</i> , 2004 , 85, 4-6	3-4	48
27	Fabrication technologies for quantum cascade photonic-crystal microlasers. <i>Nanotechnology</i> , 2004 , 15, 675-681	3-4	8
26	Feasibility of detecting single atoms using photonic bandgap cavities. <i>Nanotechnology</i> , 2004 , 15, S556-S561	3-4	47
25	Optical-fiber-based measurement of an ultrasmall volume high-Q photonic crystal microcavity. <i>Physical Review B</i> , 2004 , 70,	3-3	71
24	Low-loss fiber accessible plasmon waveguide for planar energy guiding and sensing. <i>Applied Physics Letters</i> , 2004 , 84, 3990-3992	3-4	57
23	Fabrication-tolerant high quality factor photonic crystal microcavities. <i>Optics Express</i> , 2004 , 12, 1458-63	3-3	38
22	Efficient input and output fiber coupling to a photonic crystal waveguide. <i>Optics Letters</i> , 2004 , 29, 697-93		77
21	Experimental demonstration of evanescent coupling from optical fibre tapers to photonic crystal waveguides. <i>Electronics Letters</i> , 2003 , 39, 842	1-1	21
20	Design of photonic crystal waveguides for evanescent coupling to optical fiber tapers and integration with high-Q cavities. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2003 , 20, 2274	1-7	55
19	Fourier space design of high-Q cavities in standard and compressed hexagonal lattice photonic crystals. <i>Optics Express</i> , 2003 , 11, 579-93	3-3	45
18	Quantum cascade surface-emitting photonic crystal laser. <i>Science</i> , 2003 , 302, 1374-7	33-3	228
17	Experimental demonstration of a high quality factor photonic crystal microcavity. <i>Applied Physics Letters</i> , 2003 , 83, 1915-1917	3-4	135
16	Wannier-like equation for the resonant cavity modes of locally perturbed photonic crystals. <i>Physical Review B</i> , 2003 , 68,	3-3	19
15	Localized defect states in two-dimensional photonic crystal slab waveguides: A simple model based upon symmetry analysis. <i>Physical Review B</i> , 2003 , 68,	3-3	22
14	Polarization properties of dipolelike defect modes in photonic crystal nanocavities. <i>Optics Letters</i> , 2002 , 27, 339-41	3	28
13	Momentum space design of high-Q photonic crystal optical cavities. <i>Optics Express</i> , 2002 , 10, 670-84	3-3	248

12	Photonic crystals for confining, guiding, and emitting light. <i>IEEE Nanotechnology Magazine</i> , 2002 , 1, 4-11	2.6	44
11	Tailoring of the resonant mode properties of optical nanocavities in two-dimensional photonic crystal slab waveguides. <i>Journal of Optics</i> , 2001 , 3, S161-S170		23
10	Emission properties of a defect cavity in a two-dimensional photonic bandgap crystal slab. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2000 , 17, 629	1.7	31
9	Observation of critical coupling in a fiber taper to a silica-microsphere whispering-gallery mode system. <i>Physical Review Letters</i> , 2000 , 85, 74-7	7.4	623
8	Lithographic tuning of a two-dimensional photonic crystal laser array. <i>IEEE Photonics Technology Letters</i> , 2000 , 12, 1126-1128	2.2	50
7	Photonic bandgap disk laser. <i>Electronics Letters</i> , 1999 , 35, 569	1.1	24
6	Two-dimensional photonic band-Gap defect mode laser. <i>Science</i> , 1999 , 284, 1819-21	33.3	1859
5	Measurement of spontaneous emission from a two-dimensional photonic band gap defined microcavity at near-infrared wavelengths. <i>Applied Physics Letters</i> , 1999 , 74, 1522-1524	3.4	38
4	Finite-difference time-domain calculation of the spontaneous emission coupling factor in optical microcavities. <i>IEEE Journal of Quantum Electronics</i> , 1999 , 35, 1168-1175	2	71
3	Room temperature photonic crystal defect lasers at near-infrared wavelengths in InGaAsP. <i>Journal of Lightwave Technology</i> , 1999 , 17, 2082-2088	4	112
2	Modal reflectivity in finite-depth two-dimensional photonic-crystal microcavities. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1998 , 15, 1155	1.7	94
1	Photonic microstructures as laser mirrors. <i>Optical Engineering</i> , 1998 , 37, 1143	1.1	48