

Michael Gorodetsky

List of Publications by Year in descending order

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136
papers

19,522
citations

24978

57
h-index

45213

90
g-index

139
all docs

139
docs citations

139
times ranked

10312
citing authors

#	ARTICLE	IF	CITATIONS
1	Advanced LIGO. <i>Classical and Quantum Gravity</i> , 2015, 32, 074001.	1.5	1,929
2	Temporal solitons in optical microresonators. <i>Nature Photonics</i> , 2014, 8, 145-152.	15.6	1,430
3	Dissipative Kerr solitons in optical microresonators. <i>Science</i> , 2018, 361, .	6.0	1,069
4	LIGO: the Laser Interferometer Gravitational-Wave Observatory. <i>Reports on Progress in Physics</i> , 2009, 72, 076901.	8.1	971
5	Predictions for the rates of compact binary coalescences observable by ground-based gravitational-wave detectors. <i>Classical and Quantum Gravity</i> , 2010, 27, 173001.	1.5	956
6	Ultimate Q of optical microsphere resonators. <i>Optics Letters</i> , 1996, 21, 453.	1.7	934
7	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. <i>Nature Photonics</i> , 2013, 7, 613-619.	15.6	825
8	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2018, 21, 3.	8.2	808
9	Exploring the sensitivity of next generation gravitational wave detectors. <i>Classical and Quantum Gravity</i> , 2017, 34, 044001.	1.5	735
10	Quality-factor and nonlinear properties of optical whispering-gallery modes. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1989, 137, 393-397.	0.9	663
11	Photonic chip-based optical frequency comb using soliton Cherenkov radiation. <i>Science</i> , 2016, 351, 357-360.	6.0	613
12	Universal formation dynamics and noise of Kerr-frequency combs in microresonators. <i>Nature Photonics</i> , 2012, 6, 480-487.	15.6	521
13	Optical microsphere resonators: optimal coupling to high-Q whispering-gallery modes. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1999, 16, 147.	0.9	461
14	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. <i>Living Reviews in Relativity</i> , 2020, 23, 3.	8.2	447
15	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. <i>Living Reviews in Relativity</i> , 2016, 19, 1.	8.2	427
16	Rayleigh scattering in high-Q microspheres. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2000, 17, 1051.	0.9	424
17	Universal dynamics and deterministic switching of dissipative Kerr solitons in optical microresonators. <i>Nature Physics</i> , 2017, 13, 94-102.	6.5	331
18	An upper limit on the stochastic gravitational-wave background of cosmological origin. <i>Nature</i> , 2009, 460, 990-994.	13.7	303

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19	Octave Spanning Tunable Frequency Comb from a Microresonator. Physical Review Letters, 2011, 107, 063901.	2.9	289
20	Frequency comb assisted diode laser spectroscopy for measurement of microcavity dispersion. Nature Photonics, 2009, 3, 529-533.	15.6	231
21	Mode Spectrum and Temporal Soliton Formation in Optical Microresonators. Physical Review Letters, 2014, 113, 123901.	2.9	231
22	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. Classical and Quantum Gravity, 2016, 33, 134001.	1.5	225
23	Thermodynamical fluctuations and photo-thermal shot noise in gravitational wave antennae. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 264, 1-10.	0.9	221
24	High-Q optical whispering-gallery microresonators: precession approach for spherical mode analysis and emission patterns with prism couplers. Optics Communications, 1994, 113, 133-143.	1.0	203
25	Self-injection locking of a laser diode to a high-Q WGM microresonator. Optics Express, 2017, 25, 28167.	1.7	164
26	Narrow-line-width diode laser with a high-Q microsphere resonator. Optics Communications, 1998, 158, 305-312.	1.0	161
27	Fundamental thermal fluctuations in microspheres. Journal of the Optical Society of America B: Optical Physics, 2004, 21, 697.	0.9	161
28	Electrically pumped photonic integrated soliton microcomb. Nature Communications, 2019, 10, 680.	5.8	160
29	SEARCHES FOR GRAVITATIONAL WAVES FROM KNOWN PULSARS WITH SCIENCE RUN 5 LIGO DATA. Astrophysical Journal, 2010, 713, 671-685.	1.6	155
30	Frequency combs and platicons in optical microresonators with normal GVD. Optics Express, 2015, 23, 7713.	1.7	146
31	Narrow-linewidth lasing and soliton Kerr microcombs with ordinary laser diodes. Nature Photonics, 2018, 12, 694-698.	15.6	146
32	Breathing dissipative solitons in optical microresonators. Nature Communications, 2017, 8, 736.	5.8	139
33	Determination of the vacuum optomechanical coupling rate using frequency noise calibration. Optics Express, 2010, 18, 23236.	1.7	137
34	Measuring nanomechanical motion with an imprecision below the standard quantum limit. Physical Review A, 2010, 82, .	1.0	131
35	Search for gravitational waves from low mass binary coalescences in the first year of LIGO's S5 data. Physical Review D, 2009, 79, .	1.6	120
36	Geometrical theory of whispering-gallery modes. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 33-39.	1.9	118

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37	Thermo-refractive noise in gravitational wave antennae. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2000, 271, 303-307.	0.9	107
38	Search for gravitational waves from low mass compact binary coalescence in 186 days of LIGO's fifth science run. <i>Physical Review D</i> , 2009, 80, .	1.6	105
39	Nonstationary nonlinear effects in optical microspheres. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2005, 22, 459.	0.9	104
40	FIRST SEARCH FOR GRAVITATIONAL WAVES FROM THE YOUNGEST KNOWN NEUTRON STAR. <i>Astrophysical Journal</i> , 2010, 722, 1504-1513.	1.6	104
41	Microtorus: a high-finesse microcavity with whispering-gallery modes. <i>Optics Letters</i> , 2001, 26, 256.	1.7	102
42	Spatial multiplexing of soliton microcombs. <i>Nature Photonics</i> , 2018, 12, 699-705.	15.6	100
43	Dual-resonator speed meter for a free test mass. <i>Physical Review D</i> , 2000, 61, .	1.6	95
44	Optical bars in gravitational wave antennas. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1997, 232, 340-348.	0.9	84
45	Soliton dual frequency combs in crystalline microresonators. <i>Optics Letters</i> , 2017, 42, 514.	1.7	81
46	Search for gravitational-wave bursts in the first year of the fifth LIGO science run. <i>Physical Review D</i> , 2009, 80, .	1.6	79
47	Einstein@Home search for periodic gravitational waves in early S5 LIGO data. <i>Physical Review D</i> , 2009, 80, .	1.6	78
48	From the Lugiato-Lefever equation to microresonator-based soliton Kerr frequency combs. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2018, 376, 20180113.	1.6	76
49	Thermorefractive noise in silicon-nitride microresonators. <i>Physical Review A</i> , 2019, 99, .	1.0	74
50	Spectrum collapse, narrow linewidth, and Bogatov effect in diode lasers locked to high-Q optical microresonators. <i>Optics Express</i> , 2018, 26, 30509.	1.7	74
51	The basic physics of the binary black hole merger GW150914. <i>Annalen Der Physik</i> , 2017, 529, 1600209.	0.9	69
52	Noise in gravitational-wave detectors and other classical-force measurements is not influenced by test-mass quantization. <i>Physical Review D</i> , 2003, 67, .	1.6	62
53	SEARCH FOR GRAVITATIONAL-WAVE BURSTS ASSOCIATED WITH GAMMA-RAY BURSTS USING DATA FROM LIGO SCIENCE RUN 5 AND VIRGO SCIENCE RUN 1. <i>Astrophysical Journal</i> , 2010, 715, 1438-1452.	1.6	60
54	IMPLICATIONS FOR THE ORIGIN OF GRB 051103 FROM LIGO OBSERVATIONS. <i>Astrophysical Journal</i> , 2012, 755, 2.	1.6	60

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55	Mid-infrared ultra-high-Q resonators based on fluoride crystalline materials. Nature Communications, 2016, 7, 13383.	5.8	60
56	Billion Q-factor in silicon WGM resonators. Optica, 2018, 5, 1525.	4.8	59
57	Spectral Purification of Microwave Signals with Disciplined Dissipative Kerr Solitons. Physical Review Letters, 2019, 122, 013902.	2.9	58
58	Generation of platicons and frequency combs in optical microresonators with normal GVD by modulated pump. Europhysics Letters, 2015, 112, 54008.	0.7	57
59	Coupling and tunability of optical whispering-gallery modes: a basis for coordinate meter. Optics Communications, 1994, 107, 41-48.	1.0	56
60	Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B. Astrophysical Journal, 2017, 841, 89.	1.6	52
61	Harmonization of chaos into a soliton in Kerr frequency combs. Optics Express, 2016, 24, 27382.	1.7	48
62	First LIGO search for gravitational wave bursts from cosmic (super)strings. Physical Review D, 2009, 80, .	1.6	45
63	STACKED SEARCH FOR GRAVITATIONAL WAVES FROM THE 2006 SGR 1900+14 STORM. Astrophysical Journal, 2009, 701, L68-L74.	1.6	45
64	Thermal noises and noise compensation in high-reflection multilayer coating. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 6813-6822.	0.9	41
65	Dissipative Kerr solitons and Cherenkov radiation in optical microresonators with third-order dispersion. Physical Review A, 2017, 95, .	1.0	41
66	Analytical estimates of eigenfrequencies, dispersion, and field distribution in whispering gallery resonators. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 3056.	0.9	39
67	Search for gravitational wave ringdowns from perturbed black holes in LIGO S4 data. Physical Review D, 2009, 80, .	1.6	38
68	Raman-Kerr frequency combs in microresonators with normal dispersion. Optics Express, 2017, 25, 31148.	1.7	36
69	Search for high frequency gravitational-wave bursts in the first calendar year of LIGO's fifth science run. Physical Review D, 2009, 80, .	1.6	32
70	Dynamics of platicons due to third-order dispersion. European Physical Journal D, 2017, 71, 1.	0.6	32
71	Quantum limits and symphotonic states in free-mass gravitational-wave antennae. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 246, 485-497.	0.9	31
72	Phase noise measurement of external cavity diode lasers and implications for optomechanical sideband cooling of GHz mechanical modes. New Journal of Physics, 2013, 15, 015019.	1.2	23

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73	High-contrast Kerr frequency combs. <i>Optica</i> , 2017, 4, 434.	4.8	23
74	Thermal noise and coating optimization in multilayer dielectric mirrors. <i>Physical Review D</i> , 2011, 84, .	1.6	22
75	On the ultimate sensitivity in coordinate measurements. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1993, 179, 244-248.	0.9	21
76	Highly efficient coupling of crystalline microresonators to integrated photonic waveguides. <i>Optics Letters</i> , 2018, 43, 2106.	1.7	20
77	Eigenfrequencies and Qfactor in the geometrical theory of whispering-gallery modes. <i>Quantum Electronics</i> , 2007, 37, 167-172.	0.3	18
78	Two-dimensional nonlinear modes and frequency combs in bottle microresonators. <i>Optics Letters</i> , 2018, 43, 2680.	1.7	13
79	Accurate analytical estimates of eigenfrequencies and dispersion in whispering-gallery spheroidal resonators. <i>Proceedings of SPIE</i> , 2012, , .	0.8	12
80	Modeling the whispering gallery microresonator-based optical modulator. <i>Applied Optics</i> , 2015, 54, 10460.	2.1	12
81	Photonic Chip Based Optical Frequency Comb Using Soliton Induced Cherenkov Radiation. , 2015, , .		8
82	Optimisation of the prism coupling of optical whispering-gallery-mode microcavities. <i>Quantum Electronics</i> , 2017, 47, 743-747.	0.3	7
83	Nondemolition intracavity photon number measurement by deflection of molecules in an external inhomogeneous field. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 191, 208-210.	0.9	5
84	The effect of an absorbed layer on the resonant frequencies and Q-factors of spherical microresonators. <i>Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo)</i> Tj ETQq0 0 0 rgBT/Overlock 10 Tf 50		5
85	Universal Dynamics of Kerr-Frequency Comb Formation in Microresonators. , 2012, , .		5
86	Optical whispering-gallery microresonators. , 1994, 2097, 283.		4
87	Nonstationary nonlinear effects in optical microspheres. , 2004, 5333, 231.		4
88	Narrow linewidth diode laser self-injection locked to a high-Q microresonator. <i>AIP Conference Proceedings</i> , 2018, , .	0.3	4
89	<title>Ultimate Q of optical microsphere resonators</title>. , 1996, 2799, 389.		3
90	Soliton mode-locking in optical microresonators. , 2013, , .		3

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91	Spontaneous crystallization noise in mirrors of gravitational wave detectors. Physical Review D, 2015, 92, .	1.6	3
92	Electrically driven photonic integrated soliton microcomb. , 2019, , .		3
93	<title>Optical microsphere resonators: optimal coupling and the ultimate Q</title>. , 1998, 3267, 251.		2
94	<title>Thermorefractive noise in microspheres</title>. , 2001, 4270, 147.		2
95	Quantum bit detector. JETP Letters, 2004, 79, 441-444.	0.4	2
96	Atomic interferometry in high-Q toroidal microwave cavity. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 5246-5249.	0.9	2
97	Electro-optical interaction in whispering gallery mode resonators for radio-to-optical frequency modulators. Bulletin of the Russian Academy of Sciences: Physics, 2013, 77, 1432-1435.	0.1	2
98	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. , 2018, 21, 1.		2
99	Universal Dynamics and Controlled Switching of Dissipative Kerr Solitons in Optical Microresonators. , 2016, , .		2
100	The scheme of QND meter of microwave quadrature amplitude. Applied Physics B: Lasers and Optics, 1997, 64, 243-247.	1.1	1
101	The measurement of thermo-refractive noise in microspheres. , 2003, , .		1
102	Spheroidal microresonators for the optoelectronics. , 2005, 5948, 392.		1
103	Semi-analytical model for a slab one-dimensional photonic crystal. AIP Conference Proceedings, 2018, , .	0.3	1
104	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. , 2016, 19, 1.		1
105	Universal dynamics and deterministic switching of dissipative Kerr solitons in optical microresonators. , 2017, , .		1
106	Thermo-refractive noise in silicon nitride microresonators. , 2019, , .		1
107	Energy dissipation of mechanical oscillators induced by an electric field applied to the surface of an oscillating body. Technical Physics Letters, 1998, 24, 510-512.	0.2	0
108	Intracavity Rayleigh scattering in microspheres: limits imposed on quality factor and mode coupling. , 1999, 3611, 206.		0

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109	Geometric optics of whispering gallery modes. , 2006, , .		0
110	<title>Whispering gallery modes in axisymmetric resonators</title>. , 2008, , .		0
111	Optical Measurement of Nanomechanical Motion with an Imprecision at the Standard Quantum Limit. , 2010, , .		0
112	Measuring nanomechanical motion with an imprecision below that at the standard quantum limit. , 2011, , .		0
113	Spectral broadening of microresonator based frequency combs for self-referencing. , 2013, , .		0
114	Mode Structure and Temporal Solitons in Optical Microresonators. , 2014, , .		0
115	Photonic chip broadband frequency comb for coherent telecommunication. , 2015, , .		0
116	Photonic chip broadband frequency comb for coherent telecommunication. , 2015, , .		0
117	Photonic Chip Based Optical Frequency Comb Using Soliton Induced Cherenkov Radiation. , 2015, , .		0
118	Photonic Chip Based Optical Frequency Comb Using Soliton Induced Cherenkov Radiation. , 2015, , .		0
119	Kerr combs in microresonators: From chaos to solitons. , 2016, , .		0
120	Dissipative Kerr combs in microresonators: From chaos to solitons. , 2016, , .		0
121	Nonlinear properties of high-Q optical microresonators in normal dispersion range. EPJ Web of Conferences, 2017, 161, 02025.	0.1	0
122	Efficient coupling of ultra-high Q crystalline microresonators to integrated photonic waveguides. , 2018, , .		0
123	Theory of self-injection locking of a laser diode to a whispering gallery mode microresonator. , 2018, , .		0
124	Spatially-Multiplexed Solitons in Optical Microresonators. , 2018, , .		0
125	Generation of soliton combs with multi-frequency diode laser self-injection locked to a microresonator. , 2018, , .		0
126	Generation of frequency combs and dissipative solitons in integrated microresonators in self-injection locking regime. EPJ Web of Conferences, 2019, 220, 03001.	0.1	0

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127	Integrated Self-Injection Locked Soliton Microcomb Source. , 2019, , .		0
128	Broadband Frequency Combs on a Photonic Chip Using Soliton Induced Cherenkov Radiation. , 2015, , .		0
129	Mid-infrared ultra high Q factors in fluoride crystalline microresonators. , 2016, , .		0
130	Viscosity noise in mirrors of gravitational wave detectors. , 2016, , .		0
131	Kerr soliton combs in crystalline microresonator with a regular multi-frequency diode lasers. , 2018, , .		0
132	Electrically Driven Ultra-compact Photonic Integrated Soliton Microcomb. , 2019, , .		0
133	Multiplexing soliton-combs in optical microresonators. , 2019, , .		0
134	Spectrum collapse, narrow lines, and soliton combs with multi-frequency laser diodes locked to optical microresonators. , 2019, , .		0
135	Experimental observation of above billion quality factor in silicon crystalline optical whispering gallery mode resonators. , 2019, , .		0
136	Spectrum Collapse and Kerr Frequency Comb Generation with Multi-Frequency Laser Diodes Self-Injection Locked to High-Q Optical Microresonator. , 2019, , .		0