Ivan Favero

List of Publications by Year
in descending order

88 papers	3,875 citations	101543 36 h-index	123424 61 g-index
91 all docs	91 docs citations	91 times ranked	3304 citing authors

#	Article	IF	Citations
1	Optomechanics of deformable optical cavities. Nature Photonics, 2009, 3, 201-205.	31.4	333
2	Monolithic AlGaAs second-harmonic nanoantennas. Optics Express, 2016, 24, 15965.	3.4	208
3	Unconventional motional narrowing in the optical spectrum of a semiconductor quantum dot. Nature Physics, 2006, 2, 759-764.	16.7	190
4	Self-Induced Oscillations in an Optomechanical System Driven by Bolometric Backaction. Physical Review Letters, 2008, 101, 133903.	7.8	184
5	High Frequency GaAs Nano-Optomechanical Disk Resonator. Physical Review Letters, 2010, 105, 263903.	7.8	155
6	Single-Polariton Optomechanics. Physical Review Letters, 2014, 112, 013601.	7.8	123
7	Direct Bell States Generation on a III-V Semiconductor Chip at Room Temperature. Physical Review Letters, 2013, 110, 160502.	7.8	101
8	High-frequency nano-optomechanical disk resonators in liquids. Nature Nanotechnology, 2015, 10, 810-816.	31.5	101
9	Optical self cooling of a deformable Fabry-Perot cavity in the classical limit. Physical Review B, 2008, 78, .	3.2	99
10	Optomechanical detection of vibration modes of a single bacterium. Nature Nanotechnology, 2020, 15, 469-474.	31.5	90
11	Wavelength-sized GaAs optomechanical resonators with gigahertz frequency. Applied Physics Letters, 2011, 98, .	3.3	87
12	Optical cooling of a micromirror of wavelength size. Applied Physics Letters, 2007, 90, 104101.	3.3	84
13	High-resolution spectral characterization of two photon states via classical measurements. Laser and Photonics Reviews, 2014, 8, L76-L80.	8.7	81
14	Electrically Injected Photon-Pair Source at Room Temperature. Physical Review Letters, 2014, 112, 183901.	7.8	78
15	Surface-enhanced gallium arsenide photonic resonator with quality factor of 6â€‰Ã—â€‰10^6. Optica, 2017, 4, 218.	9.3	78
16	Photoelastic coupling in gallium arsenide optomechanical disk resonators. Optics Express, 2014, 22, 14072.	3.4	77
17	Light-Mediated Cascaded Locking of Multiple Nano-Optomechanical Oscillators. Physical Review Letters, 2017, 118, 063605.	7.8	74
18	Controlling second-harmonic generation at the nanoscale with monolithic AlGaAs-on-AlOx antennas. Nanotechnology, 2017, 28, 114005.	2.6	67

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19	Fluctuating nanomechanical system in a high finesse optical microcavity. Optics Express, 2009, 17, 12813.	3.4	64
20	Micropillar Resonators for Optomechanics in the Extremely High 19â€“95-GHz Frequency Range. Physical Review Letters, 2017, 118, 263901.	7.8	63
21	Ultralow loss single-mode silica tapers manufactured by a microheater. Applied Optics, 2010, 49, 2441.	2.1	62
22	Second-harmonic generation in AlGaAs microdisks in the telecom range. Optics Letters, 2014, 39, 3062.	3.3	60
23	Classical and quantum theory of photothermal cavity cooling of a mechanical oscillator. Comptes Rendus Physique, 2011, 12, 860-870.	0.9	58
24	Cavity-enhanced optical detection of carbon nanotube Brownian motion. Applied Physics Letters, 2013, 102, .	3.3	58
25	Zero-Order Second Harmonic Generation from AlGaAs-on-Insulator Metasurfaces. ACS Photonics, 2019, 6, 1226-1231.	6.6	58
26	Polarization properties of second-harmonic generation in AlGaAs optical nanoantennas. Optics Letters, 2017, 42, 559.	3.3	57
27	Optomechanical mass spectrometry. Nature Communications, 2020, 11, 3781.	12.8	56
28	Integrated AlGaAs source of highly indistinguishable and energy-time entangled photons. Optica, 2016, 3, 143.	9.3	49
29	Fully coupled hybrid cavity optomechanics: Quantum interferences and correlations. Physical Review A, 2017, 95, .	2.5	49
30	Tuning the second-harmonic generation in AlGaAs nanodimers via non-radiative state optimization [Invited]. Photonics Research, 2018, 6, B6.	7.0	49
31	Metalâ€“dielectric hybrid nanoantennas for efficient frequency conversion at the anapole mode. Beilstein Journal of Nanotechnology, 2018, 9, 2306-2314.	2.8	47
32	Optical instability and self-pulsing in silicon nitride whispering gallery resonators. Optics Express, 2012, 20, 29076.	3.4	45
33	Optomechanical terahertz detection with single meta-atom resonator. Nature Communications, 2017, 8, 1578.	12.8	44
34	Cavity cooling of a nanomechanical resonator by light scattering. New Journal of Physics, 2008, 10, 095006.	2.9	41
35	Scalable high-precision tuning of photonic resonators by resonant cavity-enhanced photoelectrochemical etching. Nature Communications, 2017, 8, 14267.	12.8	39
36	Nonlinear Goniometry by Second-Harmonic Generation in AlGaAs Nanoantennas. ACS Photonics, 2018, 5, 4386-4392.	6.6	37

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37	Doppler Optomechanics of a Photonic Crystal. Physical Review Letters, 2008, 100, 240801.	7.8	36
38	Near-infrared optical parametric oscillator in a III-V semiconductor waveguide. Applied Physics Letters, 2013, 103, .	3.3	35
39	Ultrahigh Q-frequency product for optomechanical disk resonators with a mechanical shield. Applied Physics Letters, 2013, 103, .	3.3	34
40	Critical optical coupling between a GaAs disk and a nanowaveguide suspended on the chip. Applied Physics Letters, 2011, 99, .	3.3	33
41	Origin of optical losses in gallium arsenide disk whispering gallery resonators. Optics Express, 2015, 23, 19656.	3.4	31
42	Optomechanical properties of GaAs/AlAs micropillar resonators operating in the 18 GHz range. Optics Express, 2017, 25, 24437.	3.4	31
43	Shaping the Nonlinear Emission Pattern of a Dielectric Nanoantenna by Integrated Holographic Gratings. Nano Letters, 2018, 18, 6750-6755.	9.1	30
44	Microscopic Nanomechanical Dissipation in Gallium Arsenide Resonators. Physical Review Letters, 2018, 120, 223601.	7.8	30
45	Optomechanical resonating probe for very high frequency sensing of atomic forces. Nanoscale, 2020, 12, 2939-2945.	5.6	28
46	Difference frequency generation in GaAs microdisks. Optics Letters, 2008, 33, 2026.	3.3	27
47	Parametric amplification in GaAs/AlOx waveguide. Applied Physics Letters, 2009, 94, 171110.	3.3	27
48	Nearly-degenerate three-wave mixing at 155 Î¼m in oxidized AlGaAs waveguides. Optics Express, 2011, 19, 22582.	3.4	25
49	Two-photon interference with a semiconductor integrated source at room temperature. Optics Express, 2010, 18, 9967.	3.4	23
50	Semiconductor microcavities for enhanced nonlinear optics interactions. Journal of the European Optical Society-Rapid Publications, 0, 3, .	1.9	21
51	High frequency optomechanical disk resonators in IIIâ€“V ternary semiconductors. Optics Express, 2017, 25, 24639.	3.4	20
52	Directionally induced quasi-phase matching in homogeneous AlGaAs waveguides. Optics Letters, 2017, 42, 4287.	3.3	20
53	Polarization- and diffraction-controlled second-harmonic generation from semiconductor metasurfaces. Journal of the Optical Society of America B: Optical Physics, 2019, 36, E55.	2.1	20
54	Large second-harmonic generation at 155â€‰Î¼min oxidized AlGaAs waveguides. Optics Letters, 2011, 36, 2955	3.3	19

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55	Improved optomechanical disk resonator sitting on a pedestal mechanical shield. New Journal of Physics, 2015, 17, 023016.	2.9	17
56	Force Sensing with an Optomechanical Self-Oscillator. Physical Review Applied, 2020, 14, .	3.8	17
57	GaAs micro-nanodisks probed by a looped fiber taper for optomechanics applications. Proceedings of SPIE, 2010, , .	0.8	16
58	Brillouin scattering in hybrid optophononic Bragg micropillar resonators at 300â€‰â€‰GHz. Optica, 2019, 6, 854.	9.3	15
59	AlGaAs microdisk cavities for second-harmonic generation. Optics Letters, 2013, 38, 3965.	3.3	14
60	Quantum communication between remote mechanical resonators. Physical Review A, 2017, 95, .	2.5	14
61	Photon pair sources in AlGaAs: from electrical injection to quantum state engineering. Journal of Modern Optics, 2015, 62, 1739-1745.	1.3	12
62	Very-high-frequency probes for atomic force microscopy with silicon optomechanics. Microsystems and Nanoengineering, 2022, 8, 32.	7.0	11
63	Damping of optomechanical disks resonators vibrating in air. Applied Physics Letters, 2012, 100, 242105.	3.3	10
64	Multimode Optomechanical Weighting of a Single Nanoparticle. Nano Letters, 2022, 22, 710-715.	9.1	10
65	Photonic Kernel Machine Learning for Ultrafast Spectral Analysis. Physical Review Applied, 2022, 17, .	3.8	9
66	Second-Harmonic Generation in Suspended AlGaAs Waveguides: A Comparative Study. Micromachines, 2020, 11, 229.	2.9	8
67	Electro-Optomechanical Modulation Instability in a Semiconductor Resonator. Physical Review Letters, 2021, 126, 243901.	7.8	8
68	Frequency doubling and parametric fluorescence in a four-port aluminum gallium arsenide photonic chip. Optics Letters, 2020, 45, 2878.	3.3	8
69	Mechanical Resonators in the Middle of an Optical Cavity. , 2014, , 83-119.		7
70	Nanomechanical resonators based on adiabatic periodicity-breaking in a superlattice. Applied Physics Letters, 2017, 111, 173107.	3.3	7
71	Optomechanical discrete-variable quantum teleportation scheme. Physical Review A, 2020, 101, .	2.5	7
72	Permanent Directional Heat Currents in Lattices of Optomechanical Resonators. Physical Review Letters, 2020, 124, 083601.	7.8	7

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73	Tuning of a nonlinear THz emitter. Optics Express, 2012, 20, 17678.	3.4	5
74	Scaling rules in optomechanical semiconductor micropillars. Physical Review A, 2018, 98, .	2.5	5
75	Optical cavity mode dynamics and coherent phonon generation in high- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Q</mml:mi></mml:math> micropillar resonators. Physical Review A, 2018, 98, .	2.5	5
76	The stress of light cools vibration. Nature Physics, 2012, 8, 180-181.	16.7	4
77	Gallium Arsenide Disks as Optomechanical Resonators. , 2014, , 149-156.		4
78	Nano-optomechanical disk resonators operating in liquids for sensing applications. , 2016, , .		4
79	Quantum Dot parametric source. Optics Communications, 2014, 327, 27-30.	2.1	3
80	Ultra sensitive optomechanical microdisk resonators with very large scale integration process. , 2018, , .		3
81	A multiphysics model for ultra-high frequency optomechanical resonators optically actuated and detected in the oscillating mode. APL Photonics, 2021, 6, 086111.	5.7	3
82	Real-Time Sensing with Multiplexed Optomechanical Resonators. Nano Letters, 2022, 22, 1866-1873.	9.1	3
83	Huangâ€“Rhys side-bands in the emission line of a single InAs quantum dot. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 21, 336-340.	2.7	2
84	Optomechanical Interactions. , 2020, , 105-128.		1
85	GaAs disks optomechanics. , 2011, , .		0
86	Optical Characterization of Nonlinear THz Emitters. , 2012, , .		0
87	GaAs nano-optomechanical systems. , 2012, , .		0
88	Non-linear Optomechanical Resonators based on Gallium Arsenide. , 2013, , .		0