

Xiankai Sun

List of Publications by Year in descending order

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116
papers

3,039
citations

172457

29
h-index

168389

53
g-index

116
all docs

116
docs citations

116
times ranked

3403
citing authors

#	ARTICLE	IF	CITATIONS
1	Acousto-optic modulation of photonic bound state in the continuum. <i>Light: Science and Applications</i> , 2020, 9, 1.	16.6	542
2	Aluminum nitride as a new material for chip-scale optomechanics and nonlinear optics. <i>New Journal of Physics</i> , 2012, 14, 095014.	2.9	207
3	Adiabaticity criterion and the shortest adiabatic mode transformer in a coupled-waveguide system. <i>Optics Letters</i> , 2009, 34, 280.	3.3	145
4	Photonic integrated circuits with bound states in the continuum. <i>Optica</i> , 2019, 6, 1342.	9.3	130
5	Genetic-algorithm-optimized wideband on-chip polarization rotator with an ultrasmall footprint. <i>Optics Letters</i> , 2017, 42, 3093.	3.3	113
6	Electrically pumped hybrid evanescent Si/InGaAsP lasers. <i>Optics Letters</i> , 2009, 34, 1345.	3.3	93
7	Temperature-dependent photoluminescence of nanocrystalline ZnO thin films grown on Si (100) substrates by the sol-gel process. <i>Applied Physics Letters</i> , 2005, 86, 131910.	3.3	91
8	Femtogram Doubly Clamped Nanomechanical Resonators Embedded in a High-Q Two-Dimensional Photonic Crystal Nanocavity. <i>Nano Letters</i> , 2012, 12, 2299-2305.	9.1	80
9	Topological Photonic Integrated Circuits Based on Valley Kink States. <i>Laser and Photonics Reviews</i> , 2019, 13, 1900087.	8.7	80
10	Genetically optimized on-chip wideband ultracompact reflectors and Fabry-Perot cavities. <i>Photonics Research</i> , 2017, 5, B15.	7.0	76
11	High-dimensional communication on etchless lithium niobate platform with photonic bound states in the continuum. <i>Nature Communications</i> , 2020, 11, 2602.	12.8	73
12	High-Q silicon optomechanical microdisk resonators at gigahertz frequencies. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	65
13	Aluminum nitride piezo-acousto-photonic crystal nanocavity with high quality factors. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	54
14	Integrated high frequency aluminum nitride optomechanical resonators. <i>Applied Physics Letters</i> , 2012, 100, 1711111.	3.3	53
15	Supermode Si/III-V hybrid lasers, optical amplifiers and modulators: A proposal and analysis. <i>Optics Express</i> , 2007, 15, 9147.	3.4	52
16	Heteroepitaxy of ZnO film on Si (111) substrate using a 3C-SiC buffer layer. <i>Thin Solid Films</i> , 2005, 478, 218-222.	1.8	48
17	Engineering supermode silicon/III-V hybrid waveguides for laser oscillation. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2008, 25, 923.	2.1	45
18	Ultrarrow-band metagrating absorbers for sensing and modulation. <i>Optics Express</i> , 2018, 26, 28197.	3.4	45

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19	Hybrid 2D-Material Photonics with Bound States in the Continuum. <i>Advanced Optical Materials</i> , 2019, 7, 1901306.	7.3	43
20	Inverse-designed low-loss and wideband polarization-insensitive silicon waveguide crossing. <i>Optics Letters</i> , 2019, 44, 77.	3.3	43
21	Fully suspended slot waveguides for high refractive index sensitivity. <i>Optics Letters</i> , 2017, 42, 1245.	3.3	42
22	GHz optomechanical resonators with high mechanical Q factor in air. <i>Optics Express</i> , 2011, 19, 22316.	3.4	41
23	Cavity piezooptomechanics: Piezoelectrically excited, optically transduced optomechanical resonators. <i>Applied Physics Letters</i> , 2013, 102, 021110.	3.3	40
24	Second-Harmonic Generation in Etchless Lithium Niobate Nanophotonic Waveguides with Bound States in the Continuum. <i>Laser and Photonics Reviews</i> , 2022, 16, .	8.7	35
25	Hyperuniform Disordered Network Polarizers. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2016, 22, 288-294.	2.9	34
26	Cavity-enhanced thermo-optic bistability and hysteresis in a graphene-on-Si ₃ N ₄ ring resonator. <i>Optics Letters</i> , 2017, 42, 1950.	3.3	34
27	Fully suspended slot waveguide platform. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	33
28	Tailorable dual-wavelength-band coupling in a transverse-electric-mode focusing subwavelength grating coupler. <i>Optics Letters</i> , 2018, 43, 2985.	3.3	33
29	High-speed infrared two-dimensional platinum diselenide photodetectors. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	33
30	Observation of chiral edge states in gapped nanomechanical graphene. <i>Science Advances</i> , 2021, 7, .	10.3	33
31	Bound-States-in-Continuum Hybrid Integration of 2D Platinum Diselenide on Silicon Nitride for High-Speed Photodetectors. <i>ACS Photonics</i> , 2020, 7, 2643-2649.	6.6	32
32	A superhigh-frequency optoelectromechanical system based on a slotted photonic crystal cavity. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	28
33	Gigahertz Acousto-Optic Modulation and Frequency Shifting on Etchless Lithium Niobate Integrated Platform. <i>ACS Photonics</i> , 2021, 8, 798-803.	6.6	28
34	Nonlinear optical effects of ultrahigh-Q silicon photonic nanocavities immersed in superfluid helium. <i>Scientific Reports</i> , 2013, 3, 1436.	3.3	26
35	Experimental Demonstration of Dual-Band Nano-Electromechanical Valley-Hall Topological Metamaterials. <i>Advanced Materials</i> , 2021, 33, e2006521.	21.0	26
36	Nanomechanical topological insulators with an auxiliary orbital degree of freedom. <i>Nature Nanotechnology</i> , 2021, 16, 576-583.	31.5	26

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37	Ultralow-loss Etchless Lithium Niobate Integrated Photonics at Near-Visible Wavelengths. <i>Advanced Optical Materials</i> , 2021, 9, 2100060.	7.3	23
38	Surface-emitting circular DFB, disk- and ring- Bragg resonator lasers with chirped gratings: a unified theory and comparative study. <i>Optics Express</i> , 2008, 16, 9155.	3.4	22
39	Surface-emitting circular DFB, disk-, and ring-Bragg resonator lasers with chirped gratings II: nonuniform pumping and far-field patterns. <i>Optics Express</i> , 2009, 17, 1.	3.4	22
40	Compact High Resolution Speckle Spectrometer by Using Linear Coherent Integrated Network on Silicon Nitride Platform at 776 nm. <i>Laser and Photonics Reviews</i> , 2021, 15, 2100039.	8.7	22
41	Terahertz topological photonic waveguide switch for on-chip communication. <i>Photonics Research</i> , 2022, 10, 1090.	7.0	21
42	Parity-time-symmetric circular Bragg lasers: a proposal and analysis. <i>Scientific Reports</i> , 2016, 6, 37688.	3.3	20
43	Modal properties and modal control in vertically emitting annular Bragg lasers. <i>Optics Express</i> , 2007, 15, 17323.	3.4	17
44	Optimal Design and Reduced Threshold in Vertically Emitting Circular Bragg Disk Resonator Lasers. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2007, 13, 359-366.	2.9	17
45	Subwavelength Engineering in Silicon Photonic Devices. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2019, 25, 1-13.	2.9	17
46	Room temperature continuous wave operation of single-mode, edge-emitting photonic crystal Bragg lasers. <i>Optics Express</i> , 2008, 16, 502.	3.4	16
47	Femtogram dispersive L3-nanobeam optomechanical cavities: design and experimental comparison. <i>Optics Express</i> , 2012, 20, 26486.	3.4	16
48	Giant enhancement of stimulated Brillouin scattering with engineered photonic crystal waveguides. <i>Optics Express</i> , 2018, 26, 1255.	3.4	16
49	Advanced Plasma Processing: Etching, Deposition, and Wafer Bonding Techniques for Semiconductor Applications. , 0, , .		15
50	Ultra-Broadband Hyperuniform Disordered Silicon Photonic Polarizers. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2020, 26, 1-9.	2.9	13
51	A $116\frac{1}{4}$ m-radius disk cavity in a sunflower-type circular photonic crystal with ultrahigh quality factor. <i>Optics Letters</i> , 2012, 37, 3195.	3.3	12
52	Hybrid graphene/silicon integrated optical isolators with photonic spin-orbit interaction. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	12
53	Hyperuniform disordered photonic bandgap polarizers. <i>Journal of Applied Physics</i> , 2019, 126, .	2.5	12
54	Photonic welding points for arbitrary on-chip optical interconnects. <i>Nanophotonics</i> , 2018, 7, 1679-1686.	6.0	11

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55	Monolithically integrated, ultrahigh-frequency cavity nano-optoelectromechanical system with on-chip germanium waveguide photodetector. <i>Optics Letters</i> , 2014, 39, 2514.	3.3	10
56	Ultra-thin curved visible microdisk lasers with three-dimensional whispering gallery modes. <i>Nanophotonics</i> , 2020, 9, 2997-3002.	6.0	10
57	Circular Bragg lasers with radial PT symmetry: Design and analysis with a coupled-mode approach. <i>Photonics Research</i> , 2018, 6, A38.	7.0	9
58	Inverse-Designed Photonic Jumpers With Ultracompact Size and Ultralow Loss. <i>Journal of Lightwave Technology</i> , 2020, 38, 6623-6628.	4.6	9
59	Broadband meta-converters for multiple Laguerre-Gaussian modes. <i>Photonics Research</i> , 2021, 9, 1689.	7.0	9
60	Demonstration of n-Ga ₂ O ₃ /p-GaN Diodes by Wet-Etching Lift-Off and Transfer-Print Technique. <i>IEEE Electron Device Letters</i> , 2021, 42, 509-512.	3.9	8
61	Surface-emitting circular DFB, disk-, and ring-Bragg resonator lasers with chirped gratings III: gain saturation effects and above-threshold analysis. <i>Optics Express</i> , 2009, 17, 10119.	3.4	7
62	Parity-time-symmetric mechanical systems by the cavity optomechanical effect. <i>Optics Letters</i> , 2018, 43, 4088.	3.3	7
63	Spatial modal control of two-dimensional photonic crystal Bragg lasers. <i>Optics Letters</i> , 2007, 32, 2273.	3.3	6
64	Optically Controlled Topologically Protected Acoustic Wave Amplification. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2020, 26, 1-10.	2.9	6
65	Ultraviolet optomechanical crystal cavities with ultrasmall modal mass and high optomechanical coupling rate. <i>Scientific Reports</i> , 2016, 6, 37134.	3.3	5
66	Experimental investigation of the angular symmetry of optical force in a solid dielectric. <i>Optica</i> , 2021, 8, 1435.	9.3	5
67	Continuous-wave operation of electrically pumped, single-mode, edge-emitting photonic crystal Bragg lasers. <i>Applied Physics Letters</i> , 2007, 90, 261116.	3.3	4
68	Carrier-mediated cavity optomechanics in a semiconductor laser. <i>Physical Review A</i> , 2019, 99, .	2.5	4
69	High-dimensional communication on etchless lithium niobate platform with photonic bound states in the continuum. , 2020, , .		4
70	Giant Enhancement of Rotation Sensing with $\langle \mathbf{T} \rangle$ -Symmetric Circular Bragg Lasers. <i>Physical Review Applied</i> , 2020, 13, .	3.8	3
71	Fabrication-Tolerant and Low-Loss Hybrid Plasmonic Slot Waveguide Mode Converter. <i>Journal of Lightwave Technology</i> , 2021, 39, 2106-2112.	4.6	3
72	Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths. <i>Nanophotonics</i> , 2021, 10, 4323-4329.	6.0	3

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73	Fully suspended mid-infrared racetrack resonator with subwavelength grating cladding. , 2017, , .		2
74	How Short Can an Adiabatic Mode Transformer Be in a Coupled Waveguide System?. , 2009, , .		2
75	A unified theory for surface emitting chirped circular grating lasers. Proceedings of SPIE, 2009, , .	0.8	2
76	Optimal design of vertically emitting circular Bragg disk resonator lasers. , 2008, , .		1
77	Advanced silicon processing for active planar photonic devices. Journal of Vacuum Science & Technology B, 2009, 27, 3180.	1.3	1
78	Radial Bragg Resonators. Springer Series in Optical Sciences, 2010, , 361-391.	0.7	1
79	Wavelength-sized Optomechanical Disk Resonator Embedded in a Sunflower Circular Photonic Crystal. , 2012, , .		1
80	Nonmetallic Broadband Visible-Light Absorbers With Polarization and Incident Angle Insensitivity. IEEE Photonics Journal, 2020, 12, 1-7.	2.0	1
81	Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths. , 2021, , .		1
82	Electrically Pumped Supermode Si/InGaAsP Hybrid Lasers. , 2010, , .		1
83	Wavelength-sized Optomechanical Disk Resonator Embedded in a Sunflower Circular Photonic Crystal. , 2012, , .		1
84	Fully suspended nanophotonic waveguide resonators with high quality factor and tailorable operational bandwidth. , 2017, , .		1
85	Ultrannarrow-band metagrating absorbers for sensing and modulation. , 2019, , .		1
86	Acousto-optic modulation of photonic bound state in the continuum. , 2020, , .		1
87	Photonic integrated circuits with bound states in the continuum. , 2020, , .		1
88	Graphene-assisted electro-optomechanical integration on a silicon-on-insulator platform. Optics Express, 2020, 28, 14386.	3.4	1
89	Photonic integrated circuits with bound states in the continuum: erratum. Optica, 2022, 9, 683.	9.3	1
90	Hofstadter butterfly and topological edge states in a quasiperiodic photonic crystal cavity array. Optics Express, 2022, 30, 26620.	3.4	1

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91	Engineering surface-emitting annular Bragg lasers for single-mode, high-efficiency, high-power applications. , 2008, , .		0
92	A comparative study of modal properties of surface-emitting circular bragg micro-lasers. , 2009, , .		0
93	Supermode control in integrated hybrid Si/III–V optoelectronic circuits for modal gain enhancement. , 2009, , .		0
94	GHz aluminum nitride optomechanical wheel resonators. , 2012, , .		0
95	GHz Optomechanical Wheel and Disk Resonators with High Mechanical Q Factors in Air. , 2012, , .		0
96	Aluminum nitride piezo-optomechanical nanobeam cavity. , 2013, , .		0
97	Spin-orbit interaction of light in photonic nanowaveguides: A proposal of graphene-based optical isolators. , 2016, , .		0
98	Phononic integrated circuitry with an etchless fabrication process. , 2021, , .		0
99	Designing Large-Area, High-Efficiency, Single-Defect-Mode Vertically-Emitting Annular Bragg Lasers. , 2008, , .		0
100	Room temperature continuous wave operation of single-mode, edge-emitting photonic crystal Bragg lasers. , 2008, , .		0
101	Above-Threshold Analysis of Large-Area, High-Power, Vertically-Emitting Circular Bragg Lasers. , 2009, , .		0
102	Hybrid Electrically Pumped Evanescent Si/InGaAsP Lasers. , 2009, , .		0
103	Dispersive coupling and optimization of femtogram L3-nanobeam optomechanical cavities. , 2012, , .		0
104	Nano-optomechanical circuits on silicon substrates. , 2012, , .		0
105	Femtogram Doubly-Clamped Nanomechanical Resonator Embedded in a High-Q Two-Dimensional Photonic Crystal Nanocavity. , 2012, , .		0
106	Nonlinear optical effects of ultrahigh-Q wavelength-sized silicon disk cavities immersed in superfluid helium. , 2013, , .		0
107	Genetic-algorithm-optimized wideband on-chip polarization rotator with an ultrasmall footprint. , 2018, , .		0
108	Recent progress in nano-optomechanical devices at microwave frequencies. , 2018, , .		0

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109	Parityâ€time-symmetric mechanical array with the cavity optomechanical effect. , 2019, , .		0
110	Parityâ€time-symmetric circular Bragg lasers: enhanced modal discrimination between azimuthal modes. , 2019, , .		0
111	Photonic Integrated Circuits with Bound States in the Continuum: Principle and Applications. , 2020, , .		0
112	Topologically protected acoustic wave amplification in an optomechanical array. , 2020, , .		0
113	Hybrid two-dimensional-material photonics with bound states in the continuum. , 2020, , .		0
114	Graphene-silicon nitride photodetector with bound state in the continuum. , 2020, , .		0
115	Inverse-Designed Optical Devices and Modules for High-Density Photonic Integration. , 2021, , .		0
116	Anisotropic Dirac cone and slow edge states in a photonic Floquet lattice. Physical Review B, 2022, 105, .	3.2	0