Xiankai Sun

List of Publications by Year
in descending order

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116 papers	3,039 citations	172386 29 h-index	168321 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. Light: Science and Applications, 2020, 9, 1.	7.7	542
2	Aluminum nitride as a new material for chip-scale optomechanics and nonlinear optics. New Journal of Physics, 2012, 14, 095014.	1.2	207
3	Adiabaticity criterion and the shortest adiabatic mode transformer in a coupled-waveguide system. Optics Letters, 2009, 34, 280.	1.7	145
4	Photonic integrated circuits with bound states in the continuum. Optica, 2019, 6, 1342.	4.8	130
5	Genetic-algorithm-optimized wideband on-chip polarization rotator with an ultrasmall footprint. Optics Letters, 2017, 42, 3093.	1.7	113
6	Electrically pumped hybrid evanescent Si/InGaAsP lasers. Optics Letters, 2009, 34, 1345.	1.7	93
7	Temperature-dependent photoluminescence of nanocrystalline ZnO thin films grown on Si (100) substrates by the solâ€“gel process. Applied Physics Letters, 2005, 86, 131910.	1.5	91
8	Femtogram Doubly Clamped Nanomechanical Resonators Embedded in a High-Q Two-Dimensional Photonic Crystal Nanocavity. Nano Letters, 2012, 12, 2299-2305.	4.5	80
9	Topological Photonic Integrated Circuits Based on Valley Kink States. Laser and Photonics Reviews, 2019, 13, 1900087.	4.4	80
10	Genetically optimized on-chip wideband ultracompact reflectors and Fabryâ€“Perot cavities. Photonics Research, 2017, 5, B15.	3.4	76
11	High-dimensional communication on etchless lithium niobate platform with photonic bound states in the continuum. Nature Communications, 2020, 11, 2602.	5.8	73
12	High-Q silicon optomechanical microdisk resonators at gigahertz frequencies. Applied Physics Letters, 2012, 100, .	1.5	65
13	Aluminum nitride piezo-acousto-photonic crystal nanocavity with high quality factors. Applied Physics Letters, 2013, 102, .	1.5	54
14	Integrated high frequency aluminum nitride optomechanical resonators. Applied Physics Letters, 2012, 100, 171111.	1.5	53
15	Supermode Si/III-V hybrid lasers, optical amplifiers and modulators: A proposal and analysis. Optics Express, 2007, 15, 9147.	1.7	52
16	Heteroepitaxy of ZnO film on Si (111) substrate using a 3Câ€“SiC buffer layer. Thin Solid Films, 2005, 478, 218-222.	0.8	48
17	Engineering supermode silicon/III-V hybrid waveguides for laser oscillation. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 923.	0.9	45
18	Ultranarrow-band metagrating absorbers for sensing and modulation. Optics Express, 2018, 26, 28197.	1.7	45

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19	Hybrid 2Dâ€Material Photonics with Bound States in the Continuum. Advanced Optical Materials, 2019, 7, 1901306.	3.6	43
20	Inverse-designed low-loss and wideband polarization-insensitive silicon waveguide crossing. Optics Letters, 2019, 44, 77.	1.7	43
21	Fully suspended slot waveguides for high refractive index sensitivity. Optics Letters, 2017, 42, 1245.	1.7	42
22	GHz optomechanical resonators with high mechanical Q factor in air. Optics Express, 2011, 19, 22316.	1.7	41
23	Cavity piezooptomechanics: Piezoelectrically excited, optically transduced optomechanical resonators. Applied Physics Letters, 2013, 102, 021110.	1.5	40
24	Secondâ€Harmonic Generation in Etchless Lithium Niobate Nanophotonic Waveguides with Bound States in the Continuum. Laser and Photonics Reviews, 2022, 16, .	4.4	35
25	Hyperuniform Disordered Network Polarizers. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 288-294.	1.9	34
26	Cavity-enhanced thermo-optic bistability and hysteresis in a graphene-on-Si_3N_4 ring resonator. Optics Letters, 2017, 42, 1950.	1.7	34
27	Fully suspended slot waveguide platform. Journal of Applied Physics, 2018, 123, .	1.1	33
28	Tailorable dual-wavelength-band coupling in a transverse-electric-mode focusing subwavelength grating coupler. Optics Letters, 2018, 43, 2985.	1.7	33
29	High-speed infrared two-dimensional platinum diselenide photodetectors. Applied Physics Letters, 2020, 116, .	1.5	33
30	Observation of chiral edge states in gapped nanomechanical graphene. Science Advances, 2021, 7, .	4.7	33
31	Bound-States-in-Continuum Hybrid Integration of 2D Platinum Diselenide on Silicon Nitride for High-Speed Photodetectors. ACS Photonics, 2020, 7, 2643-2649.	3.2	32
32	A superhigh-frequency optoelectromechanical system based on a slotted photonic crystal cavity. Applied Physics Letters, 2012, 101, .	1.5	28
33	Gigahertz Acousto-Optic Modulation and Frequency Shifting on Etchless Lithium Niobate Integrated Platform. ACS Photonics, 2021, 8, 798-803.	3.2	28
34	Nonlinear optical effects of ultrahigh-Q silicon photonic nanocavities immersed in superfluid helium. Scientific Reports, 2013, 3, 1436.	1.6	26
35	Experimental Demonstration of Dualâ€Band Nanoâ€Electromechanical Valleyâ€Hall Topological Metamaterials. Advanced Materials, 2021, 33, e2006521.	11.1	26
36	Nanomechanical topological insulators with an auxiliary orbital degree of freedom. Nature Nanotechnology, 2021, 16, 576-583.	15.6	26

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37	Ultralowâ€Loss Etchless Lithium Niobate Integrated Photonics at Nearâ€Visible Wavelengths. Advanced Optical Materials, 2021, 9, 2100060.	3.6	23
38	Surface-emitting circular DFB, disk- and ring- Bragg resonator lasers with chirped gratings: a unified theory and comparative study. Optics Express, 2008, 16, 9155.	1.7	22
39	Surface-emitting circular DFB, disk-, and ring-Bragg resonator lasers with chirped gratings II: nonuniform pumping and far-field patterns. Optics Express, 2009, 17, 1.	1.7	22
40	Compact High Resolution Speckle Spectrometer by Using Linear Coherent Integrated Network on Silicon Nitride Platform at 776 nm. Laser and Photonics Reviews, 2021, 15, 2100039.	4.4	22
41	Terahertz topological photonic waveguide switch for on-chip communication. Photonics Research, 2022, 10, 1090.	3.4	21
42	Parityâ€“time-symmetric circular Bragg lasers: a proposal and analysis. Scientific Reports, 2016, 6, 37688.	1.6	20
43	Modal properties and modal control in vertically emitting annular Bragg lasers. Optics Express, 2007, 15, 17323.	1.7	17
44	Optimal Design and Reduced Threshold in Vertically Emitting Circular Bragg Disk Resonator Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 359-366.	1.9	17
45	Subwavelength Engineering in Silicon Photonic Devices. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-13.	1.9	17
46	Room temperature continuous wave operation of single-mode, edge-emitting photonic crystal Bragg lasers. Optics Express, 2008, 16, 502.	1.7	16
47	Femtogram dispersive L3-nanobeam optomechanical cavities: design and experimental comparison. Optics Express, 2012, 20, 26486.	1.7	16
48	Giant enhancement of stimulated Brillouin scattering with engineered phoxonic crystal waveguides. Optics Express, 2018, 26, 1255.	1.7	16
49	Advanced Plasma Processing: Etching, Deposition, and Wafer Bonding Techniques for Semiconductor Applications. , 0, , .		15
50	Ultra-Broadband Hyperuniform Disordered Silicon Photonic Polarizers. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-9.	1.9	13
51	A 116-Î¼m-radius disk cavity in a sunflower-type circular photonic crystal with ultrahigh quality factor. Optics Letters, 2012, 37, 3195.	1.7	12
52	Hybrid graphene/silicon integrated optical isolators with photonic spinâ€“orbit interaction. Applied Physics Letters, 2016, 108, .	1.5	12
53	Hyperuniform disordered photonic bandgap polarizers. Journal of Applied Physics, 2019, 126, .	1.1	12
54	Photonic welding points for arbitrary on-chip optical interconnects. Nanophotonics, 2018, 7, 1679-1686.	2.9	11

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55	Monolithically integrated, ultrahigh-frequency cavity nano-optoelectromechanical system with on-chip germanium waveguide photodetector. Optics Letters, 2014, 39, 2514.	1.7	10
56	Ultra-thin curved visible microdisk lasers with three-dimensional whispering gallery modes. Nanophotonics, 2020, 9, 2997-3002.	2.9	10
57	Circular Bragg lasers with radial PT symmetry: Design and analysis with a coupled-mode approach. Photonics Research, 2018, 6, A38.	3.4	9
58	Inverse-Designed Photonic Jumpers With Ultracompact Size and Ultralow Loss. Journal of Lightwave Technology, 2020, 38, 6623-6628.	2.7	9
59	Broadband meta-converters for multiple Laguerre-Gaussian modes. Photonics Research, 2021, 9, 1689.	3.4	9
60	Demonstration of n-Ga₂O₃/p-GaN Diodes by Wet-Etching Lift-Off and Transfer-Print Technique. IEEE Electron Device Letters, 2021, 42, 509-512.	2.2	8
61	Surface-emitting circular DFB, disk-, and ring-Bragg resonator lasers with chirped gratings III: gain saturation effects and above-threshold analysis. Optics Express, 2009, 17, 10119.	1.7	7
62	Parityâ€“time-symmetric mechanical systems by the cavity optomechanical effect. Optics Letters, 2018, 43, 4088.	1.7	7
63	Spatial modal control of two-dimensional photonic crystal Bragg lasers. Optics Letters, 2007, 32, 2273.	1.7	6
64	Optically Controlled Topologically Protected Acoustic Wave Amplification. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-10.	1.9	6
65	Ultraviolet optomechanical crystal cavities with ultrasmall modal mass and high optomechanical coupling rate. Scientific Reports, 2016, 6, 37134.	1.6	5
66	Experimental investigation of the angular symmetry of optical force in a solid dielectric. Optica, 2021, 8, 1435.	4.8	5
67	Continuous-wave operation of electrically pumped, single-mode, edge-emitting photonic crystal Bragg lasers. Applied Physics Letters, 2007, 90, 261116.	1.5	4
68	Carrier-mediated cavity optomechanics in a semiconductor laser. Physical Review A, 2019, 99, .	1.0	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 <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mrow><mml:mi mathvariant="script">P</mml:mi><mml:mi mathvariant="script">T</mml:mi></mml:mrow></mml:math> -Symmetric Circular Bragg Lasers. Physical Review Applied, 2020, 13, .	1.5	3
71	Fabrication-Tolerant and Low-Loss Hybrid Plasmonic Slot Waveguide Mode Converter. Journal of Lightwave Technology, 2021, 39, 2106-2112.	2.7	3
72	Demonstration of on-chip gigahertz acousto-optic modulation at near-visible wavelengths. Nanophotonics, 2021, 10, 4323-4329.	2.9	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.	0.5	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.	1.0	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	Ultranarrow-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.	1.7	1
89	Photonic integrated circuits with bound states in the continuum: erratum. Optica, 2022, 9, 683.	4.8	1
90	Hofstadter butterfly and topological edge states in a quasiperiodic photonic crystal cavity array. Optics Express, 2022, 30, 26620.	1.7	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, .	1.1	0